

Charutar Vidyamandal's



Natubhai V. Patel College of Pure and Applied Sciences

Accredited 'A'Grade by NAAC

Near Mota Bazar, Vallabh Vidhyanagar - 388 120,

Dist.: Anand, State: Gujarat,India.

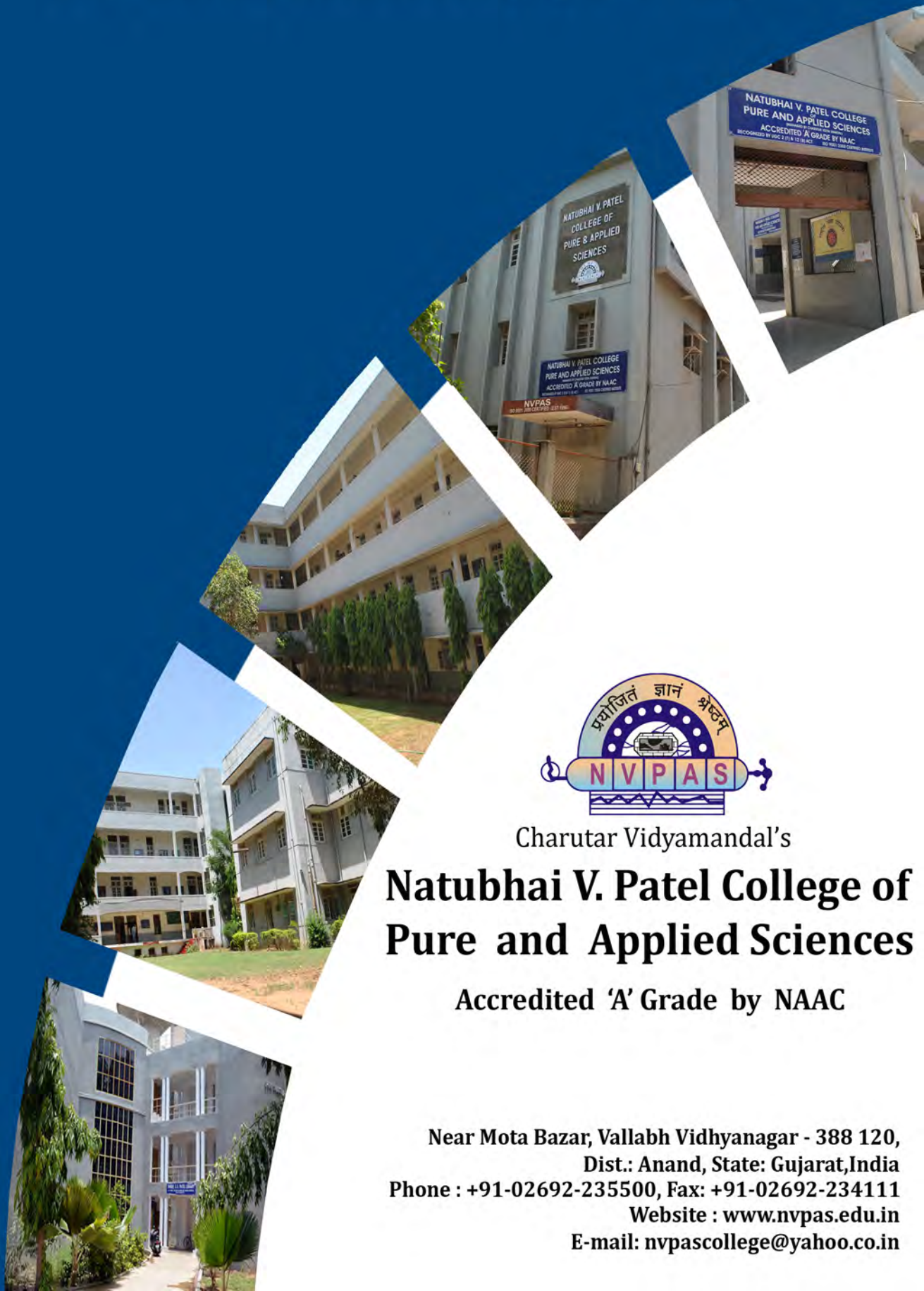
Institutional Self Study Report for Re-accreditation (Cycle-2)

**Submitted for Re-accreditation
To**

**National Assessment & Accreditation Council (NAAC)
Nagarbhavi, Bangaluru – 560072**

May, 2015

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Near Mota Bazar, Vallabh Vidhyanagar - 388 120,
Dist.: Anand, State: Gujarat, India
Phone : +91-02692-235500, Fax: +91-02692-234111
Website : www.nvpas.edu.in
E-mail: nvpascollege@yahoo.co.in

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Near Mota Bazar, Vallabh Vidhyanagar - 388 120,

Dist.: Anand, State: Gujarat, India

Self Study Report

(Cycle-2)

Volume - 1

**(Preface, Executive Summary – the SWOC Analysis, Post Accreditation Initiatives
Profile of the Affiliated College and Criterion wise Analytical Report))**

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Vallabh Vidyanagar –Educational Township

Vallabh Vidyanagar, established fifty-five years ago, carries a rarity of purpose behind its origin and a variety of education with its development and growth. Strategically located between Ahmedabad and Vadodara, Vallabh Vidyanagar today has emerged to be an Active Educational Hub in the Western part of India. Just six kilometers from India's milk city Anand, it has made its distinct identity in the sector of education by offering numerous emerging and innovative educational programs and by attracting students from across the globe. Anand is situated between Ahmedabad and Vadodara on the main rail-link and also connected through NH8, about 75 kms from Ahmedabad and 40 km from Vadodara.

The town is the synthesis of varied cultures, which enables it to evolve and expand the quality life, as well as to foster the environment of creativity amongst the student citizens. Those who stay here always cherish the golden moments of life on the campus. Today, the town has compounded in strength and consolidated itself to take on the challenges of emerging future.

Vallabh Vidyanagar is blessed with the beauty of nature. Its lush green trees of different types and kinds have not only made the town environment-friendly, but also created a serene and ever-enjoyable peaceful atmosphere generating synergistic pleasure on the campus. The pollution-free climate, attracting many to make the town their permanent home, adds value to the academic life on the campus.

Vallabh Vidyanagar has all the amenities which major metropolis have; rather it has best of both the worlds - glamour of a big city and simplicity of a small town. On one hand, it captures the current trends of the youth, while it attempts to make those trends meaningful by making the presence of different spiritual centers felt.



Our management Charutar Vidyamandal (CVM)

In this age of the Global Village, when global interdependence and competition are upon us, we must educate and train our youngsters to keep up and keep pace with the best and the brightest in the world. We must offer programmes of study appropriate to the modern age, we must maintain high standards of education -- and we must offer the opportunity of learning to youngsters from Gujarat, India and the world.

This is the mission to which Charutar Vidya Mandal, under the leadership of Dr C.L.Patel is striving for a better future realized through education.



Dr. C.L. Patel, Chairman, Charutar Vidya Mandal

History of Charutar Vidyamandal:

One of the greatest sons of India Late Sardar Vallabhbhai Patel inspired Shri Bhaikaka and Shri Bhikabhai Saheb for rural resurgence of post-independent India through education, and Charutar Vidya Mandal was born. Charutar Vidya Mandal was established in the year 1945 as a charitable trust with a prime objective of rural development through education to bring about the social awakening, social upliftment and enrichment. The uniqueness of Charutar Vidya Mandal lies in its ability to use quality education as a powerful means of social transformation.

It was a stupendous task for the founders to establish a visionary organization; but the large-heartedness and high sense of philanthropy of this region made this possible. Over the subsequent years, Dr. H M Patel consolidated the efforts put in by the founders.

Later on, in the 1990s, when Dr. C L Patel took over the reigns of Charutar Vidya Mandal as the Chairman, the country was facing a major economic and ideological change paving the way for globalization and liberalization. This generated two major challenges before the sector of education - (a) Withdrawal of monetary support by the government to educational institutions, and (b) Need for new programs and courses to meet with the emerging demands arising out of a globalized and liberalized world in science and technology and in business.

The dynamic leadership, missionary zeal and visionary outlook of Dr. C L Patel successfully took up the challenges. Various self-financed educational institutions are established in the areas of Technology, Science and Engineering, Commerce and Management, offering emerging and innovative courses and programs such as Mechatronics, Automobile Engineering, Bio-technology, Food Processing Technology, E-Commerce, Valuation, etc. Today the investment of Charutar Vidya Mandal stands at more than US\$ 30 million, and a new self-contained Satellite Township called New Vallabh Vidyanagar sprawled over 100 acres has already received an investment of around US\$ 20 million. Dr. C L Patel's unique leadership style attracts many philanthropists to contribute to the development of Charutar Vidya Mandal.

Today Charutar Vidya Mandal is empowering budding graduates to live up to the ever-changing environment and equipping them to face the Third Millennium with confidence and competence. Building competitive advantages is the renewed focus of Charutar Vidya Mandal in the 21st century. At present, Charutar Vidya Mandal operates 48 Educational Institutions from schools to colleges, and a sophisticated Research Institute, with over 30,000 students on the rolls.

Present Team



Shri Prayasvin B Patel
President



Shri Hasmukhbhai Patel
Vice-President



Dr. C. L. Patel,
Chairman



Prin. S. M. Patel
Hon. Secretary



Dr. J.D. Patel
Hon. I/c Secretary



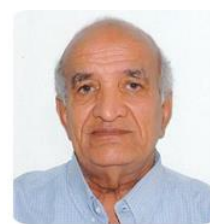
Er. V. M. Patel
Hon. Jt. Secretary



Shri B. P. Patel
Hon. Jt. Secretary



Shri S. G. Patel
Hon. Jt. Secretary



Er. M. J. Patel
Hon. Jt. Secretary



Natubhai V Patel College of Pure and Applied Sciences (NVPAS)



Inception:

Established in 1996 by Dr. C.L. Patel, the visionary Chairman of Charutar Vidya Mandal (CVM) with the aim of imparting quality education in the emerging areas of Pure and Applied Sciences, Natubhai V. Patel College of Pure and Applied Sciences (NVPAS) has become one of the top-notch premier institutes across the nation in a short span since its inception. NVPAS, an English medium-self financed college, boasts an astounding concourse of state-of-the-art infrastructure, highly qualified academicians, holistic approach to education and techno-scientific ambience. NVPAS is one of the self-financed college across the state to enjoy UGC section 2(f) and 12B registration. What has further added a feather in the institute's cap is the "A grade that NAAC has bestowed upon it in appreciation of developing & sustaining innovative practices in higher education.

Affiliation:

The college is affiliated to Sardar Patel University, Vallabh Vidyanagar, and Gujarat.

Our Vision:

We are determined to constantly strive towards excellence in science education and research by promoting academic freedom, experimentation with new paradigms and creativity in complete alignment with the principles of human well being and social welfare.

Our Mission:

The college has an aim to impart quality education and cultivate a community of enlightened minds with insatiable thirst for knowledge who acquire and apply scientific knowledge within the compass of ethical, ecological and economic values for the sustained and inclusive growth of society and nation.

Learning outcomes:

Students will be able to

- Develop communication skill and language proficiency.
- Develop curiosity in the subject by sharing information and facts.
- Become a human being with a firm value base which respects others and one's self involve.
- Develop technical competence, logical and scientific thinking and reasoning ability.
- Develop a desire to achieve, innovate and implement the knowledge gained.
- Achieve high standards in academics so that they have the capacity to meet the professional requirements of the competitive world.
- Understand the subject which inculcates knowledge and wisdom among them.

Goals and Objectives

- To promote overall personality development of the students and to develop in them the communication skill.
- To provide excellent educational facilities, optimal atmosphere and maintain high academic standards (to provide appropriate knowledge and skills to the students for studies and research in biological, chemical, physical and computational sciences).
- To develop the holistic personality of the students.
- To inculcate in them self-confidence and self-reliance for higher education by organizing short intensive courses, conferences and seminars on current scientific and technological developments.
- To organize extracurricular activities and to motivate students to participate actively in order to bring out the inherent and latent talents and skills in them.
- Prepare Students to face various competitive examinations.
- To contribute to the industrial development and economic growth of the country by preparing a cadre of technicians well-equipped to look after administrative and R&D work in various economic sectors

Charutar Vidya Mandal's
Natubhai V. Patel College of Pure And Applied Sciences



(ISO 9001 : 2008 CERTIFIED INSTITUTE)
VALLABH VIDYANAGAR - 388 120.

E-MAIL : nvpascollege@yahoo.co.in; www.nvpas.edu.in
Phone : (02692) 235500, Telefax : (02692) 234111

Dr. Basudeb Bakshi
M.Sc., Ph.D.
Principal

Declaration by the Head of the Institution

I certify that the data included in the Re Accreditation Report (RAR) are true to the best of my knowledge. This SSR is prepared by the institution after internal discussions and no part thereof has been outsourced.

I am aware that the peer team will validate the information provided in this SSR during the peer team visit.


Signature of the Head of the institution

Principal
Natubhai V. Patel College of
Pure & Applied Science
VALLABH VIDYANAGAR



Date: 11.05.2015

Place: Vallabh Vidyanagar

Charutar Vidya Mandal's
Natubhai V. Patel College of Pure And Applied Sciences



(ISO 9001 : 2008 CERTIFIED INSTITUTE)
VALLABH VIDYANAGAR - 388 120.

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Phone : (02692) 235500, Telefax : (02692) 234111

Dr. Basudeb Bakshi
M.Sc., Ph.D.
Principal

Certificate of Compliance

This is to certify that the institution Natubhai V. Patel College of Pure and Applied Sciences fulfils all norms


- 1. Stipulated by the affiliating university and/or**
- 2. Regulatory Council/Body such as (NCTE, AICTE, MCI, DCI, BCI etc.) and.**
- 3. The affiliation and recognition (if applicable) is valid as on date.**

It is noted that NAAC's accreditation if granted shall stand cancelled automatically, once the institution loses its University affiliation or Recognition by the Regulatory council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college website.

Date: 11.05.2015

Place: V.V. Nagar


Principal
Natubhai V. Patel College of
Pure & Applied Science
VALLABH VIDYANAGAR
(Name and signature will office seal)



Accredited "A" Grade by NAAC
Recognized under 2(f) and 12(B) Act of UGC

PREFACE



It gives me immense pleasure to submit the Self Study Report (SSR) of our college to the NAAC, Bangalore for Re-accreditation.

The recommendations of the NAAC Peer Team and the continuous assessment of Academic & Administrative Audit have enabled us to provide better educational services to the stake holders. The IQAC established after the First accreditation of our college has been instrumental in implementing diverse quality enhancement measures. The college has almost complied all the recommendations of the peer team. Although the college has excelled in terms of quality education and admissions in the state since inception & now is among the all well known self financed colleges of the state.

Basudeb Bakshi
Principal
NVPAS



Executive Summary



Executive Summary- SWOC Analysis of the Institution

Started in 1996 by noble efforts of visionary Chairman of Charutar Vidya Mandal (CVM) with the aim of imparting quality education in the emerging areas of Science and Applied Science, **Natubhai V. Patel College of Pure and Applied Sciences (NVAPS)** has now established itself as one of the top-notch premier institutes across the nation in a short span since its inception. NVPAS, an English medium - self financed college is well known for its holistic approach to education and techno-scientific ambience with an asset of an astounding concourse of state-of-the-art infrastructure and highly qualified faculty members. NVPAS is the only self-financed college across the state to enjoy UGC section 2(f) and 12(B) registration. It is affiliated to Sardar Patel University and accredited "A" grade for developing & sustaining innovative practices in higher education. NVPAS works with the vision - "We are determined to constantly strive towards excellence in science education and research by promoting academic freedom, experimentation with new paradigms and creativity in complete alignment with the principles of human well being and social welfare." Institution puts all sincere efforts for the mission "The college has an aim to impart quality education and cultivate a community of enlightened minds with insatiable thirst for knowledge who acquire and apply scientific knowledge within the compass of ethical, ecological and economic values for the sustained and inclusive growth of society and nation."

SWOC Ananysis

Strength :

- Multiple options at UG level for students in relevant science subjects
- First self financed college of state to get accredited with "A" Grade by NAAC
- Well experienced qualified faculty for teaching
- Students from different provinces
- Good physical and academic infrastructure
- Classrooms with LCD projectors
- Teaching with advanced planning
- Use of ICT in teaching by faculty members
- Tutorial classes, remedial classes, crash course for first year students
- Compulsory Weekly tests round the year for FY ,SY,TY B.Sc/BCA AND M SC IT
- Continuous Evaluation of students
- Well equipped Laboratories
- Learner centric programs with number of co-curricular and extra curricular activities round the year
- Wi Fi Campus

- Free internet facility for staff and students and free INFLIBNET(N-LIST) facility in Library
- Perspective planning and implementation, Academic audit
- Personality development program of 60 hours for all students
- Project work/ Research and research labs for students
- MOU and linkages with reputed State /National agencies
- Unique mentoring system- Individual attention and care by teacher mentor
- The college got selected as BIOTECHNOLOGY CAPACITY BUILDING CELL (BT-CBC) for Vallabh vidyanagar and Vadodara region by GSBTM, DST, Govt. of Gujarat

Weaknesses :

- Students belonging to vernacular medium, therefore less proficiency in English and communication skills
- Less freedom in curricular design
- The students are much interested for job as teacher/ Technocrat only
- Less exposure to international collaboration

Opportunities :

- To start certificate courses
- To change the attitude of students / parents and stake holders toward science education and career
- To provide higher level of technical and professional skills in tune with requirement
- To emphasize on research and publication
- To enhance communication skill of vernacular medium students by having special coaching
- To establish more linkages
- UGC recognition as College with Potential for Excellence

Challenges :

- Number of science institutions has increased in few years leading to unhealthy competition
- Difficulty in retaining highly qualified staff in spite of good salary due to more options in metro cities
- The ignorance of some parents from remote areas towards the child's education and progress
- Difficulty in convincing some parents of girl students for allowing girls' progress in all fields such as sports, NCC, cultural events etc.

Post Accreditation Initiatives at NVPAS

Natubhai V Patel College of Pure & Applied Sciences has always maintained leading role in implementing the new ideas, curricula and academic related matter for the benefit of student fraternity.

The accreditation of institution by NAAC in 'A' Grade has not paused its progress but the efforts of imparting quality education in rural sector are on and even enhanced to take the college to new height of excellence.

Institution has also made an effort to comply recommendations of Peer team. The thoughtful and meticulous planning based on feedback received, followed by action plan and its successful execution in last five years has kept the institution ahead as one of the leading institution of state among science colleges.

Some major Post accreditation initiatives taken by institute are mentioned below.

1. Successful implementation of New course - M.SC Integrated IT in 2012
2. Institute has organized 34 seminar/ conferences to enhance the research and development in field of science
3. Institution has initiated UGC funded COC program on 'Process development in Industrial Biotechnology'
4. Institution has successfully implemented CBCS system as introduced by Sardar Patel University to be first in the state of Gujarat
5. Institution has more than 66.6 % faculty with Ph.D and 25 % are registered for Ph D
6. Academic interaction with other colleges and universities has been enhanced by faculty and student visiting reputed National and International organization
7. Smart class has been introduced in English Language lab
8. Institution has received the grant of Rs.1,41,16,075/- for 26 major / minor research projects from various funding agencies
9. Institution has partnership with the agencies such as ISRO, GUJCOST, DBT, UGC, BSNL, GSBTM etc.
10. Management provides encouragement to faculty members for attending national / international conference.
11. The institute has developed the infrastructural facilities by building the new Air conditioned Auditorium with capacity of 150. The auditorium is provided the lift facility and now is used for seminar/conferences/workshop etc. It is also given for use to other institutions on request.
12. Institution has now two well developed English Laboratories with a capacity of 35 students for communication skill programs.
13. NVPAS has now one additional computer Lab for M.Sc. Integrated IT program equipped with 40 computers (Configuration Intel i3, 4GB RAM, 500 GB HDD)
14. The institution has played leading role in organizing the event 'UDAAN' under the banner of group of progressive colleges
15. The renovation of chemistry laboratory was made with cost of Rs 15 lakh
16. The NCC unit was strengthened by addition of Boy's unit from 2013-14.
17. Library is computerised and NLIST facility provided from INFLIBNET
18. The alumni association has launched its website nvpasaa.co.in in 2014
19. The NSS Unit has launched its website nssnvpas.co.in in 2010

20. More number of LCD Projectors have been installed in class rooms
21. MOU has been signed with various agencies such as GUJCOST, BSNL and ISRO
22. Six Pay recommendation extended to faculty
23. Female students interested for fashion designing have been motivated to join COC in S M Patel Home science college- a sister institution
24. Regular support to U G students for P G Progression through organizing a one day program “ Career Quantum” for final year students. Subject experts from various field are invited to provide the scope and prospects of subjects run in various Post Graduate institutes
25. The scholarship amount is enhanced for needy students
26. Campus is made Wi Fi campus
27. Free Talk zone facility for students facilitating use of mobile and laptops
28. Support to research activity is enhanced by addition of two research labs
29. Research activity is promoted by supplying the basic chemicals and glasswares and analysis charges etc. to Ph. D. students
30. EEPC Cell has got recognition as Nodal Centre by Gujarat State Biotechnology Mission, Gandhinagar
31. “DAHEMI” village is adopted by college for extension and NSS activities for 5 years
32. ‘Gyandhara’ program is initiated by college extension cell to teach children in slum areas with the help of college students
33. Advanced Learners’ cell is introduced in the Computer Dept to keep update with the latest technologies
34. For faculty interaction a monthly activity of ‘Gyan Goshti’ is regularly organized where a faculty member shares his topic related to subject/ research/ current issue with all staff members through power point presentation

Future Plan:

1. Renovation of Girls common room
2. Renovation of Toilet Block
3. College building to be equipped with CCTV camera
4. Addition of Certificate courses in various departments
5. Introduction of Moodle for enhancing e content for students by faculty
6. Initiate Revision of syllabi in different subjects in various BOS
7. On line examination by Computer science department
8. Moodle service to facilitate online e content availability for students and faculty
9. Interdisciplinary research at inter departmental / inter collegiate level
10. Tie up with sister institute and planning to build toilets in Dehemi village
11. Parent Teacher Association

PROFILE OF THE AFFILIATED /CONSTITUENT COLLEGE

1. Name and address of the college:

Name : - Natubhai V. Patel College of Pure and Applied Sciences
Address : - Natubhai V. Patel College of Pure and Applied Sciences
Near Post Office, Mota Bazar
City : - Vallabh Vidyanagar **District:-** Anand **State:-** Gujarat
Pin code : - 388120
Website :- www.nvpas.edu.in

2. For Communication

Office

Name	Area/ STD code	Tel. No.	Fax. No.	E-mail
Principal Dr. Basudeb Bakshi	Vallabh Vidyanagar- 02692	(02692) 235500	(02692) 234111	bbakshi04@hotmail.com nvpascollege@yahoo.co.in
Incharge Principal				
Steering Committee Coordinator Dr. Rita N. Kumar	Vallabh Vidyanagar- 02692	(02692) 235500	(02692) 234111	nvpas2003@yahoo.com

Residence:-

Name	Area/ STD code	Tel. No.	Mobile No.
Principal – Dr. Basudeb Bakshi	Vallabh Vidyanagar- 02692	02692650943	+919427382875
Vice-Principal-			
Steering Committee Coordinator- Dr. Rita. N. Kumar	Vallabh Vidyanagar- 02692	02692231498	+919825924687

3. Status of the Institution :

Affiliated College
Constituent College
Any other (specify)

√

4. Type of Institution:

a. By Gender	
i. For Men	
ii. For Women	
iii. Co-education	√
b. By shift	
i. Regular	√
ii. Day	
iii. Evening	

5. Is it a recognized minority institution?

Yes	
No	√

If yes specify the minority status (Religious / linguistic/ any other) and provide documentary evidence.

6. Source of funding:

Government	
Grant-in-aid	
Self-financing	√
Any other	

7. a. Date of establishment of the college: 13/06/1996

b. University to which the college is affiliated /or which governs the college (If it is a constituent college):

c. Details of UGC recognition:

Under Section	Date, Month, Year (dd-mm-yyyy)	Remarks (If any)
2 (f)	13/05/2003	First self financed college in the whole state recognized under 2(f) and 12 (B).
12 (B)	13/05/2003	

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act – refer Annexure: I)

d. Details of recognition/approval by statutory/regulatory bodies other than UGC(AICTE, NCTE, MCI, DCI, PCI, RCI etc.): NA

Under Section/ clause	Recognition/Approval details Institution/Department/ Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
i.	-	-	-	-
ii.	-	-	-	-
iii.	-	-	-	-
iv.	-	-	-	-

(Enclose the recognition/approval letter)

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

Yes ☒

No ☐

If yes, has the College applied for availing the autonomous status?

Yes ☐

No ☒

9. Is the college recognized

a. By UGC as a College with Center of Potential for Excellence (CPE)?

Yes ☐

No ☒

If yes, date of recognition:(dd/mm/yyyy)

b. for its performance by any other governmental agency?

Yes ☐

No ☐

If yes, Name of the agencyand
Date of recognition :.....(dd/mm/yyyy)

10. Location of the campus and area in sq.mts.:

Location*	Rural
Campus area in sq. mts.	2.56 acre/6796mts
Built up area in sq. mts.	6066.61 sq.mts

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.

- **Auditorium/seminar complex with infrastructural facilities: 1916 sq. mts.**
With 150 seating capacity and all ICT facility.
- **Sports facilities**
 - ❖ Play ground – Yes
 - ❖ Swimming pool – No
 - ❖ Gymnasium – Yes
- **Hostel**
 - ❖ **Boys' hostel**
 - i. Number of hostels-01 (CU Hostel)
 - ii. Number of inmates– 137
 - iii. Facilities (mention available facilities) – Each room is three seated with a facility of separate cot, table, chair and cupboard. Water cooler with R/O, centralized solar water heater system. Sports and Gymnasium facility. College faculty acts as warden.
 - ❖ **Girls' hostel**
 - i. Number of hostels-03 (Ranak, Square & Ranak 2-C
 - ii. Number of inmates- 259
 - iii. Facilities (mention available facilities) – Each room in hostel has accommodation of three students with separate bed, chair, table and cupboard. TV, mesh, sports facility available. Water cooler with R/O, centralized solar water heater system. CCTV surveillance.
 - ❖ **Working women's hostel**
 - i. Number of inmates – NA
 - ii. Facilities (mention available facilities) – NA
- **Residential facilities for teaching and nonteaching staff (give numbers available –cadre wise)–**

Principal Bungalows, Staff Quarters for Teaching & Non-Teaching staff
Cafeteria- Institute Canteen
- **Health centre** – University Health Center within the radius of 200 meter with nominal consultancy charge and free medicine, S. G. Patel Ayurvedic College Hospital, In emergency, Shri Krishna Medical Hospital (3 Km away), Karmsad.

- **First aid, Inpatient, Outpatient, Emergency care facility, Ambulance:**
 1. First aids are available in different labs, Store, Office and Sports Room.
 2. Emergency Facility: Institute vehicle can be provided, CVM ambulance.

Health centre staff –

Qualified doctor	Full time	<input checked="" type="checkbox"/>	Part-time	<input type="checkbox"/>
Qualified Nurse	Full time	<input checked="" type="checkbox"/>	Part-time	<input type="checkbox"/>

- **Facilities like banking, post office, book shops:** Yes, in vicinity of 200 m.
- **Transport facilities to cater to the needs of students and staff:**
 1. For daily transport city buses, private and sharing auto-rickshaws from bus station and railway station are available.
 2. For official work provision of institutional vehicle for staff.
 3. In medical emergency case provision of sister institute's vehicle.
 4. CVM Bus facility for educational tour.
- **Animal house:** NA
- **Biological waste disposal:** Under pipe-line (Agreement is under process with Ayurvedic hospital)
- **Generator or other facility for management/regulation of electricity and Voltage:** Full time electrician is appointed to take care of institutional and hostel electricity supply.
- **Solid waste management facility:** Yes, the sweeper of college collects the waste from campus / dustbins and then disposes off to municipality garbage collection van.
- **Waste water management:** Yes, waste water drainage outlet is connected to municipal sewer.
- **Water harvesting:** Yes, Rain water is collected in huge underground tank and is used for Chemistry and Biology laboratory purpose.

12. Details of programmes offered by the college (Give data for current academic year)

Program Level	Name of the Programme/ Course	Duration	Entry Qualification	Medium of Instruction	Sanctioned /approved Student strength	No. of students admitted 2013-14
Under-Graduate	B.Sc.	3 Years	12 Science	English	As per Uni. Rules	993
	B.C.A.		12 Sci./ Com./ Arts (English compulsory)			223
Integrated Programmes P G	M.Sc. IT	5 Years	12 Sci. or Comm.	English	As per Uni. Rules	43
Ph.D.	Ph.D.	3 Years	M.Sc.	English	As per Uni. Rules	18
M.Phil.	-	-	-	-	-	-
Certificate courses	Career Oriented Course in Process Development in Industrial Biotechnology-I	1 Year		English	As per UGC Rules	19
UG Diploma	Career Oriented Course in Process Development in Industrial Biotechnology-II	2 Year	-	English	As per UGC Rules	02
PG Diploma	-	-	-	-	-	-
Any Other (specify and provide details)	-	-	-	-	-	-

13. Does the college offer self-financed Programmes?

Yes ☒

No ☐

If yes, how many?

14. New programmes introduced in the college during the last five years if any?

Yes ☒

No ☐

M.Sc. IT (Integrated)	Number	01
--------------------------	--------	----

15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Faculty	Departments (eg. Physics, Botany, History etc.)	UG	PG	Research
Science	Dept. of Chemical Sciences, Dept. of Physical Sciences, Dept. of Bio & Env. Sci. Dept. of Microbiology Dept. of BT/GT/BNF, Dept. of Computer Science & IT Dept. of Mathematics	07	-	05 Chemical Sciences, Physical Sciences, Bio & Env. Sci. Microbiology BT/GT/BNF
Arts		-	-	-
Commerce		-	-	-
Any Other (Specify)	M.Sc. IT (Integrated)	-	01	-

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA, M.Com...)

- Annual system
- Semester system
- Trimester system

-
03
-

17. Number of Programmes with

- Choice Based Credit System
- Inter/Multidisciplinary Approach
- Any other (specify and provide details)

03
-
-

18. Does the college offer UG and/or PG programmes in Teacher Education?

Yes ☐

No ☒

If yes,

a. Year of Introduction of the programme(s).....(dd/mm/yyyy)
and number of batches that completed the programme

b. NCTE recognition details (if applicable)

Notification No.:

Date: (dd/mm/yyyy)

Validity:.....

c. Is the institution opting for assessment and accreditation of Teacher Education Programme separately?

Yes ☐

No ☐

19. Does the college offer UG or PG programme in Physical Education?

Yes ☐

No ☒

If yes,

a. Year of Introduction of the programme(s)..... (dd/mm/yyyy)
and number of batches that completed the programme

b. NCTE recognition details (if applicable)

Notification No.:

Date: (dd/mm/yyyy)

Validity:.....

c. Is the institution opting for assessment and accreditation of Physical Education Programme separately?

Yes ☐

No ☐

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching Faculty						Non Teaching Staff		Technical Staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC / University / State Government Recruited		-	-	-	-	-	-	-	-	-
Yet to recruit	-	-	-	-	-	-	-	-	-	-
Sanctioned by the Management/ society or other authorized bodies Recruited		-	01	01	25+ 01= 26	15	37	06	02	01
Yet to recruit	-	-	-	-	-	-	-	-	-	-

*M-Male *F-Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	58
Permanent teachers							
D.Sc./D.Litt.	-	-	-	-	-	-	-
Ph.D.	-	-	1	1	11	11	24
M.Phil.	-	-	-	-	09	02	11
PG	-	-	-	-	05	02	07
Temporary teachers							
Ph.D.	-	-	-	-	-	-	-
M.Phil.	-	-	-	-	01	-	01
PG	-	-	-	-	07	08	15
Part-time teachers							
Ph.D.	-	-	-	-	-	-	-
M.Phil.	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-

22. Number of Visiting Faculty /Guest Faculty engaged with the College. 16

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	Year1 2010-11		Year2 2011-12		Year3 2012-13		Year4 2013-14		Year5 2014-15	
	M	F	M	F	M	F	M	F	M	F
SC	11	03	-	2	20	11	08	06	27	27
ST	04	01	04	2	24	46	12	14	42	56
OBC	96	45	42	09	119	65	75	41	183	97
Generals	607	540	513	387	575	391	536	345	625	477
Others	30	16	28	22	07	01	28	07	04	04

24. Details on students enrolment in the college during the current academic year 2014-15:

Type of students	UG	PG	M.Phil.	Ph.D.	Total
Students from the same state where the college is located	1106	-	-	-	1106
Students from other states of India	153	-	-	-	153
NRI students	-	-	-	-	-
Foreign students	-	-	-	-	-
Total	1259	-	-	-	1259

25. Dropout rate in UG and PG (average of the last two batches)

UG 2.41 % PG 0 %

26. Unit Cost of Education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) Including the salary component	Rs.45663/-
(b) Excluding the salary component	Rs. 9127/-

27. Does the college offer any programme/s in distance education mode (DEP)?

Yes ☐

No ☒

If yes,

a. is it a registered centre for offering distance education programmes of another University

Yes ☐

No ☒

b. Name of the University which has granted such registration.

c. Number of programmes offered.

d. Programmes carry the recognition of the Distance Education Council.

Yes ☐

No ☐

28. Provide Teacher-student ratio for each of the programme/course offered

B.Sc.:	(Students/Teacher)	1 : 34
B.C.A.:	(Students/Teacher)	1 : 16
M.Sc. IT:	(Students/Teacher)	1 : 07

29. Is the college applying for?

Accreditation: Cycle 1 ☐ Cycle 2 ☒ Cycle 3 ☐
Cycle 4 ☐

Re-Assessment: ☐

(Cycle 1 refers to first accreditation and Cycle 2, Cycle 3 and Cycle 4 refers to Re-accreditation)

30. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: **08.03.2009** (dd/mm/yyyy) Accreditation Outcome/Result : **Grade: A**
CGPA:3.10

Cycle 2: (dd/mm/yyyy) Accreditation Outcome/Result

Cycle 3: (dd/mm/yyyy) Accreditation Outcome/Result

* Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.

31. Number of working days during the last academic year. (June 2012- May 2013)

244

32. Number of teaching days during the last academic year
(Teaching days means days on which lectures were engaged excluding the examination days)

139

33. Date of establishment of Internal Quality Assurance Cell (IQAC)

IQAC: 25/06/2009 (dd/mm/yyyy)

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC.

AQAR (i)	21/07/2010	2009-10
AQAR (ii)	21/09/2011	2010-11
AQAR (iii)	28/09/2012	2011-12
AQAR (iv)	26/09/2013	2012-13

35. Any other relevant data (not covered above) the college would like to include. (Do not include explanatory/descriptive information).

- College provides Eleven various options to B. Sc. program
- College is Pioneer in starting various subjects at State level such as B. Sc. Biotechnology and B.Sc.Environmental Science from 1997
- College for the first time at state level started the program B.Sc. in Genetics and B.Sc. in BioInformatics from 2004
- Teaching in regular classes, tutorial classes, remedial classes and crash course program
- Personality Program of 60 hours for all students
- Arrangement for providing reading material by college for all students
- College students bringing laurels by getting gold medals at University and passing State level Minaxi Lalit examination with 1st and 2nd ranks in various subjects



Criterion

I

Curricular Aspects



Ph.D.

**Chemistry, Botany
Environment Science
Microbiology
Biotechnology**

B.C.A.

**Bachelor of
Computer
Application**

M.Sc.

M.Sc. (IT)
Integrated 5 yrs

B.Sc.

Chemistry
Industrial Chemistry

B.Sc.

**Computer Science
Information
Technology**

B.Sc.

Biotechnology
Genetics
Bioinformatics

B.Sc.

**Microbiology
Environmental
Science**

B.Sc.

**Instrumentation
Mathematics**

CRITERION I: CURRICULUM ASPECTS

1.1 CURRICULUM PLANNING AND IMPLEMENTATION

1.1.1 State the vision and mission of the institution, and how it is communicated to the students, teachers, staff and other stakeholders?

Our Natubhai V Patel college of Pure and Applied Science (NVPAS) aims to provide our students an environment for their all round development i.e. their intellectual, mental, physical, social, and spiritual potentials, inculcating in them the values of sincerity, hard work, honesty and tolerance, and thus leading to their holistic development.

NVPAS Vision: We are determined to constantly strive towards excellence in science education and research by promoting academic freedom, experimentation with new paradigms and creativity in complete alignment with the principles of human well being and social welfare.

NVPAS Mission: The College has an aim to impart quality education and cultivate a community of enlightened minds with an insatiable thirst for knowledge who acquire and apply scientific knowledge within the compass of ethical, ecological and economic values for the sustained and inclusive growth of society and nation.

Objectives and Goals of NVPAS:

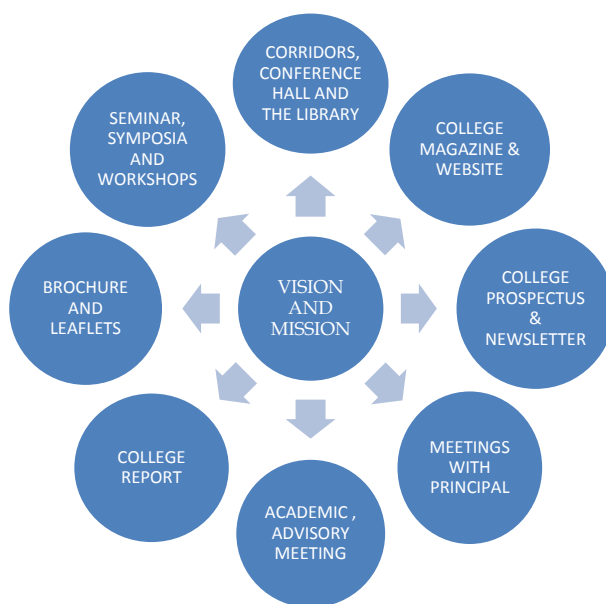
- To promote overall personality development of the students and to develop in them the communication skill.
- To provide excellent educational facilities, optimal atmosphere and maintain high academic standards
- To provide appropriate knowledge and skills to the students for studies and research in biological, chemical, physical and computational sciences.
- To develop the holistic personality of the students.
- To inculcate in them self-confidence and self-reliance for higher education by organizing short intensive courses, conferences and seminars on current scientific and technological developments.
- To organize extracurricular activities and to motivate students to participate actively in them to bring out the inherent and latent talents and skills.
- To prepare students to face various competitive examinations.
- To contribute to the industrial development and economic growth of the country by preparing a cadre of technicians well-equipped to look after administrative and R&D work in various economic sectors.



The ways and means to achieve objectives and goals of the institution.

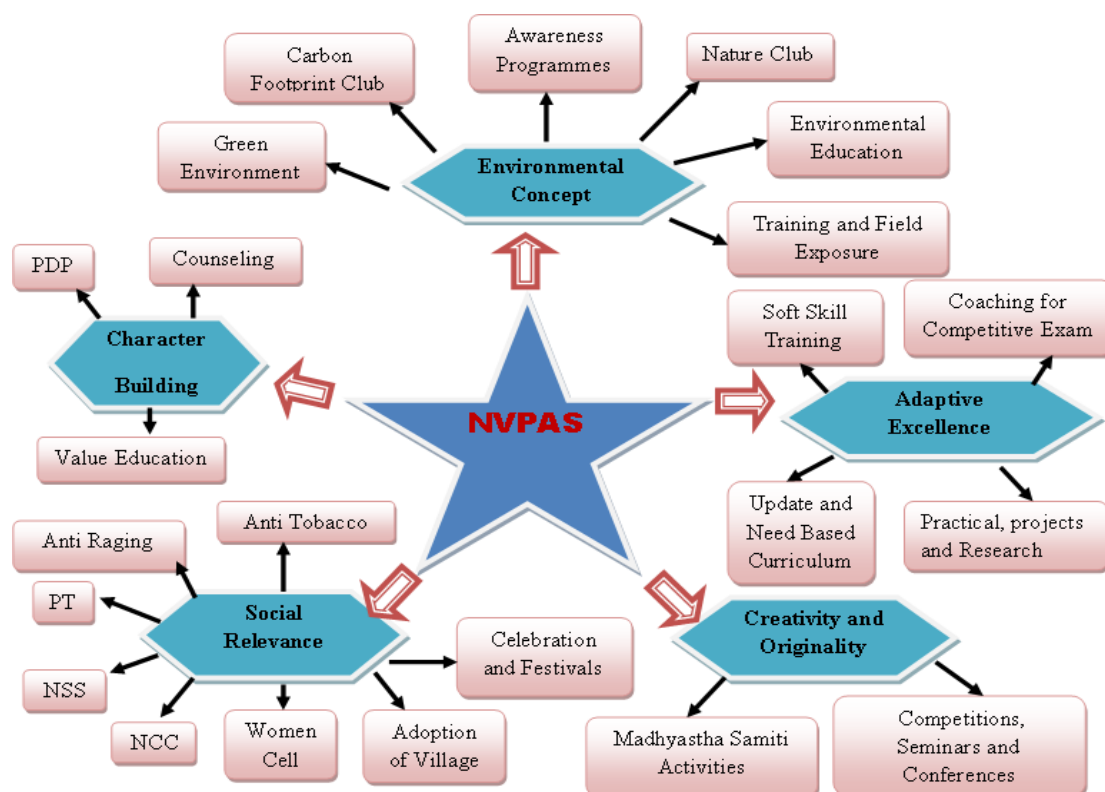
The vision and mission statements are communicated to the students, teachers, staff and other stakeholders in various ways:

- By regularly printing them in the college prospectus, college magazine, News letter, college reports, brochure and leaflets which are time to time distributed to the students, parents, visitors, guests etc.
- By displaying at strategic points such as at entry of college, in corridors of each floor of college building, Staff rooms, at Conference Hall, at auditorium, at Library.
- They are also mentioned on College website.
- During various seminars/ symposia/workshops and also during Annual Day, co-curricular programs and extracurricular programs.
- They are conveyed to various stake holders during various meetings with Principal.
- The students' meeting on first day of college and during MadhyasthaSamiti meetings.
- At Parents meeting during open house.
- At various administrative , academic, advisory, Management staff meetings



Modes of Communicating vision and mission of the institute.

The vision and mission of college are fulfilled through meticulous planning and execution of number of various curricular, co-curricular and extra-curricular activities along with regular teaching.



Activities fulfilling vision and mission of the institution

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

The institution develops and deploys action plans for effective implementation of the curriculum to achieve its vision, mission and objectives in the following ways:

Planning:

In case of introduction of new course: The institution seeks to identify thrust areas and feasibility of introducing need based new course, if any well in advance.

In consultation with academic peers, experts, industry, administrators and management when the idea gets materialized, the procedure for seeking approval of course from University, visit of LIC, fulfilment of suggestions, course curriculum design etc. takes place.

Infrastructure, Laboratory facility, procurement of equipments are taken care before the commencement of course. The advertisement or awareness in News Paper and local media regarding the start of new course is made prior to beginning of new term.

Specific examples

The aforesaid steps have been taken and two courses were introduced in last five years tenure.

- 1. Post Graduate Program of M.Sc. in Information Technology (Implemented in 2012)**
- 2. Career oriented course in Industrial Biotechnology (Implemented in 2010)**

Regular Planning:

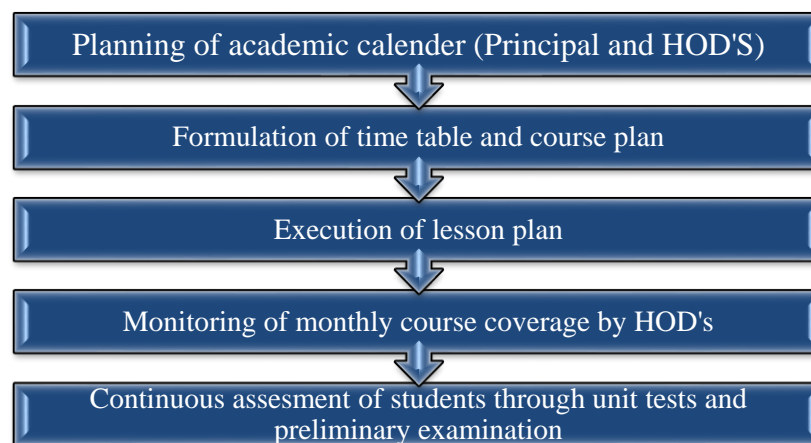
- An academic calendar prior to the commencement of the academic session in consultation with Principal and the Heads of the Departments is prepared. The detailed programme is displayed on the notice board as well as uploaded on college website.
- Teaching is implemented as per the given time table
- Each individual faculty prepares & maintains the course coverage and lesson plan Diary.
- The copy of the syllabus, library books and reading material for the respective subject are provided to the students.
- The course coverage is periodically collected for effective, in time completion of curriculum
- Besides class room teaching, laboratory work, field trips and industrial visits are complementary to get the insight into curriculum and better understanding of the subject.

Teaching methodology

- Along with basic chalk and duster method, regular use of audio visual aids like LCD Projector, Smart Boards, Over Head Projector, project work and seminars augment students' learning.
- Tutorial classes in regular timetable, Remedial classes in morning hours and crash courses at the end of the term are essential strong features of institution to strengthen the subject knowledge of students especially at first year level.

Assesment

- Students are regularly assessed through compulsory weekly unit tests and preliminary examination. In house quiz, home assignments, practical work, seminars presentation are additional modes which are also regularly exercised by institution to measure individual's performance.
- Results of all such examinations are displayed on the notice boards of respective departments as well as communicated to the parents through letters (via office/ counsellors).



Actual Plan for effective implementation of the curriculum

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

In order to make effective delivery of curriculum, the teachers are provided with following support
From University

- Workshop on introduction on CBCS system, workshop on curriculum framing for new curriculum were organized.
- Number of Orientation, Refresher and short term training programmes are made available for the improvement of the faculty for better teaching by Academic staff college of Sardar Patel University.
- The Academic schedule for the term is given in advance by University for effective academic planning.
- The faculty members are supported by various academic bodies of University such as BOS, Faculty of science for introduction, implementation and execution of curriculum.
- University libraries are also made available to teachers.

INSTITUTIONAL SUPPORT

Physical Facilities:

The institute provides state of the art infrastructure facilities for effective transaction of the curriculum.

Classrooms:

The college has spacious and well ventilated classrooms with large green boards, wooden stage, LCD projector, OHP, sound amplification system (classroom talkie) and Wi-Fi internet facility.

Department:

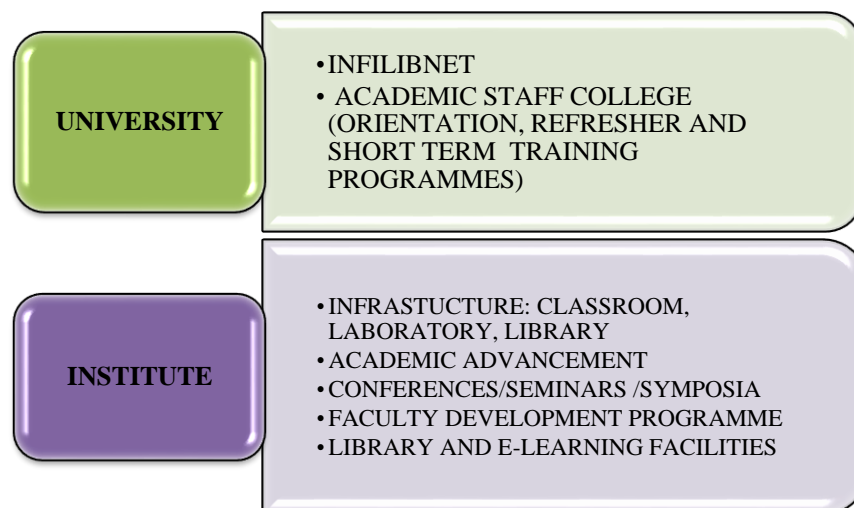
Each Department is provided with computers with internet facilities, intercom facilities and well equipped laboratories.

Common facilities:

The institute has its own audiovisual room, auditorium and separate library building for effective transaction of the curriculum.

QUALITATIVE APPROACH

- The institute motivates the staff members for academic advancements & encourages them to attend different orientation programmes, refresher and the short term courses for academic upgradation.
- Institute deputed the staff for certain workshops and meetings.
- Institute facilitates N-LIST facility through INFLIBNET to the faculty for academic references.
- To improve academic skills and keep abreast of the new developments in the respective areas of specialization, the institute encourages the faculties to participate in National and International Conferences/Seminars /Symposia, etc.
- The IQAC committee of college recently has organized NAAC sponsored two day seminar on “Empowering the educational system through quality enhancement and capacity building of teachers and students” in consultation with regional NAAC Coordinator on 6th & 7th December 2013. Eminent resource persons were invited from New Delhi, Jaipur and Baroda where more than hundred faculty from within and outside the state were benefited.
- The college library provides e-learning facilities to the faculty. The college houses books related to different subjects and subscribes scientific journals and magazines. It also houses separate section of books for competitive exams.
- Moreover, departments house their own departmental library which have been setup from the funds received from minor and major projects
- Student feedback on teachers and curriculum is taken to make teaching-learning more effective.



Support provided by the University and Institution for curriculum improvement.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

The college implements the syllabus prescribed by the university in the best possible manner by taking following initiatives for effective curriculum delivery and transaction on the Curriculum.

- Conducting Orientation session for new teachers for effective curriculum delivery.
- Upgradation of teaching methodology for the effective academic growth.
- Training of Teachers to use ICT technology, such as LCD, Multimedia Projector, Smart Boards and Multimedia CDs for effective curriculum delivery
- Providing well equipped Labs. In computer & IT related courses, the college has 05 computer labs equipped with 200 computers with latest configuration
- Providing computing facility to staff and students for utilizing teaching learning resources for effective delivery of curriculum.
- Making supplementation of the lectures by Question bank, Project work (Environmental science, Computer Science, Instrumentation, BioInformatics), Quiz and assignments.
- Institute encourages the faculty members to prepare and upgrade the reading material using library resources which is then provided to the students.
- Provision of well equipped laboratories, classrooms as well as departmental library.
- Arranging industrial visits to supplement theoretical knowledge by practical exposure to get insight and gain firsthand knowledge.
- Conducting seminars, which help students to express and enhance their knowledge and build self confidence.
- Conducting Personality Development Programs (Add-on courses) to prepare students for the Personal Interview, Group Discussion, Presentations, Resume writing, Time Management, Stress Management etc.
- Conducting continuous assessment of students by weekly unit test, preliminary examination and Arrear exams for continuous evaluation of the students.

- Conducting Remedial, Tutorial and Crash courses for the students.
- Using Audio-Visual aids (OHP & LCD) and sound amplification system (Classroom talkie) specifically for F.Y students for imparting information in efficacious manner.
- Provision of Wi-Fi & LAN internet facility for faculties as well as students for their knowledge advancement.

1.1.5 How does the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operationalisation of the curriculum?

The institution has established networks with beneficiaries such as industry, research bodies and the University for Effective Operationalization of the curriculum through collaborations, linkages and MOUs.

INDUSTRY

- Eminent personalities from reputed companies are invited to the institute to address significance of such curriculum and its application in industrial sector, to solve the anxiety of young minds regarding course content by direct interaction.
- Industrial visits are regularly organized to supplement classroom teaching which helps to bridge their gap of theoretical knowledge with practical implementation. It also helps them in their intellectual development. Some of the industries for regular visits are Anchor industries, Transpeck and Transmetal Industry, Swiss Glasscoat, Kemrock, Glenmark Ltd., United Phosphorus Ltd., etc.
- Feedback on curriculum is obtained from industries
- The interested students are sent for industrial training through the Career Guidance and Placement Cell which maintains professional relations with the representatives of various industries. Exposure to industrial atmosphere helps in better understanding of the subject.
- Various companies visit the college campus and conduct interviews. (Wipro, ICICI bank, Reliance Industry, Life Cell International Limited, TCS etc.)
- Computer Science department has signed MOU with BSNL at Ahmedabad.

RESEARCH BODIES

- Our Institute is linked with research bodies like SICART (Sophisticated Instrumentation Center for Applied Research and Testing), Anand Agriculture University, ISRO and Science city. Visits to such institutes provide the practical knowledge of scientific things being taught in curriculum.
- NVPAS also has linkages/MOU with State level organizations such as GUJCOST (Gujarat Council on Science and Technology) and GSBTM (Gujarat State Biotechnology Mission), and P. D. Patel institute of applied sciences, CHARUSET which provide the financial support to conduct academic programs for effective operationalization of curriculum.
- For more understanding and grasping the fundamentals of subject, subjects like Environmental Science, Bioinformatics, Zoology, Computer & Information Science, BCA and Instrumentation have introduced **Project**

workin final year curriculum. The project topics are assigned to students and guided by concerned faculty. Students submit a report on project which is also given due weightage in practical examination.

- Gujarat Council on Science and Technology also provides financial support to carry out research project at under graduate level under Sci-Tech Project scheme. Dept of Biological&Environmetal Science has been benefited by such scheme.

UNIVERSITY

- NVPAS regularly organizes lectures/ workshops/seminars/symposia whereby university department faculty are invited as chair persons, resource persons and referees.
- The faculty members of the College regularly interact with various departments of Sardar Patel University and other universities for curriculum updates
- Eminent experts are invited for talks and discussion to enrich the knowledge of students and Faculty members in respective subjects.
- MoU signed with B & B institute of Technology, VallabhVidyanagar for collaboration in carrying out extension activity at Dahemi Village of TalukaBorsad.

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the university?(Number of staffmembers/departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided, pacific suggestions etc.)

NVPAS has got a strong feedback system from various stakeholders such as students, teachers, industry, academic peers, parents and community. The feedback is collected during direct interaction with them.

Students: Students have their regular monthly meetings with their counsellors and also through their HOD or subject teacher, they convey their opinions/ suggestions regarding curriculum in a specially designed feedback form.

Parents: All parents are invited by sending a letter to attend Open House twice a year and they are also called as and when required to council for student's progress. A strong bonding between college and parent community and a healthy interaction facilitates genuine feedback.

Alumni: The college alumni association has its own website www.nvpasaa.co.in through which the alumni remain informed about the institution. There is a regular Alumni meet once a year. A feedback is obtained from them regarding the curriculum and it's worth applicability in present context.

Industries: Various departments concerned with industries get feedback from industries on a regular basis about their course content and practical applications.

Academic Peers: NVPAS organizes many state level and national level seminars/conferences/ workshops during which feedback is sought from resource persons regarding the curriculum.

Community : Representatives of Print and electronic media, NGOs, Government agencies, Bank, Hospital and various organizations who visit our institution regularly, contribute in providing the feedback.

All the opinions and suggestions received through feedbacks are discussed by concerned departmental HOD and staff. They are further conveyed to Board of Studies at University level for further consideration.

At NVPAS, twenty staff members are the members of Board of Studies and two are senate members. (Dr.BasudebBakshi, Mr.Bhailalbhai P. Patel)

Sr. No.	Name	Subject
1.	Dr.BasudebBakshi	Electronics / Physics
2.	Dr.Himanshu Trivedi	Physics
3.	Dr.Yogesh Patel	Physics
4.	Dr.Mehul Dave	Electronics / Physics
5.	Dr. Rita N. Kumar	Bioscience
6.	Dr.Madhumati Bora	Bioscience
7.	Dr.YachanaJha	Bioscience
8.	Dr.Kundan Mishra	Bioscience
9.	Dr. Anjali Kulkarni	Bioscience
10.	Dr.AkshayaGupte	Bioscience
11.	Dr.UrvishChhaya	Bioscience
12.	Dr.Smita Srivastava	Chemistry
13.	Dr.Ketul Patel	Chemistry
14.	Dr.Archana Shah	Industrial Chemistry
15.	Dr.Bhavin Patel	Chemistry
16.	Dr.Shveta Trivedi	Chemistry
17.	Mr.Bhailalbhai P. Patel	Mathematics
18.	Mr.NirajBabariya	Mathematics
19.	Ms. Shreya Bhavsar	Computer Science
20.	Mr.Mayur Patel	Computer Science

At University level, BOS Chairman appoints a syllabus framing/revision committee comprising of convener and representatives from all affiliated colleges of University who are the members of the Board of Studies. The feedback received from both Formal and Informal sources is submitted in committee meeting and taken into consideration during framing or revision. The framed syllabi are approved through

various academic bodies such as Academic Council, Senate and Syndicate of the University. The approved syllabi are made effective in respective curriculum.

1.1.7. Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If 'yes', give detail on the process ('Needs Assessment', design, development and planning) and the courses for which the curriculum has been developed.

Yes, the institution develops the curriculum for the courses other than those in purview of Sardar Patel University. The designing and planning of the curriculum is done assessing the need and demand of students and society. Recently institution has introduced

[1] Career Oriented Course (COC) in "Process Development in Industrial Biotechnology" with the financial assistance of Rs 10 lakhs from UGC which offers a certificate course (One year) and a diploma course (Two Years). This course offers an additional 20 credits for the Certificate course and 40 credits for Diploma course. This course is an ADD ON course which can be simultaneously pursued along with the B. Sc. degree. This course offers know how of the fermentation industry works and also suffices the requirement of Pharma industry.

[2] M.Sc. Integrated Information Technology is another five years degree program yielding direct Master's degree in IT.

Design, Development and Planning:

The syllabus of the course [1] was designed and developed by our Microbiology faculty members who also are BOS members, in consultation with the Pharma industry (Alembic Chemicals-Baroda, RPG Lifesciences-Ankleshwar, experts from QA and production Unit- Mr Nayan Parikh, GM- Mr Milind Panhalakar and Prof. P.N. Kundu (Bangalore) as per the need of industry and job demand.

The syllabus of the course [2] was designed by our Computer Science faculty members who are BOS members in consultation with academic peers and IT industries.

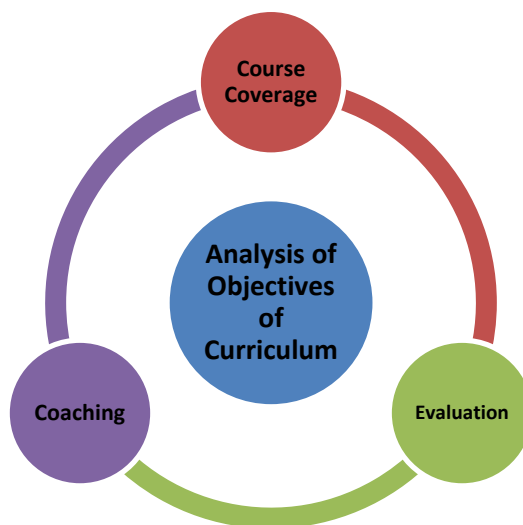
The syllabi of courses have been approved by the Board of Studies in Biosciences and Computer Science of Sardar Patel University, VallabhVidyanagar respectively and have been implemented from June 2010 and 2012 respectively.

1.1.8 How does institution analyse/ensure that the stated objectives of curriculum are achieved in the course of implementation?

To analyse/ensure that the stated objectives of the curriculum are achieved, following system is implemented:

Advanced Planning:

For a semester, faculty are asked to prepare monthly course plan and daily lesson plan well in advance and to strive for proper in time execution. The planning is checked by Head of Department.



Analysis of Objectives of Curriculum

Course coverage Monitoring:

- The course coverage is monitored monthly by Heads of the Departments and Principal to ensure the timely completion of the syllabus following academic calendar.

Continuous Internal assessment:

- Conduction of Weekly Unit tests and preliminary exam prior to the semester end monitors the outcomes of the curriculum. Systematic documentation and required follow-up is carried out by counsellor to ensure the outcomes of the curriculum.

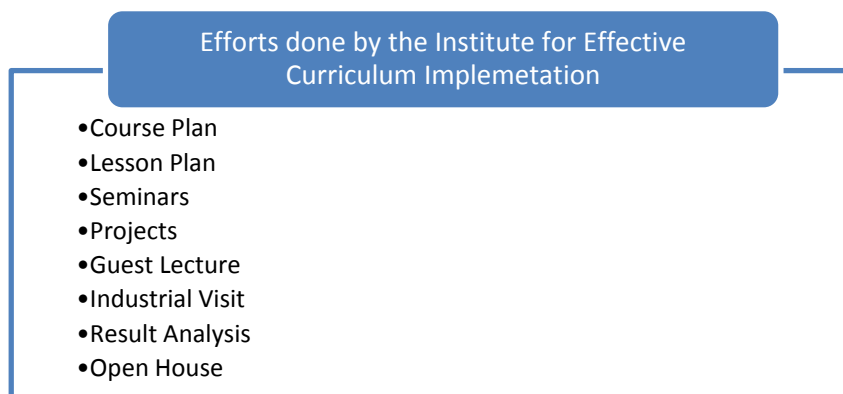
Additional Coaching:

- Conduction of Tutorial classes for all the subjects of First year students to improve their writing abilities and comprehension. Regular problem solving exercise through class work and homework assignment helps in academic improvement.
- Special assistance is provided to Weak learners in the form of Remedial classes. Remedial classes are conducted mainly at first year level to transform inability to competence, and from indifference to understanding of the subject. Besides remedial classes, crash course is also conducted in all the subjects for slow learners.

Result analysis:

University and College results are the significant criteria to evaluate the achievement of the stated objectives. The college always tops the result among all the science colleges of University.

- Percentage of students for Higher education and research, Placement of our students and Alumni feedback also reflect our success in having achieved the desired goals.
- The Institution makes utmost efforts to ensure effective curriculum implementation by adopting the following mechanisms.



Various Mechanisms for Effective Curriculum Implementation

1.2 ACADEMIC FLEXIBILITY

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/skill development courses etc., offered by the institution.

The institution aims to promote overall personality development of the students, to provide optimum atmosphere for learning, maintain high academic standards, provide appropriate knowledge and skills to the students, develop holistic personality of the students, develop better communication skill and inculcate in them self-confidence and self-reliance for higher education.

- Satisfying the goals and objectives, the institution runs **Career Oriented Course in "Process development in Industrial Biotechnology"** since last three years (2010 onwards) with the financial assistance of Rs 10 lakhs from UGC. Three batches of certificate and two batches of diploma have passed out. This course offers an additional 40 credits to the students who have enrolled for Diploma and 20 credits for the Certificate course. This course is an ADD ON course which can be simultaneously pursued along with the B Sc degree. This course offers knowledge about the fermentation industry and also suffices the requirement of Pharma industry.
- A soft skill program is **Personality development Program** which is also carried out for all students compulsorily. The contract has been given to CDC (Career Development Centre) whereby the faculty members from CDC visit the institution and take classes with the help of audio visual aids.
- A course on **Entrance exam preparation Cell (EEPC)** is run throughout the year which prepares the interested students for clear the National Level competitive Exams smoothly.

**1.2.2 Does the institution offer programmes that facilitate twinning /dual degree?
If yes', give details.**

Yes, the institution offers programs that facilitate dual degree.

The institution runs The Certificate and Diploma course in “Process development in Industrial biotechnology” which are open to regular students of the college at any level. A student enrolled in Biology stream may opt for these Add-On courses. The regular students can opt for the Certificate Course in First /Second year B.Sc. and Diploma course in their second or third year B.Sc. along with their regular degree program.

M.Sc. (IT) Integrated Course is another course of five years duration which offers the benefit of pursuing master degree program at the campus. After the completion of three years, if the student wishes to exit from the course he/she can get Bachelor Degree. If student complete five year course he/she gets Master Degree.

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability

- **Range of Core /Elective options offered by the University and those opted by the college**
- **Choice Based Credit System and range of subject options**
- **Courses offered in modular form**
- **Credit transfer and accumulation facility**
- **Lateral and vertical mobility within and across programmes and courses**
- **Enrichment courses**

Range of Core /Elective options offered by the University and those opted by the college and Choice Based Credit System and range of subject options

- University has adopted Choice Based Credit Course system since 2010. The students can choose from number of core and elective options for Maths as well as Biology group students.
As per the CBCS, the University offers a wide range of Core, Elective and Foundation courses.
- Each semester has 24 credit course. The core subjects in F.Y.B.Sc. are of two credits each and in S.Y. and T.Y. B. Sc. they are of three credits. Foundation subjects have 2 credits.
- F.Y.B.Sc. has 4 core subjects, 4 electives and 2 foundation courses.
- S.Y.B.Sc. structure has 20 core and 12 electives.
- In T.Y.B.Sc, six papers of main subjects with 3 practicals where one of the core subject of SYBSc is opted as main subject.
- FYBCA structure has 4 core subjects, 4 elective subjects and 1 Foundation course whereas S.Y.BCA and T.Y.BCA have 4 cores subjects, 2 elective subjects and 1 Foundation course.
- M.Sc. IT University has 4 core subjects, 2 elective subjects and 1 foundation course.

A. RANGE OF CORE & ELECTIVE OFFERED BY UNIVERSITY

F.Y. B.Sc. CORE, ELECTIVE & FOUNDATION COURSES		
CORE	ELECTIVE	FOUNDATION
Physics	Biology	English
Chemistry	Maths	ICT
Biology	Statistics	
Mathematics	Environmental Science	

S. Y. B. Sc. CORE & ELECTIVE COURSES And T. Y. B. Sc. CORE COURSES			
Sr. No.	CORE	Sr. No.	ELECTIVE
1	Chemistry	1	Zoology
2	Maths	2	Biology
3	Microbiology	3	Molecular Biology
4	Biotechnology	4	Industrial Chemistry
5	Genetics	5	Maths
6	Instrumentation	6	Statistics
7	Industrial Chemistry	7	Computer Science
8	Bioinformatics	8	Botany
9	Plant Utilities	9	Electronics
10	Power electronics	10	Biochemistry I
11	Electrodynamics	11	Biochemistry II
12	Environmental Science	12	Microbiology
13	Computer Science		
14	Physics		
15	Information Technology		
16	Electronics		
17	Biochemistry		
18	Statistics		
19	Botany		
20	Zoology		

F.Y. B. C. A. CORE, ELECTIVE& FOUNDATION COURSES		
CORE	ELECTIVE	FOUNDATION
Computer Science	Digital Computer Electronics Information Technology in Businesses Desktop Publishing	Maths
	Business Data Processing Through COBOL RDBMS for small scale organizations Management Information Systems	English

S.Y. BCA CORE, ELECTIVE& FOUNDATION COURSES		
CORE	ELECTIVE	FOUNDATION
Computer Science	Introduction to Microprocessor Introduction to Artificial Intelligence E-Commerce Enterprise Resource Planning	Financial and Accounting Management
		Computer based Numerical and Statistical Methods

T.Y. BCA CORE, ELECTIVE & FOUNDATION COURSES		
CORE	ELECTIVE	FOUNDATION
Computer Science	Basics of UNIX Operating System Software Project Management Information Security Multimedia Application Development	Operations Research
		Systems software

M.Sc. IT (Integrated) CORE & ELECTIVE & FOUNDATION COURSES		
CORE	ELECTIVE	FOUNDATION
Information Technology	Desktop Publishing Information Technology in Business Digital Electronics Introduction to Computer Hardware Business Information System RDBMS for Small Scale Organizations Cyber Security Basics of UNIX Operating System Multimedia Technology Introduction to Green IT Enterprise Resource Planning Introduction to Simulation	Maths English Financial and Accounting Management Computer Based Numerical and Statistical Methods Operation Research Software Project Management

At NVPAS, students are offered wide options of core and elective subjects from the University curriculum. The college has opted for suitable combinations offered under

CBCS with the goal for good career options. It has opted for electives that has practical advantage for the students.

At first year level the students are asked to select Biology or Maths group as main group alongwith core subjects of Physics and Chemistry. Environmental Science is compulsory elective subject to arouse the sense of consciousness for environmental issues. English and ICT are two foundation courses for all students of Semester I and II.

At second year the students have opportunity of choosing core subject from 11 core options available at NVPAS. Biology group students have 7 core options and Maths group students have 6 options open to choose from. Institute prepares a merit list of students based on first year result. A one day Special Career counselling program for students and parents is arranged prior for providing better understanding and scope of various subjects. Students are properly guided and given the freedom to take the subject of their choice from a wide range of options according to their aptitude & ability.

At T.Y.B.Sc. level a student continues to study the first core option selected at S. Y. B.Sc. as main specialization.

B. RANGE OF CORE & ELECTIVE COURSES OPTED BY THE COLLEGE

F. Y. B. Sc. (BIOLOGY & MATHS) SEMESTER I & II					
	Core-1	Core-2	Core-3	Elective	Foundation
1	BIOLOGY I & II	PHYSICS I & II	CHEMISTRY I & II	ENVIRONMENTAL SCIENCE	ENGLISH
					ICT
2	MATHS I & II	PHYSICS I & II	CHEMISTRY I & II	ENVIRONMENTAL SCIENCE	ENGLISH
					ICT

S.Y.B.Sc. SEMESTER III & IV							
	Core 1	Core 1	Core 2	Core 2	Elective 1	Elective 2	Foundation Course
1	Industrial Chemistry I	Industrial chemistry II	Physics I	Physics II	Chemistry I	Chemistry II	English
2	Chemistry I	Chemistry II	Physics I	Physics II	Industrial Chemistry	Electronics/ Maths	English
3	Microbiology I	Microbiology II	Biochemistry I	Biochemistry II	Botany	Zoology	English
4	Biotechnology I	Biotechnology II	Biochemistry I	Biochemistry II	Biology	Microbiology	English
5	Environmental Science I	Environmental Science II	Biology I	Biology II	Botany	Biochemistry	English
6	Genetics I	Genetics II	Zoology I	Zoology II	Botany	Biochemistry	English
7	Bioinformatics I	Bioinformatics II	Computer Science I	Computer Science II	Molecular Biology	Statistics	English

8	Instrumentation I	Instrumentation II	Electronics I	Electronics II	Physics	Maths	English
9	Maths	Maths	Physics	Physics	Statistics	Computer Science	English
10	Information technology I	Information technology II	MATHS I	MATHS II	Fund.mentals Of Computer Hardware	Statistics	English
11	Computer Science I	Computer Science II	MATHS I	MATHS II	Fundamentals Of Computer Hardware	Statistics	English

T. Y. B. Sc. SEMESTER V & VI						
	Core I	Core II	Core III	Core IV	Core V	Core VI
1	Computer Science I	Computer Science II	Computer Science III	Computer Science IV	Computer Science V	Computer Science VI
2	Information Technology I	Information Technology II	Information Technology III	Information Technology IV	Information Technology V	Information Technology VI
3	Instrumentation I	Instrumentation II	Instrumentation III	Instrumentation IV	Instrumentation V	Instrumentation VI
4	Biotechnology I	Biotechnology II	Biotechnology III	Biotechnology IV	Biotechnology V	Biotechnology VI
5	Microbiology I	Microbiology II	Microbiology III	Microbiology IV	Microbiology V	Microbiology VI
6	Environmental Science I	Environmental Science II	Environmental Science III	Environmental Science IV	Environmental Science V	Environmental Science VI
7	Industrial chemistry I	Industrial chemistry II	Industrial chemistry III	Industrial chemistry IV	Industrial chemistry V	Industrial chemistry VI
8	Chemistry I	Chemistry II	Chemistry III	Chemistry IV	Chemistry V	Chemistry VI
9	Genetics I	Genetics II	Genetics III	Genetics IV	Genetics V	Genetics VI
10	Bioinformatics I	Bioinformatics II	Bioinformatics III	Bioinformatics IV	Bioinformatics V	Bioinformatics VI
11	Maths I	Maths II	Maths III	Maths IV	Maths V	Maths VI

BCA Semester					
BCA I	BCA II	BCA III	BCA IV	BCA V	BCA VI

B.C.A. PROGRAM

BCA Semester – 1		
Core	Foundation	Elective
Fundamentals of Computer Programming Using C	Communication Skills in English-I	Digital Computer Electronics
Computer Organization	Mathematics-I	
PC Software		
Web Designing Fundamentals		

BCA Semester – 3		
Core	Foundation	Elective
Relational Database Management Systems-I	Financial and Accounting Management	Introduction to Microprocessor
Object Oriented Programming and C++		
Advanced Data and File Structures		

BCA Semester - 4		
Core	Foundation	Elective
Relational Database Management Systems-II	Computer Based Numerical and Statistical Methods	E-Commerce
Object Oriented Programming Through Java		
Operating Systems		

BCA Semester - 5		
Core	Foundation	Elective
Visual Programming Through VB.NET	Operations Research	Basics of UNIX Operating System
Computer Graphics		
Software Engineering		

BCA Semester - 6		
Core	Foundation	Elective
Server-side Web Programming	Systems Software	Information Security
Computer Networks		
Business Information Systems		

M.Sc. (IT) Integrated

M.Sc. IT Semester – 1		
Core	Foundation	Elective
Introduction to Information Technology	English – I	Information Technology in Business
Computer Organization	Mathematics – I	
Problem solving methodology and programming in ‘C’		
PC Software		

M.Sc. IT Semester – 2		
Core	Foundation	Elective
Management Information Systems	English – II	Digital Electronics
Systems Analysis and Design	Mathematics – II	
Advanced ‘C’ Programming and Introduction to Data Structures		
Web Application Development		

M.Sc. IT Semester – 3		
Core	Foundation	Elective
Operating Systems – I	Financial and Accounting Management	Business Information System
Advanced Data and File Structures		
Object Oriented Programming and C++		
Relational Database Management Systems-I		

M.Sc. IT Semester – 4		
Core	Foundation	Elective
Operating Systems – II	Computer Based Numerical and Statistical Methods	Cyber Security
Data Communication & Networking		
Visual Programming Through VB.NET		
Relational Database Management Systems-II		

M.Sc. IT Semester – 5		
Core	Foundation	Elective
Software Engineering – I	Operation Research	Multimedia Technology
Computer Architecture		
Object Oriented Programming through Java		
Serverside Web Programming using ASP.NET		

M.Sc. IT Semester – 6		
Core	Foundation	Elective
Software Engineering – II	Software Project Management	Enterprise Resource Planning
E-Commerce		
Computer Graphics		
Linux and Shell programming		

Courses offered in modular form & Credit transfer and accumulation facility:

The COC program is in modular form (UGC). Therefore, the certificate and diploma courses are yearly program.

Lateral and vertical mobility within and across programmes and courses

- Lateral mobility from one institution to other is possible provided the NOC is obtained from that institution to continue the same program at other institution. Similarly to continue the same study from other university, the institution seeks PEC (Provisional Eligibility Certificate) from Parent University and then admission to that program is granted.
- At time of admission the vertical mobility is open to students to join the BCA program from any stream- Arts or Commerce or Science, provided Maths is one of the subject studied.
- Vertical mobility is also open for students with Diploma in Pharmacy or Engineering to join B.Sc. program.
- Vertical mobility of the programmes is permitted when a student after passing reaches to higher class i.e. the promotion from first year to second year or second year to third year. This vertical mobility is made feasible even when non clearance courses are <50 %.

Enrichment courses

- Institution offers Personality Development Programme [PDP] for all students. PDP is organized in association with H.M. Patel Career Development centre(CDC)
- Institution has UGC sponsored COC program “Process Development in Industrial Biotechnology” offering certificate and diploma courses.

- Enrichment of courses is made by arranging additional relevant short term courses, seminars and workshops.

1.2.4 Does the institution offer self-financed programmes? If yes, list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

- Since the inception NVPAS is a permanent self financed institute hence all the courses offered are self financed courses. A B.Sc. program with 11 specializations, one BCA program and one M.Sc.-IT (Integrated) program are offered in the institution. (refer 1.2.3) The self financed program are professional, skill based and job oriented.
- The admission process to these courses is simple and admission is given on first come first serve basis.
- The process of second year admission and selection of main subject is very transparent and it is based on merit list of first year result.
- The Curriculum is framed by the affiliating Sardar Patel University as per UGC guidelines.
- The fee structure for B.Sc., BCA and M.Sc. (IT) integrated course is approved by Sardar Patel University.
- Well qualified candidates are selected as per the need by giving the advertisement nation wide. The short listed candidates are invited for personal interview by management as per University guide lines. The neutral and transparent selection of candidate has resulted into the selection of well qualified Teachers from various states. The salary paid is as per the UGC/State Government/University norms.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If yes provide details of such program and the beneficiaries.

Yes, the college offers some additional skill oriented programmes to add on skills & increase employability & entrepreneurship of students pursuing conventional courses.

- **Career Oriented Course** program in Industrial Biotechnology is one such program. This course is designed to make students competent for regional and global employment markets. It is offered in form of Diploma and Certificate courses to interested students of Biology group.
- **Personality Development Programme (PDP)** This program is offered to the all students of NVPAS. This program is conducted to enrich the students with Communication skills, English proficiency, Interview facing techniques and to develop overall personality. Faculties from H. M. Patel Career Development Centre conduct regular classes throughout the year.
- **EEPC (Entrance Exam Preparation Cell):** The institute has facility of EEPC (Entrance Examination Preparation Cell) for college students since 2005-06 that offers coaching for various entrance examinations, for admission to various PG courses offered at the SPU and other Universities and Eminent Institutes nationwide.

- **IIT JAM Exam Preparation Cell:** Department of Mathematical Sciences has started IIT JAM Exam Preparation Cell from 2014. It prepares and trains the students for facing IIT JAM exam. Total 10 students have been enrolled for the same.
- **Certificate Course for “.Net technology” and “Android technology”:** Department of Computer Sciences had arranged the certificate course for faculty members as well as students on “.Net technology” and “Android technology” during the academic year 2010-11, 2011-12 and 2012-13.

The main beneficiaries of all these programs are the students and of course also the industry/ research organization and employee in due course of time.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice? If ‘yes’, how does the institution take advantage of such provision for the benefit of students?

No, there is no such provision made available to allow the flexibility of combining the conventional face to face and Distance Mode of Education by the university.

1.3 CURRICULUM ENRICHMENT

1.3.1 Describe the efforts made by the institution to supplement the University’s Curriculum to ensure that the academic programmes and Institution’s goals and objectives are integrated?

The institute conducts number of curricular, co-curricular and extra curricular activities to supplement the University’s Curriculum to ensure that the academic programmes and Institution’s goals and objectives are integrated:

- Apart from teaching as per the prescribed syllabus the emphasis is given on practical exposure as well.
- Expert-lectures/invited guest lectures are also conducted to gain exclusive knowledge of the subject for the staff as well as students.
- For the overall Personality development, college has implemented Personality Development Program for the students.
- For preparing the students to overcome the challenges with respect to admissions at various institutions of higher learning, Entrance Exam Preparation Cell strives to prepare the students for various entrance examinations for P.G. courses.
- Qualitative teaching-learning method is adopted with the help of computer & internet.
- Well-equipped laboratories with requisite consumables are provided to the students to gain hands on training of the particular subject.
- College library is equipped with SOUL software for better management of issue and submission of books. The library is having huge number of books, journals, magazines and e-resources, which is available for staff as well as students. Besides each department also houses a departmental library for quick references by the teachers and students.

- State and National level Seminars, Symposia, Debates and Workshops, on various current issues and trends are organized regularly by various departments.
- Various Co- curricular activities such as "Hands on training" and industrial visits are organized by the college at departmental level for exposure to real working environment and issues.
- In certain courses viz., B.Sc Environment Science, Bioinformatics, Computer Science, Information Technology, BCA and M.Sc. IT (integrated), the provision of project work is there to enrich the subject knowledge. The allotted faculty member guides the group of students to take up the task so as to ensure activity based learning. At term end, submission of project work is mandatory.
- For the holistic development of the students with spirit of discipline and selflessness, college has offered to opt either NCC or NSS or Sports activity along with the regular study program.
- Under the banner of NSS, various society centric activities such as blood donation camp, eye check-up, thalassemia check up etc. are organised to cater to the needs of the society. Additionally college has adopted a village (Dahemi), where villagers are sensitized about various social and health issues and constant support is provided to the village on various fronts.
- The MadhayasthaSamiti takes care of extra- curricular activities and variety of events are organized round the year through the various portfolios of the MadhayasthaSamiti. This includes various celebrations, exhibitions, music and dance competitions, excursion tours, creative writings, drawing, craft, elocution etc.

1.3.2 What are the efforts made by the institution to modify, enrich and organize the curriculum to explicitly reflect the experiences of the students and cater to needs of the dynamic employment market?

- The institution positively considers the feedbacks received from students, alumni, industry and other stakeholders (Parents/ society) to modify and enrich the curriculum. Generally the curriculum of any subject is revised by University after a period of five years.
- The institution also invites the suggestions from various linkages and collaborators, NGOs and academic bodies for enrichment of study program.
- The institution incorporates UGC and SPU guidelines for developing and restructuring the curriculum. The curriculum for the existing courses is revised from time to time to meet the emerging trends in global markets in consultation with Heads of various Departments and the concerned members of BOS of Sardar Patel University incorporating the feedback from all the stakeholders.
- While drafting curriculum of the Pure, Applied and Add-on courses, a proper care is taken by syllabus committee that syllabus is prepared in such a manner that it should enhance employability and incorporate entrepreneurial skills in students.
- The college also offers COC with add-on certificate and diploma program in "Process Development in Industrial Biotechnology" so as to prepare students for Job as well as research programs. (Section 1.2.1)

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

Efforts of the Institution to Integrate the Cross Cutting Issues:

- In an attempt towards creating awareness on cross cutting issues such as Climate Change, Environmental Education and Human rights, such topics are made a part of curriculum in subject like Environmental Science at F.Y/S.Y./T.Y level at NVPAS.
- ICT has been introduced as a foundation course in the curriculum of F Y B.Sc.
- In order to integrate the issues such as Gender, Human rights, Equality, Social Awareness etc., the college operates various cells like Women Development cell, Anti tobacco cell, Anti raging cell, Nature Club, Knowledge Sharing Forum, Reader's Club, Film Club.

GENDER BIAS : Women Development Cell

HEALTH : Health check up, Thalassemia Checkup, Blood Donation Camps, Anti Tobacco Cell

HUMAN RIGHTS: Anti Ragging Cell, Documentary Films

ENVIRONMENTAL EDUCATION : Nature Club, Carbon Foot Print club , MOUs, NSS activities

SOCIAL ISSUES : Extension cell – NSS and NCC unit, Hungry Genes, Red Ribbon Club

ICT : Wi-Fi and LCD projector facility

Efforts of the Institution to Integrate the Cross Cutting Issues

GENDER BIAS

- There is no gender disparity in the college. To ensure that there is no gender bias, college provides equal opportunity in terms of admissions and recruitment to every individual, irrespective of its gender. There are 20 female staff members of total 83 staff and 661 girl students of 1542 total students.
- Gender sensitization being a primary concern, the institution has set up Women Development Cell which not only looks after the anti harassment and women development issues but also conducts awareness programmes pertaining to women about their rights, status and identity, empowerment, health, social work, liberty, governance and leadership etc. Women are educated to raise their voice against female foeticide, domestic violence, drug addiction etc. This cell through invited talks and discussion by women of eminence from various sectors, also tries to prepare them to live with self dignity, to face the challenges boldly and come out of patriarchal system. College also provides self defence training to interested girls students through this forum. Thirty five Girl students underwent defence training this year for a period of two weeks.

HEALTH

- The University Health Care Center provides treatment facilities to the staff as well as students.
- NSS unit of our college also covers various health related issues such as Health check up, Thalassemia Checkup and Blood Donation Camps.
- Anti Tobacco Cell of our college creates awareness about the risk related to smoking and use of Gutka through poster competitions.
- All the staff members have taken an oath to discourage the usage of tobacco in any form.

HUMAN RIGHTS

- The NVPAS Film Club functions for inculcating human values in young minds creating awareness, motivating them to fight against the social evils and stand for social justice. These objectives are achieved by selection of such movies/ documentary films. The movies like “The Untouched India” & “Slow Poisoning of India” were successful in broadening of an individual’s mental horizons. The film show is followed by fruitful group discussion.
- Anti Ragging committee of NVPAS takes care of harassment cases of the students. Although no cases have been reported so far.
- Invited Talks are arranged on critical issues of human rights

CLIMATE CHANGE

- The Department of Biological and Environmental Science is concerned with the spread of awareness about Environmental issues and its management. Hence, the issues like climate change, Ozone depletion, Green house gases, Soil, Water, Noise and Marine pollution, Rain water harvesting, Hazardous waste management, Bioremediation, Biodiversity and Forestry are made a part of curriculum. The students are taught about these issues and project works are assigned to them such as to assess the pollution impact, to reuse the effluents for irrigation, use of plants for reducing the heavy metals from waste etc. for practical understanding and solutions. Lectures, discussion, seminar, video presentation are arranged on such issues.

ENVIRONMENTAL EDUCATION

- Environmental education plays an important role in spreading environmental awareness among students and society and mobilizing their participation in environment related activities.
- NVPAS is pioneer institution in starting a Bachelor’s degree program in Environmental Science since its inception (1996). It is the first college to start this subject in whole of Gujarat State and only college in Sardar Patel University to offer this program.
- To create awareness about Environment, the subject of Environmental Studies has been introduced as elective subject in Ist and IInd semester for Maths as well as Biology students since 2011.
- The institution has established Nature club with a view to spread the awareness about Nature and its conservation. Various intra and inter collegiate

activities are conducted by this club throughout the year. Programmes like Tree plantation, avian study, quizzes, T-shirt paintings, Essay writing, Eco-rangoli, poster and painting competition, both on campus as well as in the community are organized to spread awareness about the environment. Nature club has rotating Trophy which is owned by winning institution for a period of year.

- Mr Dhaval Patel, Director of VNC, a strong environmentalist of region works for spread of environment awareness. NVPAS has got MOU signed with VNC(Voluntary Nature Conservancy)VallabhVidyanagar Nature Club for conservation, protection and awareness programs. NVPAS students also work as volunteers in VNC to reach to community.
- Nature Club is equally striving for the protection of the environment which also takes the initiative of inviting NGOs for educational & cultural exchange and sharing of the know-how. Guest lectures of eminent Environmentalists are organized from time to time to address environment related issues and their remedies
- Dept of Biological and Environmental Science in collaboration with Industrialist Mr.Sharad Patel has established Carbon Foot Print club which creates awareness about increasing level of Carbon dioxide in our environment by organizing various programs, quiz, competitions, debates, Poster presentation etc.

SOCIAL ISSUES

- Community Services to the society is carried out by NCC and NSS unit of our college.
- Hungry Genes generates funds by preparing eco-friendly cards and articles which is utilized for old age homes and orphanage.
- Red Ribbon Club creates awareness about AIDS.

ICT

- With the rapid development of ICT, the course of ICT has been introduced in the curriculum for the First and Second Semester. Students are given intensive coaching both theoretically and practically in all aspects pertaining to communication Technology.
- ICT is extensively being used in teaching and learning process. Computer Science Department arranges workshop and competitions for e learning, digital library, ICT tools etc.
- Provision for digital library. E book and journals
- Internet facility to all staff members and students through Wi-Fi Zone.

College library has various books on gender issues, climate change, environmental studies, Human rights, ICT for reference.

1.3.4What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

- **Moral and ethical values**
- **Employable and life skills**
- **Better Career Options**
- **Community Orientation**

NVPAS offers various value added enrichment programs which prepare students for promising future prospects.

- The institute aims to groom students in a manner that they become morally upright, professionally sound and socially responsible and competent enough to meet the challenges of the global market.

Moral and ethical values:

- College is committed to generate curious, innovative, hard working citizens with high moral and ethical values :
- By arranging Personality Development Program for all students
- By participation in various shibirs (yoga, Meditation)
- By celebration of various National days and
- By celebration of Religious and traditional days
- By arranging invited speakers on Mind Management and event management
- By inviting speakers from Brahmakumari to address on stress management, mind management etc

Employable and life skills:

- Development of communication skills for better career options through Personality Development Programme in collaboration with H. M. Patel Career Development Centre (CDC), VallabhVidyanagar
- Industrial training to interested students during vacation period by placement cell
- Conducting educational visits and industrial visits
- Imparting training to frame strong Resume, Face personal interview, Group discussions, stress and time management and related things which are very necessary in the contemporary scenario.
- Imparting responsibilities in organizing various events and activities such as cultural programmes, competitions, seminars, workshops etc. to improve their team building and organizational skills.
- Conducting Certificate courses like android technology and .NET technology which are useful to students as well as staff.

Better Career Options:

- Organizing orientation programme for First Year students prior to the commencement of the 3rd Semester to brief about each applied subject and its scope and job prospectus
- Preparing the students to compete for various P.G. Entrance exams like M.Sc.-BT, MI, Biochemistry, BNF by Entrance Exam Preparation Cell. Clearing such entrance exams makes a pave for securing admission at India's premier institutes like IIT, IISC Bangalore, TIFR, Mumbai and some central universities through JNU Combined Entrance Exam for Biotechnology.
- College is recognized as Nodal centre for Biotechnology Capacity Building Cell for Anand& Vadodara region by Gujarat State Biotechnology Mission, DSTand Govt. of Gujarat as a part of Network of BT Capacity Building Cell.

Here, college prepares selected students from various science colleges for various Entrance examinations by conducting Crash workshops.

- Organizing campus interviews through the Placement Cell
- One day seminar for T.Y. B.Sc. students to know various P.G. and Diploma programs available after Bachelor degree. Various institution representatives make the presentation regarding the course, its scope and job prospects.

Community Orientation:

NCC –National Cadet Corps

- NCC services believe in Discipline and loyalty to nation and in civil defense, with this mission following activities were carried out:
 - a) Celebration of National Days
 - b) National integration camp and Rally

NSS – National Service Scheme

- NSS unit of NVPAS conducts various community orientation programmes
 - a) NSS unit had adopted village Alarsa in (2009-13) and this year another village Dahemi is adopted and MOU has been signed for mentoring their needs in educational, agricultural, social and health related issues.
Some of the regular services to community are:
 - b) 10 days camp at village to get associated with community
 - c) Yoga Shibir programme.
 - d) Thalassemia checkup and awareness program.
 - e) Blood group checkup and donation camp.
 - f) Health checkup camp for children and women
 - g) Street plays on dowry, gender discrimination, environment pollution and corruption.
 - h) Distribution of warm clothes to the needy people.
 - i) Creating awareness on Health and Hygiene and better ways of life.

All these activities are aimed at holistic development of students and making of healthy society.

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

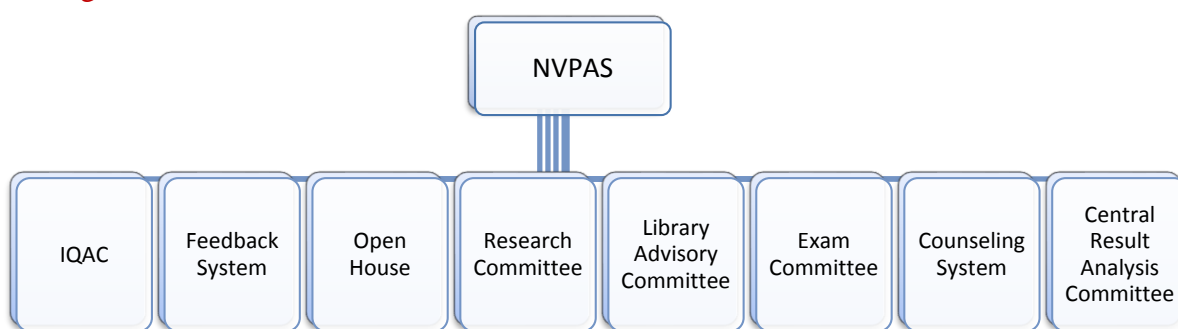
In order to keep pace with the changing scenario the institute relies on feedback mechanisms which provides right analysis and suggestions for improvements or enrichment.

- On the basis of feedbacks received from students, peers and parents/industry, the institution has introduced a certificate course (One year course) and a diploma course (Two Year) in "Process Development in Industrial Biotechnology" run by Department of Microbiology from 2010. This course has been framed in consultation with Pharma industry for imparting practical knowledge and skills in order to have greater, faster job availabilities in industrial zone.

- Based on the feed back received from various stack holders, the institution has also introduced Integrated M. Sc. IT from 2012-13 in consultation with IT experts.
- Based on the feedback received, some departments like Env.Science, BioInformatics, Computer Science have introduced the Project work in final year curriculum. Env. Science students carry out the project work in final year by carrying out minor research work. The allotted guide monitors the progress of work. The report is submitted at the time of University Practical Examination and due weightage is given to project work.

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

The institution monitors and evaluates the quality of its enrichment programmes through constitution of various committees such as:



Monitoring and evaluation of the quality of its enrichment programmes.

Internal Quality Assurance Cell (IQAC): This cell monitors the internal quality in various processes and develops guidelines to carry out such activities in best manner possible. It also organizes lectures and conferences to orient the teachers and students about its mechanism and advantages.

Feedback system: College collects feedback from various stakeholders and scrutinizes it to incorporate the appropriate suggestions.

Open house:It serves as open platform for parents and community to interact and suggest their concerns.

Research Committee:It is an internal cell that monitors various research projects and their submissions to the funding agencies.

Library Advisory Committee:This committee ensures the regular monitoring, physical verification and up gradation of books, journals etc.It also suggest incorporation of ICT in Library management and provision of other user friendly facilities such as extended operating hours during exams, study environment, photocopier and internet.

Exam Committee: This committee makes necessary provisions for conducting unit tests and preliminary examinations to evaluate the academic progress of the examinee.

Counselling System: Each counselor takes care of the academic and overall progress of around 30 students and ensures regularity and growth of the students. Counselor also frequently communicates with the ward's parent to update them, the student's academic progress and regularity.

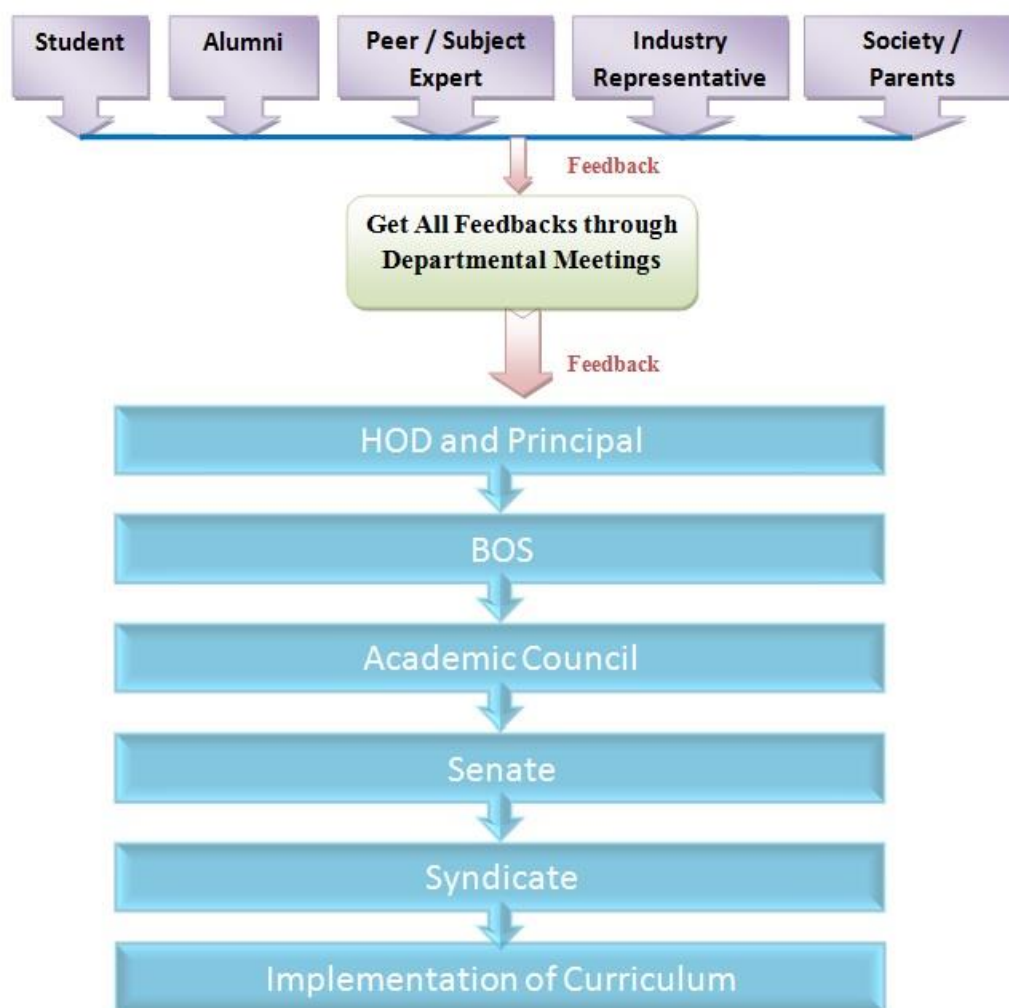
Central Result Analysis: The Principal takes utmost care to analyze the overall result individually as well as subject/course wise and ensure necessary steps to improve the results.

1.4 FEEDBACK SYSTEM

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

- As our institute is affiliated to Sardar Patel University, the curriculum is designed and developed by the University. However the college actively participates in this process as twenty staff members are the members of Board of studies of the university in various subjects and Principal is member of P.G. Board of the University. They take utmost care to incorporate the suggestions and improvisations based on feedback analyses of peers, students, Alumni, industry and other community stakeholders.
- College has a lion share in the design and development of need based courses which are initiated, planed and framed by NVPAS contribution and exclusively offered at NVPAS only e.g. Environment Science, Genetics, Bioinformatics, Instrumentation andCOC. Additionally college has contributed significantly in the courses which were initiated from our college e.g. Biotechnology (1996),BCA (1999) and M.Sc. IT Integrated (2012).
- College faculties also actively participate in the workshop and seminars organized on design and development of curriculum by the university or other institutions.
- Besides this college has played a significant role in upgradation of the syllabi in many courses as is discussed in case studies in section 1.3.
- In all curriculum incorporations, the process of designing and development by the university is as mentioned in the flow chart.
- The feedbacks are obtained from various stakeholders and analyzed so as to incorporate the requisite topics into the curriculum. Informal feedback is also obtained during the outhouse activities like industrial visits, project work and other informal encounter with society at large.
- The meetings are called to review the adequacy and viability of the existing courses. To dovetail the required changes into the contemporary system, curricula are discussed with concerned faculty members. In-house departmental meetings are held to review the courses and program
- The corpus of feedback is conveyed to HOD for analysis

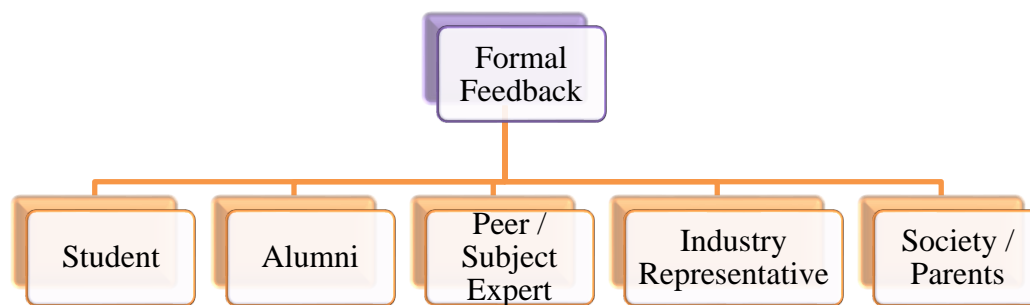
- The HOD and departmental representatives after careful scrutiny, forward the suggestions to BOS Committee Chairperson.
- BOS Chairperson appoints a syllabus framing/revision committee comprising of convener and representatives from all affiliated colleges of University.
- The proposed syllabi are once again discussed in BOS meeting and after weighing all pros and cons, they are forwarded to various bodies like Faculty of science and Syndicate of the University for final approval of the Vice Chancellor.
- The approved syllabi are made effective in respective curriculum with given dates.



Design and development of Curriculum

1.4.2 Is there a formal mechanism to obtain feedback from students and stake holders on Curriculum? If ‘yes’, how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programmes?

Yes, there is a formal mechanism to obtain feedback from students and stakeholders on curriculum. The existing programs are reviewed and new age programmes are introduced to create better opportunities for students. Feedback from students, alumni, parents, academic peers, subject experts, industrial representative and community are obtained for formulation and introduction of new courses.



Formal Feedback

- Our College has prepared questionnaire cum feedback form for curriculum. These feedbacks for curriculum are collected during parent- teacher meetings, alumni meetings and student gatherings.
- Suggestions from various industries and academic experts are invited. These feedbacks are discussed during HOD meetings and necessary relevant modifications and implementations are forwarded to university during BOS meetings.
- The mechanism for collecting feedback in the regular meetings of the bodies for this purpose:
 - 1) **Students:** Our College has designed a feedback form which is distributed through random selection of students to obtain feedback on the curriculum. Apart from this student counselling, meetings are organized almost every month to get their feedback.
 - 2) **Alumni:** Once in a year, Alumni meet is organized by (NVPASAA) Alumni Association of our college. During this meeting the alumni of the college give feedback about the relevance and validity of their course in the job market. The former students provide a better understanding of the effectiveness and applicability of the curriculum in the practical sense. The feedbacks obtained from the alumni are incentives for modifications of curriculum.
 - 3) **Parents:** Parents are active participants in almost all the activities of the college. A healthy interaction with the parents is facilitated and encouraged during open house.

- 4) **Employers / Industries:** The College gets feedback from Employers and Industries on a regular basis. The employers give their feedback with regard to the curriculum and the need of industry during the meetings and interactions with the Principal and the Placement Cell of the college. Apart from this, every department organizes expert lectures, workshops and seminars to get feedback on curriculum from employers and industries concerning their areas. During industrial visits, discussion regarding the relevance of curriculum is carried out for effective changes in the curriculum.
 - 5) **Academic Peers / Experts:** All state level, national and international workshops, conferences, seminars and extension lectures organized by departments/ college or attended by the experts/ judges, become a platform to exchange ideas with peer groups or experts.
 - 6) **Community:** Education Fairs, cultural programs, social service activities, Prize distribution ceremony, Annual day celebration etc. provide opportunity to interact with community and introduce need based programs. Apart from this the general acceptance of the course programmes by the students and their parents is a sign of acceptance on the part of the community.
- All the received feedbacks are analyzed. The regular departmental meetings are the forum for analyzing the feedbacks on curriculum. After thorough debates and discussion, the valid points are enlisted and forwarded to BOS (Board of Studies) Chairman for further consideration, modification and processing.

1.4.3 How many new programmes/courses were introduced by the institution during the last four years? What was the rationale for introducing new courses/programmes?)

To look into the demand of IT and Biotechnology in society and to keep pace with the requirements of the changing educational scenario our college has started the following new programmes during last four years:

Department	Level	Program	Year of Introduction	Rationale
Microbiology	Certificate Course	Process development in Industrial Biotechnology (COC)	2010	Vast number of Pharmaceutical companies in state
	Diploma Course			
Computer Science	M.Sc. I T	M.Sc. IT Integrated 5 Yrs. program	2012	Good demand in IT sector

- These courses are implemented in accordance with the vision, mission, goals and objectives of the institution.
- The COC program provides good employment opportunities even after the Bachelor degree.
- These courses are introduced to ensure their compatibility with global market needs.
- M.Sc. IT course gives opportunity to complete their Master degree within the same campus.
- M.Sc. IT program is flexible enough to fit in the interest and needs of wide variety of Industry, research institute / consultancy / academic in the field of Computer Science.

1.4.4 Any other relevant information regarding curricular aspects which the college would like to include.

- The NVPAS College is the only science college of Sardar Patel University which offers maximum number of options in core subjects and electives subjects at U G level.
- NVPAS faculty members actively contribute to various activities of KCG (Knowledge Consortium of Gujarat), BISAG Gandhinagar, Saptdhara Programme of Gujarat Govt. and NPTEL.
- The IQAC committee of college has organized NAAC sponsored two day seminar on “ Empowering the educational system through quality enhancement and capacity building of teachers and students” in consultation with regional NAAC Coordinator on 6th& 7th December 2013. The full papers are published in a research journal Research Matrix (International Multidisciplinary Journal of Applied Research)with ISSN No. 2321-7073
- IQAC of NVPAS and Career Development Centre have jointly organized a two days Faculty development programme for all teaching faculty on April 28-29, 2014.
- NVPAS college is well satisfied to know that it is able to make new pathways in the field of applied sciences and play its part in directing the youth to promising future career avenues.
- College faculty have undergone 20 Orientations, 6 Refresher Programmes, 5 Training Program, 136 Seminar/ Symposia, 20 Workshops and 45 Faculty Development Program during last five years.



Criterion

II

Teaching Learning & Evaluation



CRITERION II: TEACHING-LEARNING AND EVALUATION

TEACHING AND LEARNING ARE THE TWO SIDES OF A COIN. THE MOST ACCEPTED CRITERION FOR MEASURING GOOD TEACHING IS THE AMOUNT OF STUDENT LEARNING THAT OCCURS.

2.1 ADMISSION PROCESS AND STUDENT PROFILE.

2.1.1 How does the institution ensure publicity and transparency to the admission process?

NVPAS has made its journey of 18 years and during this time span it has successfully secured a respectable place among the science colleges of Gujarat state. Being the only college offering wide range of career openings in applied sciences with a large number of course combinations to opt from, it has a commendable reputation for higher education in Gujarat.

[i] Publicity to admission Process:

The college ensures wide publicity in a planned manner by use of Print media, website, direct visits, admission counseling and through present students and alumni. Following strategies are used to implement the wider publicity:

(A) Notification/Advertisement in the in National/regional News papers

To bring awareness in a mass to choose NVPAS for graduation in science, the advertisement is published in leading national and regional daily newspapers like The Times of India, The Indian Express, Gujarat Samachar, DivyaBhaskar, SardarGurjari, NayaPadkar, Sandesh etc. portraying detailed information about number and range of courses offered, intake capacity, eligibility criteria and major upshot and insight of the college. Besides, information regarding the educational fair in various cities for direct counseling and interaction is also mentioned.

Alumni as well as the current students of the college and their parents are the best ambassador in publicizing the institution.

(B)Through Banners and Display Boards:

The institution promotes its information through Banners and Display boards. The banners mentioning the array of courses offered are displayed at various places, at the Main entrance of the college building and on library building located across the road. In the college premises display boards mentioning the scope of different subjects are arranged during admissions. During seminar/ conferences/symposia/workshops, the college banners spread the information. Moreover, whenever college conducts any excursion, NSS Camp/Extension activity within or outside the state, the college banners are displayed on the college vehicle

(C) Prospectus:

Prospectus is made available to the students before the process of admission. The prospectus reflects the vision and mission of the college. It includes information

pertaining to distinguishing features of the institution, its infra structure, rules and regulations of the college, profile of faculty members, different courses offered by the institution, their outline and scope, number of seats intake for different courses, list of core/elective/ foundation subjects offered, eligibility criteria, examination system, counseling system, internal evaluation pattern, EEPC, Career Oriented Course in Industrial Biotechnology, industrial support for training and visits, academic activities, co- curricular activities, college results, facilities provided, library facility, hostel facility, management, etc. College prospectus and admission forms are made accessible on demand and requirement before and during admissions.

Prospectus with admission forms for B.Sc./ BCA / M.Sc. IT as per the requirement with fees Rs 300/- are made available to the students seeking admission.

(D) Brochure and leaflets:

A brochure and leaflets are prepared in English, Hindi and Gujarati which gives basic information about the college and the different courses run by the college. These are distributed at the time of admission inquiry, during education fair and school visits.

(E) Institutional Web Site:

NVPAS has well organized and updated web site -<http://www.nvpas.edu.in> which provides complete information about the college, various courses offered, intake capacity and eligibility criteria, faculty details, results etc. The students can download the application form from Website.

Institutional website provides the annual IQAC report, e-magazine of the college, message from Principal's desk, vision and mission of the college, characteristic features, central facility etc. Department wise faculty profile of the college is also uploaded on the web site. The site also gives information about college alumni association and counselors of the various batches at FY, SY and TY level students. Previous year's University result, college madhyasthasamiti, academic activities of the college, examinations details, dates of unit tests and preliminary exam are displayed well in time. University exams Time table for various semester exam is also displayed on the website.

(F) Education fair

- (a) The Education fairs are arranged in various cities of state by management. NVPAS participates in education fair across the state and adjoining states prior to declaration of 12th Board result to reach out to society. Faculty members representing various subjects are assigned duty by Principal. Duties are allotted as per availability and convenience of faculty members. Timings are kept from 2.00 pm to 10pm. Brochures and leaflets are made available to visitors seeking information. They are given detailed information regarding the various degree programs at NVPAS, subjects offered, scope, eligibility criteria, rules and regulations, fee structure, hostel accommodation etc. Students can fill up the form in advance and take the provisional admission which can be later regularized after declaration of his/her pass result.

- (b) College also sends faculties to the science stream schools across the adjoining districts and States for spreading awareness about demand, future prospects and availability of Pure and Applied subjects offered by the college.

(G) Admission Counselling:

The institution has admission counseling cell being operated once the results of 12th standard Science stream are out. The admission counseling cell comprises of Principal, HOD/ senior faculty as signing authority and faculty members of various subjects. The cell remains functional from 9.30 am to 5.30 pm during summer vacation period. The visitors seeking admission are provided with detailed information on various courses offered at Institution. Those willing to know more are taken to visit the institutional facilities.

(H) Students and Alumni

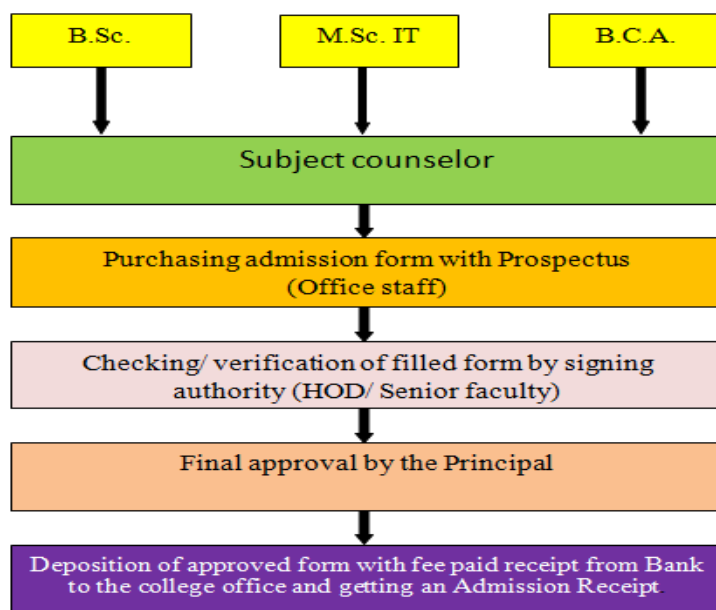
Current students as well as Alumni of the college and their parents are the best ambassadors in publicizing the institution. Good number of admissions takes place through their opinions and witnesses.

[ii] Transparency in Admission

Admission to NVPAS is open for students on first come first serve basis. Admission is open to all students irrespective of caste, creed and religion. The only criterion during admission is candidate must have cleared the Board exam and must furnish all the necessary documents as required by Sardar Patel University for admission process.

2.1.2 Explain in detail the criteria adopted and process of admission

Students are admitted to the different programmes by adopting following methodology.



Flowchart showing the admission process of the institute.

(A) Admission to First Semester B.Sc.:

Admission to the first semester of B.Sc. is given on first come first serve basis as per the university norms i.e. 35% (C2) grade in 12th science with “A” (Mathematics) group, ‘B’ (Biology) group and both “AB” (Mathematics and Biology) group from state board, central board or any other recognized board. The students who passed in 12th science in ‘A’ group are admitted to first semester B.Sc. Mathematics group, students who passed in 12th science with B group are admitted to first semester B.Sc. Biology group, while students passed 12th science with both ‘AB’ group can be admitted either to first semester B.Sc. mathematics or biology group. Neither any entrance exam nor interviews are conducted for admission. First two semester of the B.Sc. programme has common subjects for Mathematics and Biology group students. The specialization in any particular subject is offered in 3rd semester.

On line admission in BSc courses through ACPC (Academic Counseling for Professional Courses)

From the academic session 2014-15 Admission to BSc courses all over Gujarat has been centralized. State government framed a counseling body to conduct on line admission to BSc courses and some colleges including NVPAS were allocated as help centers to guide students for online admission. Student can login to register from any part of country then he is required to fill his choice for college as well as subject. Seat matrix depicting availability of seats from all the science colleges was already displayed on ACPC website for student’s information. Initially 3-4 mock rounds were conducted where student may learn to know his/her admission. Till the final round he/she may reshuffle his/her choice but afterwards no choice can be changed. Help centers verify their documents after mock rounds. Allotment letter for the admission to students were issued online which he/she had to carry with for the admission to college allotted and there s/he is required to pay fee to confirm admission.

(B) Admission to 3rd semester B.Sc.:

As there are limited number of seats allotted to each subject from third semester, admission in the third semester is given on the basis of merit and as per the availability of seats. On the basis of theory marks obtained in S.P. University examination and average grade point obtained in the first and second semester B.Sc., a separate merit list for Mathematics and Biology group students are prepared. The merit number of the student is communicated to home address of student, mentioning the date and time of counseling. In the admission counseling students are asked to select their subject on the basis of their merit number. Students with the Mathematics group are offered Computer Science, Information Technology, Instrumentation, Chemistry, Industrial Chemistry and Mathematics, while students with Biology group are offered Biotechnology, Microbiology, Genetics, Bioinformatics, Environmental Science, Chemistry and Industrial chemistry.

(C) Admission to B.C.A.

Admission to first semester B.C.A. is also given on first cum first serve basis to those students passing 12th science/commerce/arts either from state board or any other recognized board with English as one of the compulsory subject.

(D) Admission to M.Sc. IT (integrated):

College has started five years integrated course in M.Sc. information technology (IT) from June, 2012. Admission to this course is also on first come first serve basis to those students who has passed 12th science/commerce with English as one of the compulsory subject.

(E) Admission to Career Oriented ‘add-on’ Course:

College runs UGC funded Career Oriented Course in ‘Process Development in Industrial Biotechnology’ from June 2010. This course is available only to the B.Sc. students of the college. There are total 60 seats in this course in which 30 seats are allotted to certificate course (1 year duration) and 30 seats are allotted to diploma course (2 years duration). Admission to this course is also on the basis of first come first serve basis. However, students in 5th and 6th semester are eligible only for the certificate course and not the diploma course.

(F) Any other:

- (1) College also grants admission to those students who passed supplementary examination upto the month of August of current academic year.
- (2) Admission is also given to those students who have some gap in between their studies by submitting the affidavit with the necessary documents.
- (3) Lateral admission in 3rd semester of B.Sc. in some courses is possible depending upon the availability of number of seats and permission and No Objection Certificate from the previous institute/university.
- (4) Students are encouraged to join certificate/add-on courses like fashion design offered in sister institutes of CVM (S M Patel College of Home Science).
- (5) Admission to Research programme **Ph.D.:** Students with Master’s degree seeking admission to Ph.D. at NVPAS are required to clear the University Ph.D. Entrance Exam which is held twice every year. NET/GATE clear candidates as well as candidates with direct UGC scholarship are exempted from Entrance test. After the clearance of Entrance exam, the passed candidates are called by University for personal interview before the appointed admission committee-DRC (Departmental Research Committee). The students are required to give their presentation on the topic they have chosen for Ph.D. The guide and student selection depends on final decision of research committee. After submission of application form, the official permission from University is received for registration of PhD student. The research students are registered through DST sponsored and University recognized sister institution SICART – a Sophisticated Instrumentation Centre for Advanced Research and Testing.

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

NVPAS gives admission to the students pass HSC Board exam with > 75 % and also to students passing with grace marks. Thus there is wide range of marks for admission

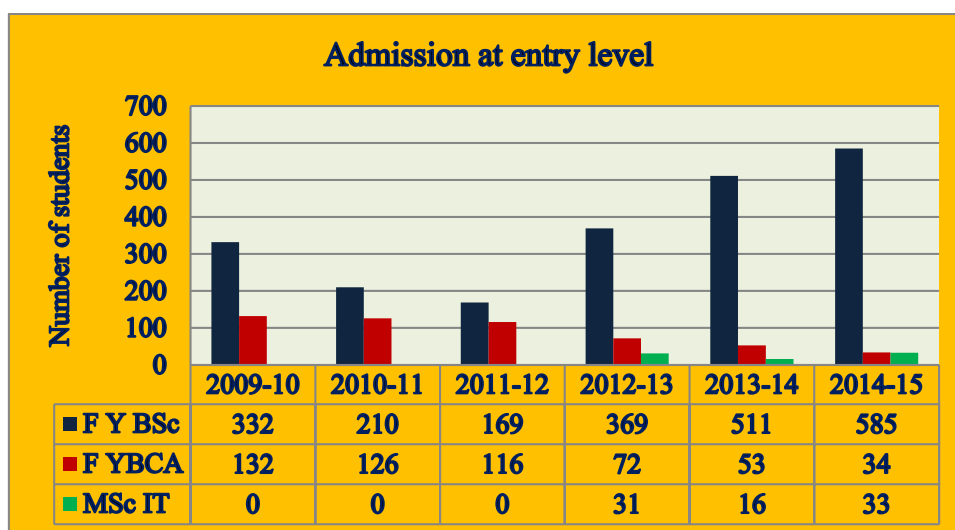
eligibility. However, whatever the entry level percentage may be, NVPAS results are always the highest among all science colleges of Sardar Patel University.

Admission to students in 1st semester B.Sc./BCA/ M.Sc. IT is given as per University norms. Those students who passed 12th from any recognized board within or outside the state are admitted to the college on first come first serve basis and hence there is no minimum or maximum of marks for admission at entry level for each of the program offered by the college. All the self financed science colleges affiliated to Sardar Patel University follow the same pattern of admission.

Admission to 3rd semester/second year B.Sc specialized courses is based on merit list prepared on the basis of marks (theory) scored in first and second semester/first year B.Sc. University examination. Admission to second year courses like Biotechnology/Microbiology/ Genetics/ Environmental Science/Bioinformatics/ Chemistry/ Industrial Chemistry under Biology group and Chemistry/ Industrial chemistry/ Instrumentation/Computer science/Information technology and Mathematics under Mathematics group is given according to the cut off percentage through college admission committee.

NVPAS does not have any management quota seats for any degree program. All the seats of various specializations are filled only through merit and without any kind of donation.

The admission criteria differs for two science colleges of S.P. University which are grant in aid, as they have merit list based admission process. The two other self financed colleges of S.P. University might follow different criteria for more enrollment. Some others may have donation system or management quota.



Admission profile of Institute (2009-14)

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If ‘yes’, what is the outcome of such an effort and how has it contributed to the improvement of the process?

A well defined mechanism for admission exists in NVPAS. The admission process is dealt by Admission Counseling Committee which takes care of counseling of visitors,

providing the information regarding various degree program and courses, helping the students filling up of application form, documents verification, and fee deposition and finally giving the receipt of ADMISSION to the student.

The Admission committee reviews the process every year before the start of new academic term. Principal well in advance consults Head of the Departments and faculty members to find out improvement opportunities in the admission process based on previous experience and invites suggestions/recommendations. The amendments of University if any are checked. These recommendations are communicated to the management by the Principal. Management after analyzing these recommendations conveys the final decision.

Outcome:

A review of Admission process has led to make necessary changes in admission policy for the benefit of students. Following are the changes adopted in last five years.

1. Provisional admission can be given to the student during the education fair.
2. Admission can be secured by partial payment of fees along with the duly filled application form and an undertaking mentioning remaining payment of the fees before the completion of first year.
3. Admission can be given to those students who cannot produce original marksheets/ documents against the undertaking mentioning about submission of documents within specific period of time.
4. If any student wants to cancel his/her admission for getting admission into some professional courses through central admission committee and if he/she opts for the sister concerned institute than fees can be transferred to that institute on recommendation of the management.

This has helped in improvement of admission process by

1. Making the process stream lined.
2. Providing the feeling of security regarding the admission.
3. Reducing the financial burden on the parents who are representing disadvantaged section of the society.
4. Saving time of parents and students coming from far distance.
5. Providing flexibility to move in sister institution.

The student profile is reviewed time to time by administrative staff, Principal and counselors in order to assess student's merit, economic status, religion, reservation, eligibility, scholarship etc. The outcome of such efforts is that segregation and identification of students for various need based criteria is possible.

It has brought following improvements in process.

Based on the student profile, institution makes efforts

- To help SC/ST students to get reservation benefits and government scholarships
- To help poor learners to join remedial classes
- To help students coming from vernacular medium to learn English speaking
- To promote meritorious students to various competitions and academic programs
- To help talented students to shine out their talents

2.1.5 Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion.

There is no separate policy for admission to different category. Admission is open to all with same standards.

Since the institute is self financed, the fee structure remains higher than grant in aid institute, however, the students belonging to the category of OBC,SC & ST join the institute in good numbers. The institute helps such students by informing them in time about various scholarships available from government and filling up of forms and its processing. Good number of students have availed financial support through such effort. College maintains the data for those students who belong to different categories which is shown in the following table.

Categories	2010-11		2011-12		2012-13		2013-14		2014-15	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
SC	11	03	-	-	08	06	20	11	27	27
ST	04	01	-	-	12	14	24	46	42	56
OBC	96	45	42	09	75	41	119	65	183	97
General	607	540	517	391	536	345	575	391	625	477
Others	30	16	28	22	28	07	07	01	04	04

2.1.6 Provide the following details for various programmes offered by the Institution during the last four years and comment on the trends. i.e. reasons for increase / decrease and actions initiated for improvement.

Academic Year	FYBSc		
	Number of applicants	Students admitted	Demand ratio
2014	888	585	1:1.5
2013	845	511	1:1.6
2012	571	365	1:1.5
2011	439	202	1:2.1
2010	496	210	1:2.3
2009	656	332	1:1.9

Academic year	BCA			MSc IT(Integrated)		
	Number of applicants	Students admitted	Demand ratio	Number of applicants	Students admitted	Demand ratio
2014-15	57	34	1:1.6	29	33	1:0.87
2013-14	74	53	1:1.4	26	16	1:1.6
2012-13	95	72	1:1.3	38	31	1:1.2
2011-12	186	124	1:1.5	MSc IT Integrated started in 2012-13		
2010-11	178	126	1:1.4			
2009-10	246	130	1:1.9			

Overall trend for all subjects of B.Sc. is found increasing in last four years due to more number of students getting enrolled in higher secondary preferring science subjects. Moreover University Grants Commission (UGC) through INSPIRE Program encourages the students to make their career in the field of basic and applied sciences which has impacted the strength of the institution. Furthermore, expertise faculty members, student centered teaching learning process, good infra structure and good governance are the important assets for increasing strength.

Although the computer based BCA program and IT program are running with slow pace as more number of institutions with these subjects have come up within the university to fulfil the demand.

Admission to COC course is for inhouse students only.

For Ph.D. students, it is centralized Admission through DRCs of Sardar Patel University and number of seats available to Ph.D. guides. Admission to COC course is only for in house students. For PhD students admission is centralized through DRC of S P University and Number of seats available to PhD guides.

No. of students admitted for Career Oriented Course in Industrial Biotechnology					
Year	2010-11	2011-12	2012-13	2013-14	2014-15
Diploma	-	03	03	02	05
Certificate	25	24	16	19	14

The management and admission committee take initiatives for improvement by making action plan of

- Introducing new programs as per need of industry and society.
- By making changes in curriculum as per the need of time
- Making the subject practically skill and job oriented

2.2 CATERING TO STUDENT DIVERSITY

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

The institution has not faced such situation till date as no differently-abled student has ever approached our college for study so far. However, if such a student ever seeks admission the institution will not deny him/her for the same and will do its best to cater to his/her special needs as mentioned below:

- Physically disabled students can utilize Elevator facility of the college for reaching their classrooms and laboratory.
- College library can provide audio CD for visually challenged student.
- Manual help can be extended to such students if required.
- College also arranges for the writer during the University examination if required.
- Student can also appear in exams in a separate room at ground floor if medically unfit or under special circumstances.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the program? If 'yes', give details on the process.

Yes, the College does assess the students' needs in terms of knowledge and skills before commencement of the Programme.

- Institution admits all the students who have cleared the HSC examination and hence at the entry level marks obtained in qualifying examination act as a pointer to the student's level of knowledge.
- College also gathers the information about student's academic record and other details through the submitted documents.
- In the beginning of program only, the counsellors are appointed who collect the detailed information of students in a prescribed format which is very helpful in assessing the knowledge and skills of students.
- The direct regular interaction of counsellor with students in small groups from the beginning of term as well as interaction of subject faculty in class room, creates a clear picture of admitted students' knowledge and skills in initial few days of admission.
- The faculty members initially assist the students of different language medium by use of bilingual switch for better and easy understanding of subject.
- The counsellor counsels the students as well as interacts with parents regarding the Intelligence Quotient of ward, and advises them for selection of subjects accordingly.
- Orientation program prior selection of specialisation is arranged to make them understand the depth, content and scope of subject.
- Despite the fact, if any student is not able to cope up or does not find suitable then an option of change is given in such condition.

2.2.3 What are the strategies drawn and deployed by the institution to bridge the knowledge gap of the enrolled students to enable them to cope with the programme of their choice? (Bridge/Remedial/Add-on/Enrichment Courses, etc.)

To bridge the knowledge gap of the enrolled students and to enable them to cope with the programme of their choice, the following strategies are drawn and deployed by the institution:

- 1. Bilingual switch during class room teaching:** The medium of instruction is English in the college. For the students who come from rural background and Gujarati or Hindi medium schools, the bilingual switch is operated for initial few months duration for better understanding and grasping of subject.
- 2. Tutorial classes:** The College has provision for Tutorial classes in all the core subjects Biology (Botany and Zoology), Mathematics, Physics, Chemistry, BCA and MSc IT for 1st and 2nd semester students. Each tutorial batch consists of 30 students. Centralized Batch wise time table is prepared and displayed on the departmental and college notice board for student's reference. For each subject paper, tutorial of two hours are allotted in regular timetable. Tutorials are mainly focused on strengthening of subject matter and problem solving/doubt clearing

exercise as the subject content is again repeated. The students are also given home assignments. The regular attendance of tutorial classes is maintained by the concerned faculty members.

3. **Remedial Classes:** Compilation of data based on Weekly test report, classroom performance, interaction with the counselor, all these helps to identify weak learners. Weak students and late admission students are made to enroll for Remedial classes.
4. **Assignments:** Counselors monitor the result and attendance of the students in unit tests and preliminary examination. Academically weak students are asked to write and submit regular assignments to give them practice in writing and indirect learning. The same practice is adopted for the students remaining absent in the exams.
5. **Library Facility prior to the commencement of Preliminary examination:** The library remains open for the students from 8:00 am to 8:00 pm. The college provides additional facility to all the first year students during preliminary examination by providing availability of subject teacher on day prior exam. The teachers are allotted library duty as per the exam time table and subject teachers are available for students from 5:00 pm to 8:00 pm in Library reading hall on previous day of exam. Students can clear their doubts and revise the syllabus with the faculty during last minute preparation.
6. **Crash Course:** Besides remedial classes, a special one week crash course is conducted for very weak learners after preliminary examination. Crash course is brushing up of entire course for students before University examination. Separate time table is prepared and displayed by the college. One day is allotted for each subject. Those weak students are focused and informed to attend. This special coaching is intended to help students to clear the subject.
7. **Personality Development Program:** Students of vernacular medium are encouraged to learn and use English as language of writing and speaking. Personality development classes for soft skill learning are very helpful to transform them in desirable, well mannered, pleasant personalities. These classes are organized by hiring the special faculty from Career Development Cell. The classes are for F.Y.;S.Y. and T.Y.B.Sc.;BCA and M.Sc.IT students in different batches.

The students with good knowledge and skills are encouraged to take part in Enrichment programs which help in further development of their skills.

8. **Enrichment Programmes:** Such programmes are mainly aimed for the overall development of the students including their cognitive and communication skills. Following activities/programmes are conducted by the institution.
 - Providing an opportunity for presentation of particular topic in the form of oral presentation/poster/ model / Scitoon at departmental level.
 - Knowledge sharing forum and Carbon Foot Print Club provides formal interaction platform to the students regarding emerging trends in the field of their interest.

9. Add-On course: This course is introduced for mainly those college students who wish to get employed in some industry or for those students who want some extra credits to get admission abroad. Add on course in “Process Development in Industrial Biotechnology” funded by University Grants Commission is run by the Department of Microbiology since June 2010. One year certificate course (20 credits) and two years diploma course (40 credits) is offered in this programme.

10. Seminar/ Presentations: The third year students are assigned seminar presentation related to their subject topics. The seminar presentation is evaluated on the basis of subject content, preparation of power point, Presentation skill, efficiency of solving the query etc. This helps the student in developing presentation skill, boost confidence, removing stage fear.

11. Any other: Apart from above programmes (1) For the students of first two semesters, Biology department provides glossary which is helpful to those students who are coming from vernacular medium (2) Arrear test is conducted for those students who remained absent in the unit/prelim test on medical ground or he/she has represented the college at state/national level in academics or extracurricular activities or due to some unavoidable circumstances of the student.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

The college sensitizes its staff and students on issues such as gender, inclusion, environment etc. by taking the following measures:

Gender sensitization: With regard to gender-sensitization, the college has introduced a ‘College Women Development Cell’ (CWDC) in order to address specific problems and grievances of female staff and students pertaining to college. This cell organizes various programmes like seminar, workshops, guest lecture, self defense training, poster making, poetry writing competition etc. to aware the girl students and women staff members about their role and dignity in the society.

- Short-term “Self-defense Program” for female students was organized with NSS Unit.
- During the election and selection of college G.S./C.R./Madhyasthasamiti student members/ secretaries, it is neutral selection and no gender discrimination.
- There is a provision of Ladies Representative for every class,
- The college also runs NCC unit for female students. This brings about sense of gender equality among students.

Anti - Ragging Cell: This cell strictly prohibits any kind of ragging. It encourages an amicable interaction between juniors and seniors. During admission and orientation, the Principal emphasizes the need to respect each other and a serious warning is sounded if students do not adhere to the anti ragging rules. College is very safe place for studying as well as working. No ragging of any student is reported yet. From the instruction of the government, college has framed Anti-Raging Committee from July, 2013.

Anti tobacco cell---As per UGC guidelines this cell was established in 2011-12 with an aim to bring awareness among staff as well as students about the bad effect of consuming tobacco. An exhibition of poster was arranged on addiction and

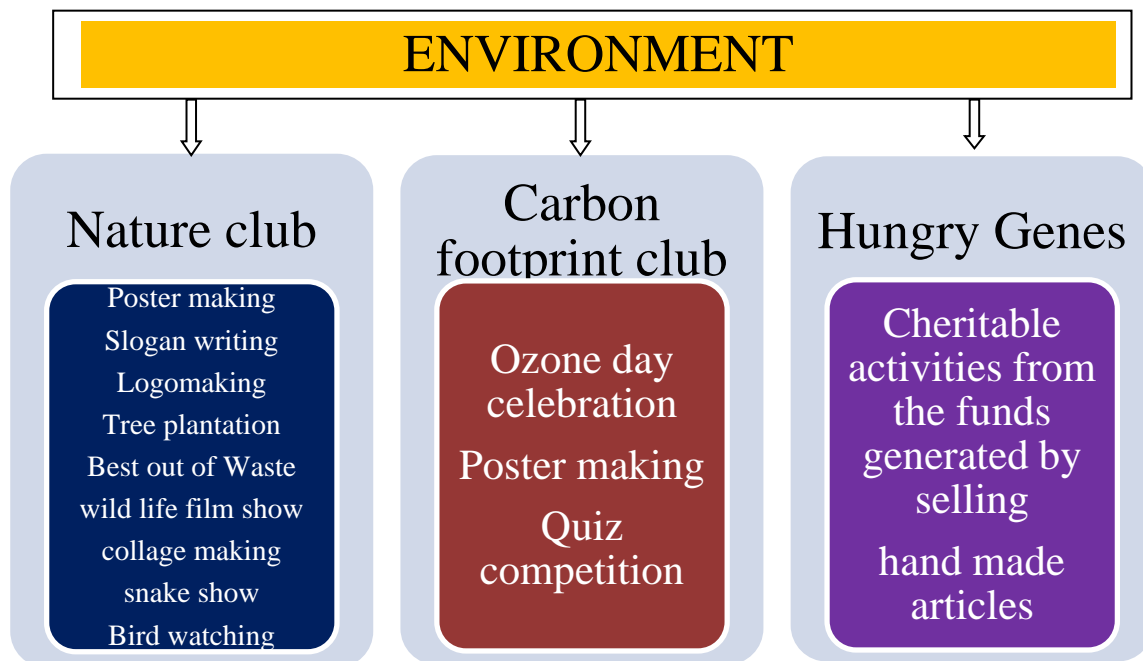
eradication of tobacco consumption. An undertaking form was filled by tobacco users and also a penalty was fixed for defaulters. Those faculties or students found violating the rule is reported to the Principal and in 99 % of such cases penalty is charged.

The college campus is a smoke free zone. This cell makes efforts towards tobacco free society.

Environment Awareness: The institution offers Environmental Studies as an elective paper for first and second semester students. This focuses on Environment and its components, ecosystems, food chain, food web, wild life, its conservation, types of pollutions, ozone depletion, global warming etc. The institution offers special three years degree program in Environmental Science which is taken care by dept of Biological and Env.Science.

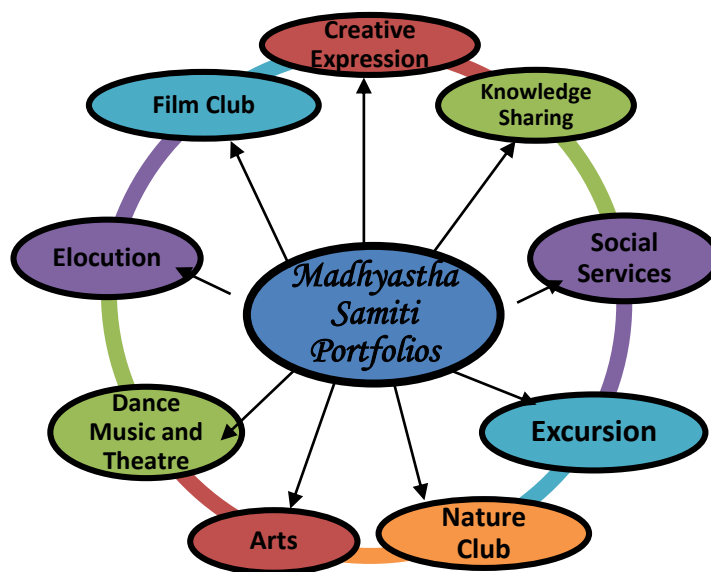
- **Carbon Foot Print Club:** This department has established carbon foot print club which spread the message of reducing carbon in environment. This club has student members who organize various activities like presentations, invited talks, debates, theme based competitions- Essay Writing, Poetry Writing, Poster-making etc. Special guest lectures are also arranged in which the students and staff participate.
- **Environmental Study Tour:** Various departments regularly arrange study tours to places of environmental interest like Marine National park at Jamnagar/ Bet Dwarka, Forests of Pachmarhi, Biodiversity rich areas of Kerala, Nainital, Ooty etc. to understand about the different habitats and ecosystems, biodiversity and wild life.
- **Seminars /Symposia:** Number of seminars are regularly organized by Department of Bio.&Env.Science often focusing on environmental concern. This year, National symposium “Jaldhara 2014-water for life” was conducted on 10th March for students community where the Undergraduate, Post Graduate and research students participated from different universities and colleges
- Department of Physical Sciences, in association with C. C. Patel Community Centre, V. V. Nagar organizes a national seminar on Energy Conservation every year to make students understand its importance
- **Nature Club:** Apart from academic studies, the environmental issues are addressed under the banner of Nature club. Nature club of NVPAS has signed Memorandum of Understanding with VallabhVidyanagar Nature Club and many activities are conducted in collaboration with VVCN. Nature club organizes various activities to bring about awareness and conservation regarding nature and environment amongst students. Activities such as Essay Writing Competition, Group Discussion, Wild Life Film Show, Collage Making from Eco-friendly material, Nature Photography Competition, Tree plantation, best out of waste, bird watching, group discussion related to the current environmental issues, quiz competition, tree plantation etc in order to make the students aware about the current environmental issues and various means to conserve natural resources are of main interest. Tree plantation is made by students and each sapling is taken care by allotted students.

- **Hungry Genes:** This is a club run by students of Genetics which organizes activities like selling hand made articles using waste material (Best out of Waste) and “Photo Booth”. The fund raised through organizing such activities is used to help old age home, orphanage and in other charitable activities.
- **Tree Plantation:** The NSS unit of the college organizes Tree Plantation programme.



Various Environment related activities conducted by the Institution.

Inclusion: The students from all caste and religion are encouraged to take part in all the activities of Madhyasthasamiti. The college strictly observes inclusion of all categories of students irrespective of caste and creed. The student’s forum “Hungry Genes” works with a motto to help specific section of society by raising funds. The members of this forum prepare useful articles as Best out of waste, rakhi making, earthen pots, candles, paintings, greeting cards, purses, covers and other handicraft items which are sold by them during college function program. The fund raised through organizing such activities is donated to help old age home, orphanage and in other charitable activities. This forum encourages other students to help the poor and needy segment of society.



2.2.5 How does the institution identify and respond to special educational/learning needs of advanced learners?

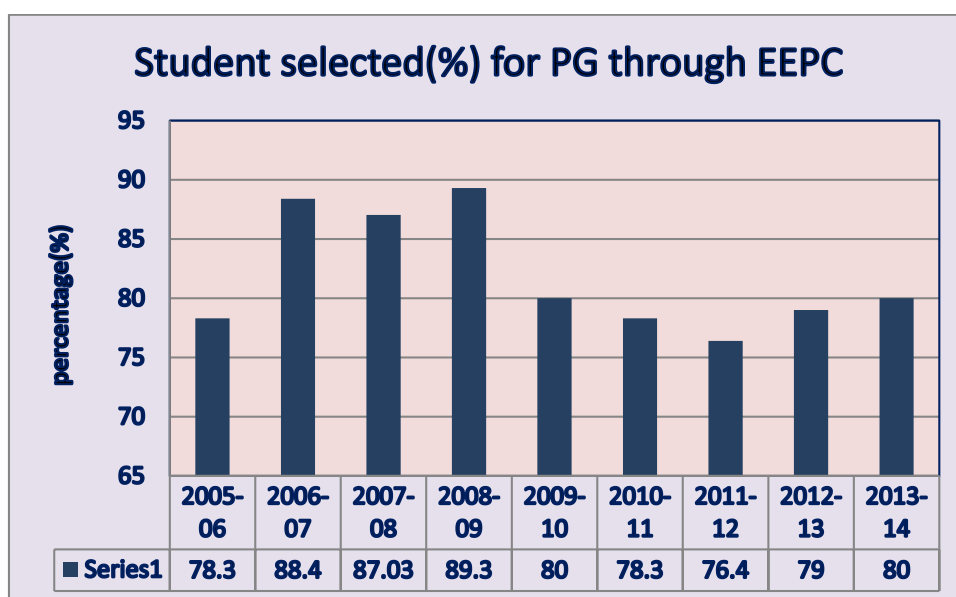
The institution identifies advanced learners during the initial stages of the course by their performance in weekly tests, interactions in class, participation in academic activities and their interest in studies. The institution appreciates the fact that not all students have the capacity to excel in education but at the same time, it believes in optimizing the learning process for individual learners.

NVPAS encourages advanced learners by providing guidance and support.

- The advance learners are provided with opportunities to present papers, represent college in various academic activities i.e. intercollegiate, state or national level competitions.
This year, four students of NVPAS have secured first and second prizes at state level MinaxiLalit examination in Maths and Environmental Science subjects. Number of students have won prizes in various inter collegiate and state level competitions.
- They are given leadership in various student centric co curricular / extracurricular activities
- They are encouraged to take up mini research project which inculcate in them interest for research field.
- They are encouraged to pursue higher education.
- They are advised to take up Add-ons which make their career profile impressive and help them in their job opportunities
- They are also encouraged to undergo some training programme in reputed Industries or summer school training at research institutes in concerned area of their interest.
- Advanced learners, who have finished their Master's are also invited as teaching assistants for regular teaching in some departments.

Special coaching classes for preparing for the National level institution entrance exam is done by college. College has established Entrance Examination Preparation Cell (EEPC):

- This cell prepares advanced learners seeking admission to various postgraduate programmes at national level institutes. The students are selected after screening test /nomination conducted by EEPC committee and a merit list with cut off marks of test is displayed on EEPC notice board. Students topping the screening examination are felicitated by the Head of the Institution in the inaugural function of EEPC. The course group is a combination of third year (60) and second year students(10) from all the streams of Science. Students are prepared for entrance exams like DBT (combined biotechnology examination), IISc and TIFR. The college faculties from the department of Chemical Sciences, Physical Sciences and Biological Sciences conduct classes before and after college hours and even on holidays throughout the year. Mock examinations and workshops are conducted to give practice and hands on training to the students. Special set of books is made available to EEPC enrolled students in the college library.
- EEPC has been also recognized as a nodal centre for network of capacity building cell in Biotechnology by Gujarat State Biotechnology Mission (GSBTM) which provides financial assistance to conduct vigorous training programmes for advance learners in the form of workshops. Under this program, various science colleges of Anand and Vadodra districts are included. Such workshops are conducted twice a year for a period of six days from morning 8:00 am to evening 8:00 pm. In such workshops, subject experts from different areas are invited to orient and train the students for competitive examinations. It enables the students to keep target of top level National institutes for higher studies.



% of Students Selected for higher studies through EEPC

Sr. No.	Year	No. of Students
1	2009-10	35
2	2010-11	32
3	2011-12	13
4	2012-13	06
5	2013-14	06
6	2014-15	06

Students attended Industrial Training

Sr.No.	Year	Name of the company	No. of student selected
1	2009-10	Industries like--Torrent Pharma, Xclarius Life Sciences, IGIB ,New Delhi, AgrobiotechPvt Ltd, FSL Gandhinagar, Sun Pharma and in academics	10
2	2010-11	Rubamin, Halol	07
3	2011-12	WIPRO	03
4	2012-13	ICICI bank	06
5	2013-14	Life Cell, Baroda	05
6	2014-15	TCS	02

Placement Record of the Students

- They are also encouraged to utilize their potential by providing them with advanced reading material, opportunities to present papers, appearing in on-line national level examinations involving them in co curricular and extracurricular activities. They are encouraged to aim towards higher grades and also highly recommended to pursue higher education. Various portfolios of the college central committee organize competitions involving varied co-curricular activities. The winners are sent as representatives to participate in intercollegiate, state or national level competitions organized by the college and also other institutions of the state.
- Advanced learners are identified and encouraged to participate at various inter collegiate academic events/competitions at University/State/National level/state level and regional level. They are also encouraged to undergo some training programme in reputed Industries or research institutes in concerned area of their interest.

2.2.6 How does the institute collect, analyze and use the data and information on the academic performance (through the programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc.)?

NVPAS regularly conducts weekly tests from the inception of college. This data is used by counsellors to follow up students. Principal conducts monthly meetings of counsellors and collects data and information on the academic performance of the students at risk of drop out. Such data is used to make strategies to improve the academic performance of the disadvantaged sections of society, physically challenged, slow learners and economically weaker sections and minimize their dropout rate by taking following measures:

Disadvantaged sections of society

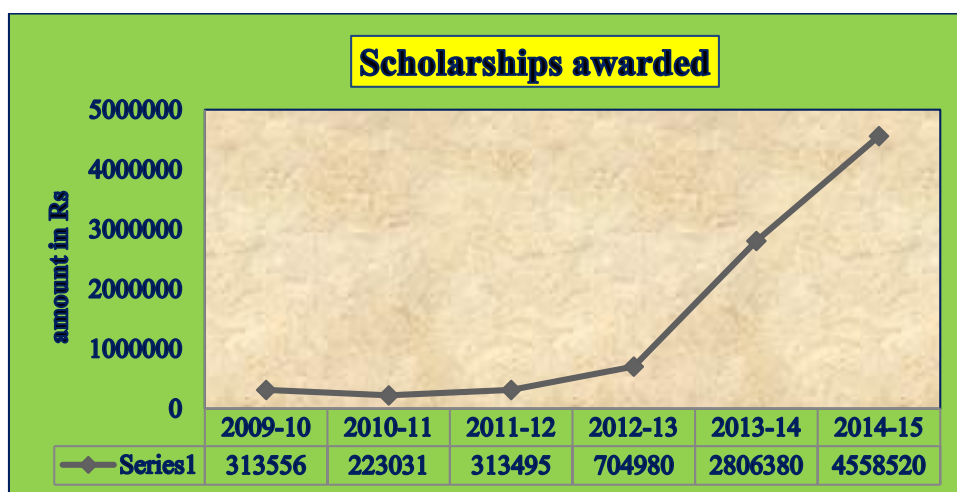
- Freeship or scholarships are made available to such students.
- Provision is made for them to pay up the fee in instalments
- Financial support is rendered by management/faculty

Physically challenged

- NVPAS does not have any physically challenged student but provision is there to help students in such conditions.
- Use of Lift is permitted for sick or injured students
- They are allowed to sit separately at ground floor for writing the exam

Economically weaker

- Scholarships are made available to such candidates by institution. They are encouraged to apply for receiving government scholarships. Moreover at the time of admission if parents are not financially strong enough to pay the complete fees than college provide them an option for partial payment and installments.



Scholarships awarded to students.

Slow learners

- Tutorial classes for repeat learning in regular timetable
- Remedial classes in morning hours daily for such slow learners.
- Crash course for preparing them for university exam
- Home assignment to learn and grasp and regular checking by faculty
- Constant and focused counselling to help him to come out of problem.
- Moral boosting by counsellors and faculty to raise above low self esteem
- Providing very simple notes / reading material

All these measures reduced the risk of drop out.

2.3 TEACHING-LEARNING PROCESS

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blueprint, etc.)

The institution meticulously plan and organize the teaching learning and evaluation schedule by taking into account the academic term schedule of Sardar Patel University which denotes the working weeks, holidays, university exam weeks etc..

Academic calendar: Principal in consultation with the Head of the Departments and Madhyastha Committee Vice President, decides an academic calendar which comprises the teaching days, academic events, exam dates (Unit test, Internal and Arrear Examination) major extracurricular and co-curricular events, NSS, NCC, Sports, Open house etc. This calendar is circulated through notice and email to all faculty members and through all the Head of the Department to ensure proper planning and its execution for the academic year.

Academic Calendar June 2014 – April 2015

June 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Important Events

23 June :
Commencement of First Term and Classes for the FY BCA/MSc(IT) - Commencement of Admission Procedure for FYBSc Classes and the ACPC help centre in the College

July 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	
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20	21	22	23	24	25	26
27	28	29	30	31		

Important Events

- 5 & 21 July :** Visit to Dahemi Village by NSS programme officers.
- 14 July :** Commencement of classes for FY BSc and Principal's Address to the First Year Students
- 16 July :** Blood Donation camp by NSS in the college
- 26 July :** Orientation programme for student leaders by NSS

Holidays

- 29 July :** Ramzaan Idd

August 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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31						

Important Events

- 4, 12, 19 & 25 August :** Unit Tests for FY BCA and SY & TY BSc/BCA
- 4 August :** Friendship Band Making Competition
- 5 August :** Poster Making Competition
- 6 August :** Programme 'Parampara' at Sardar Patel Memorial Karamsad
- 9 August :** Tree plantation programme
- 12 August :** KSF screening test
- 13 August :** Independence Day Celebration Programme 'Samarpan'
- 20 August :** Film show by Film Club
- 22 August :** Eye Check up Camp
- 25 August :** Nature Club Inauguration
- 28 August :** Elocution Competition

Holidays

- 15 August :** Independence Day
- 18 August :** Pateti
- 29 August :** Samvatsari

September 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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28	29	30				

Important Events

- 1 & 8 September :** Unit Tests for FY BCA and SY & TY BSc/BCA
- 2 September :** Rangoli Making Competition
- 17 September :** Programme 'Pranam', the Teachers' Day Celebration by MDT portfolio
- 17 September :** Jack'o Lantern NSS Eco-Friendly Day celebration
- 20 September :** Open House for FY BCA/MSc(IT) and SY & TY BSc/BCA/MSc(IT)
- 22 & 29 September :** Unit Test for FY BSc
- 6 to 19 September :** Manali Mega Camp by NSS students
- 24 September :** NSS day Celebration
- 13 September :** Holiday for Anand Constituency Election

October 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- 4, 7 & 8 October :** Prelim Exam for FY BCA/MSc(IT) and SY & TY BSc/BCA/MSc(IT)
- 5 to 14 October :** NCC camp at Kerala
- 7 & 13 October :** Unit Test for FY BSc
- 9 October :** Programme 'Aradhana', A Garba Mahotsav, by MDT portfolio & Arti Thali Making Competition
- 20 October :** Commencement of Diwali break
- 26 Oct. to 5 Nov. :** CATC NCC Camp at Anand

Holidays

- 2 October :** Gandhi Jayanti
- 3 October :** Dusshera
- 6 October :** Bakri-Id

November 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- 10, 17 & 24 November :** Unit Test for FY BSc
- 15 November :** Open House for FY BSc students
- 25 November :** Poster Exhibition by Anti-Tobacco Cell

Holidays

- 4 November :** Muharram

December 2014						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .1 December : Unit Test for FY BSc
- .3, 4, 5 & 6 December : Prelim Exam for FY BSc
- .9 to 14 December : NCC Camp at Godhra
- .20 December : Cloth Distribution by Extension Unit at Hari Om Nagar
- .22 December : Street Play by students on Swachhata Abhiyan at Hari Om Nagar
- .25 December : Christmas

January 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .1 January : Blanket Distribution by students at the Anand Railway Station at Midnight 12.00 am
- .5-10 January : NSS Annual Camp
- .7 January : Pre-Youth Festival in the College
- .20 January : "Techno-Astrum" Inter-Collegiate Competition organized by Computer Science Department
- .24 January : Unit Test for FY BCA/MSc(IT) and SY & TY BSc/BCA/MSc(IT)
- .22 January : Sports Day Celebration
- .22 January : Gyaandhara
- .27 - 29 January : Participation by students in 'UDAAN' the Youth Festival organized by Group of Progressive Colleges

February 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .2, 9, 16 & 23 February : Unit Test for FY BSc/BCA/MSc(IT) and SY & TY BSc/BCA/MSc(IT)
- .5 February : One Day Seminar on "Energy Conservation - Past, Present & Future" by Physical Sciences Dept.
- .9 February : Swine Flu medicine distribution in the college
- .16 February : Awareness Lecture by KSF
- .18 February : Gyaandhara
- .25 February : Swine Flu awareness programme in the college
- .26 February : Wild Life Film Show
- .27 February : Programme 'Josh', A Talent Evening by MDT portfolio
- .28 February : National Science Day Celebration by NSS

March 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .1 March : Open House Programme
- .2 March : Film show by Film Club
- .2 March : Unit Test for FY BCA/MSc(IT) and SY & TY BSc/BCA/MSc(IT)
- .2, 9, 16 & 23 March : Unit Test for FY BSc
- .3 to 5 March : Tour to Daang.
- .10 March : Prize Distribution Function by Madhyastha Samiti
- .11 March : Annual Day
- .13 March : Thalessemia check up camp in college
- .14, 16, 17, 18, 19, 20, 23, 24, 25 & 26 March : Prelim Exam for FY BCA and SY & TY BSc/BCA
- .30 & 31 March : Prelim Exam for FY BSc/MSc(IT) and SY & TY MSc(IT)

April 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .1 & 4 April : Prelim Exam for FY BSc/MSc(IT) and SY & TY MSc(IT)
- .6 to 18 April : University Theory Exam for SY & TY BSc
- .23 to 30 April : University Theory Exam for FY BSc/BCA
- .18 to 30 April : University Practical Exam for SY/TY BSc

Holidays

- .14 April : Ambedkar Jayanti

May 2015						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
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Important Events

- .1 May : University Theory Exam for FY BSc/BCA
- .4 to 9 May : University Practical Exam for FY BSc
- .11 May : Summer Vacation Commences

Teaching Plan: In addition to academic calendar, each Head of the Department conducts a departmental meeting along with the faculty members and designs Departmental teaching plan which includes assignments, student projects, industrial visits, student seminars, field trips and other activities. Teaching workload is distributed to all faculty members. The departmental time table and faculty wise time tables are finalised by HOD. Based on academic planner faculty members plan and submit an advance copy of Course plan to the Head of the Department at the beginning of academic term specifying division of units to be completed in semester. Every staff has to maintain a classroom teaching file comprising of course plan, time table, syllabus and day to day detail of lesson plan with study material and question bank. (This practice was followed from 2004 till 2013 as per ISO 9001:2008 certification)

However, from 2013-14 session, NVPAS has discontinued ISO certification. Every faculty member has a Lesson plan diary where he/she mentions individual time table and writes the unit wise details of courses to be taught in semester with all the information regarding subject, topics planned, topics covered, time spent for lecture/lab preparation, time spent for evaluation, administrative work, co-curricular extracurricular activities, and finally total hours spent per week. These diaries are monitored by the HOD /Principal. In a semester system, four times the course coverage is collected by Principal to monitor the timely completion of teaching.

Planning and preparations for Laboratory work is also made. Charts, Class work material, chemicals & reagents etc. Requirements for all the experiments are prepared by concerned faculty and submitted to Lab assistant one week prior the Laboratory schedule. Every department prepares and updates its own laboratory manuals.

Evaluation blue print: A well managed and well established sound examination system prevails in NVPAS since inception. Examination system has Exam coordinator with his members from each department. This committee prepares the exam time table for weekly tests and it is notified to students and staff in very beginning of term only. Evaluation guidelines are prepared by the Examination coordinator along with team members. Evaluation guidelines are prepared for following:

Theory examinations (Weekly test and Prelim Test) - Examination coordinator notifies faculty members regarding exam time table. One week prior, schedules of unit test/prelim test course syllabus are displayed on the notice-board. Weightage of marks, Question paper format, marks distribution pattern, dates for preparation and submission of question paper as per the sitting arrangement, supervision duties, timely submission of marksheets, etc. are intimated to HODs and departmental coordinators through notice. Also a skeleton paper is displayed on staff notice board for paper setting pattern and dept. representatives are informed about their duties.

Arrear Examination: Arrear examination is conducted for those students who remain absent either in the unit test or in the prelim examination due to the medical reason or due to some unavoidable circumstances. Such students are required to forward an application for appearing in the arrear examination through respective counselor and principal with necessary documentary evidence and submitted to the office. Depending upon the number of application received in each subject, number of

students appearing in arrear examination is communicated to different departments. Separate examination schedule, seating arrangement and question paper is arranged for such examination and evaluation records are submitted to the examination section within stipulated period of time.

Practical examinations- The Prelim theory exams are followed by practical examinations. The Head of the Department and faculty members prepare the timetable and display on notice board. The course content, paper style, marks weightage, Lab No etc. are also displayed on notice board. Practical evaluation is submitted to HOD after examination.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

At NVPAS, the Internal Quality is maintained at three levels.

- The First level is Principal and Manangment, involved in planning of academic prospects of Institution and framing out the policies.
- The Second level is IQAC committee with Principal and HODs. They design and plan the academic theory and practical teaching, quiz, assignment, project work, counseling, organizing National/ State level seminar /workshop, examination and evaluation and other academic activities along with NSS and NCC. They monitor the effective functioning of academic aspects.
- The Third level is MadhyasthaSamiti(Central committee)

This committee plans and conducts various cultural events, day celebrations, college functions and all student centric co curricular and extra curricular activities. The committee consists of President, Vice President and number of Ex Officio faculty members along with General Secretary, Class Representatives, Ladies representatives, Secretaries and active members of various portfolios Principal is involved in all three tiers who regularly meets, discusses with members and monitors the progress.

The three tier functioning of IQAC is helpful to monitor over all functioning of institution. IQAC of institution every year submits the Annual Quality Assessment Report to the NAAC. On the basis of data filled in the previous year and on the basis of SWOT analysis, it recommends the parameters for the various academic activities and co curricular activities of the institution. IQAC monitors the entire academic program through its members which helps in the overall development of the college.

- It is an advisory committee to college to facilitate academic activities.
- It spreads the innovative ideas for implementation.
- It sets the standard for which each department and individual member should strive to achieve.
- It ensures that the curriculum goals are met
- It plays an active role in forming an agenda and works along with various committees.
- It monitors the implementation of the curriculum/new courses.
- It ensures that suggestions are implemented to enhance the overall potential of the students.

- It suggests and organizes workshops and sensitization programmes for the upliftment and capacity building of faculty.
- It recommends the ICT use in the class room teaching.
- It recommends the faculty to attend workshops on a roaster basis and also to present papers at national or international symposia/seminar.
- It initiates the collection of feedback from students, alumni and parents which is then analyzed for suggestions on further improvement.

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, collaborative learning and independent learning among the students?

The ultimate role of any educational institution is to cater to the diverse needs of its students. Therefore, the teaching-learning must be student-centric. In order to have effective learning, various skills are put into practice time to time by faculty to help students grasp the subject matter. There are various support structures available to help teachers facilitate interactive learning, collaborative learning and independent learning among students. Support structures and systems such as computers, internet connectivity, Wi Fi zone, digital library, ICT tools such as LCD projectors, DVD, OHP, advanced software, audio tools, charts, well equipped seminar/conference hall, auditorium, transportation facility for study tour etc. are provided for teachers and students.

Interactive Method- Rather than monotonous single way delivery of lectures, interactive method of teaching has been found more fruitful. This is adopted in theory classes as well as practicals. Faculty interacts with the students during fifty five minutes period inside the classroom and share knowledge with clear objectives and paced delivery. Faculty members try to stimulate interest in the subject rather than simply disseminating facts and figures. Difficult material is broken into smaller and more manageable "chunks" for students to understand the topic easily and clearly. Interactive method keeps students alert and encourages them to express their views. Classroom discussions make issues more clear, as different viewpoints are considered and then a conclusion is drawn.

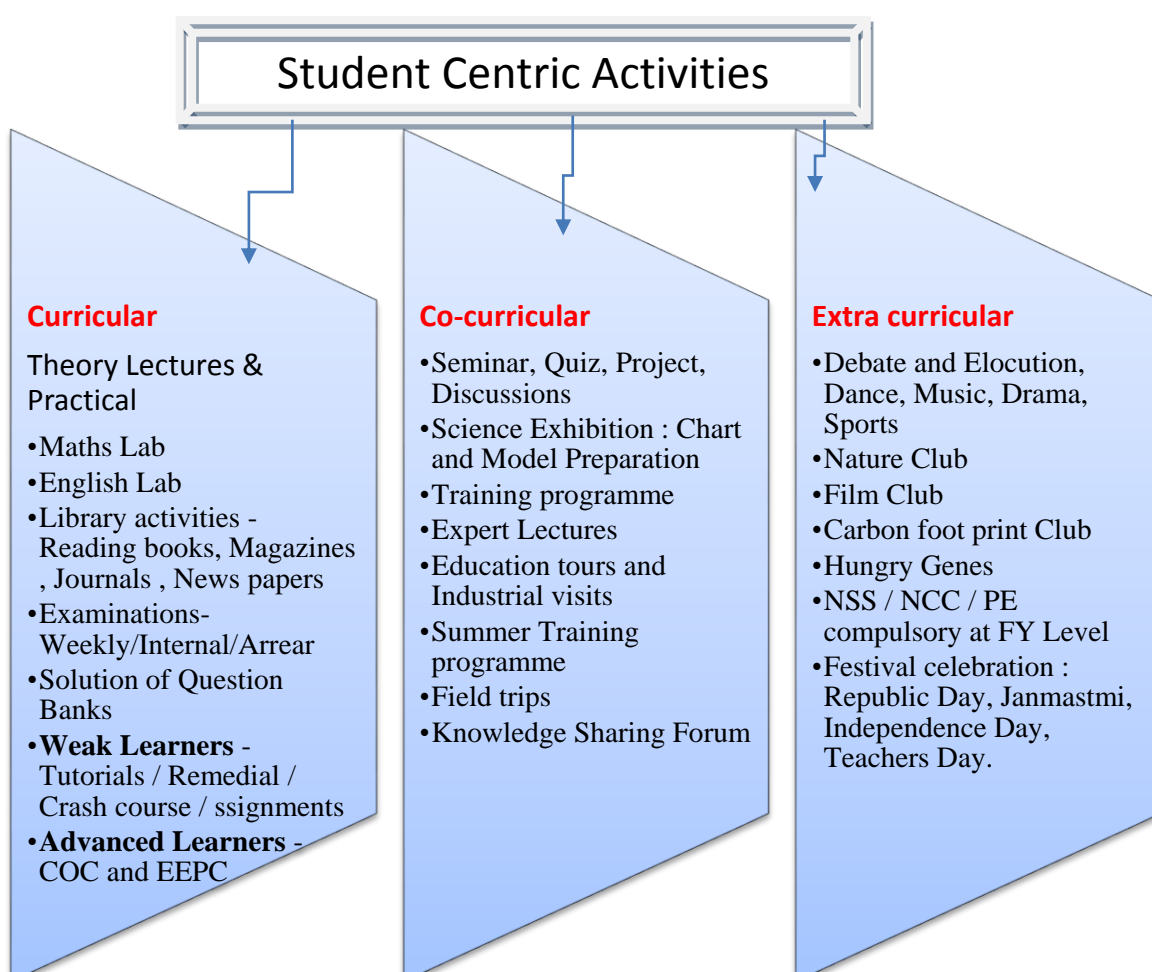
Collaborative learning:

- Study tours and field visits are made part of curriculum in subject like Env.Science. It helps to build healthy and close relation between teacher and students. It helps to develop feeling of togetherness, discipline and obedience. The support system like bus transportation facility/concession in reservation, Insurance etc. are made available by Institution.
- Field trips and industrial visits enable students to learn together by remaining practically on site present. They write and submit reports about what they learnt. Students are encouraged to form groups which is the mixture of advance learners and week learners.
- Project work: Students are assigned topics for carrying small research work, which develops the spirit of team work and sharing among students. They learn to work together and analyse the problem. To come up with final results is success of team work.

- Group activities like laboratory work, organizing an event, NSS/NCC, poster presentation etc. aid in the development of various skills such as team work, leadership and willingness to learn from others.
- The NSS and NCC activities are good stimulator of collaborative learning.

Independent learning: Independent learning is encouraged by assigning some curriculum related task to individual student. This is done by giving them seminar presentation. The final year B.Sc. students are given seminar topics on which they search surfing internet, reference books, journals and compiling of data collected by various sources and present in form of Power Point Presentations in front of peers and teachers.

The library facilitates referencing and browsing which leads to independent learning among students.



Array of student Centric Activities conducted by the Institution.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

The college concentrates on making student an original thinker. To encourage the artistic temper among the students, the teaching faculty motivate them to participate in various extra murals activities in state level seminars, workshops, conferences, youth festivals. The long list of prizes won by our students in youth festivals and other district and state level competitions bears a testimony to it. At the same time, to encourage the scientific temper among students, the faculty engages the students in various practical works in science labs and computer labs. To sharpen the critical thinking among students, various Group Discussion, debates and seminars are organized in which students explore new ideas and also get a chance to listen to the expert views of eminent professionals.

Few examples pertaining to above paragraph are mentioned below:

Critical thinking: Following methods are used to develop critical thinking among the students.

- 1) **Question-answer Session-** At the end of the lecture especially for first year students faculty puts questions pertaining to the subject matter discussed and the same is answered by the students for revision and summarization. Third year students at the end of the unit are asked to prepare all possible short questions from the reading material given to them. Then on an allotted day all the students bring the questions and discuss with the faculty.
- 2) **Seminar Presentations -** Students at third year level are encouraged to select seminar topic and make presentations in front of the class either during the lecture or during practicals for improving their confidence level and also overcome the linguistic barrier and stage fear.
- 3) **Seminar and symposium/ workshop conducted for the students**
Each department conducted seminars/workshops have been mentioned in the table shown below:

Year	Chemistry	Physics	Computer science	Mathematics	BT,GT & BNF	Microbiology	BI & ES
2009-10	2	1	1	-	2	1	1
2010-11	-	1	1	1	1	1	1
2011-12	1	1	1	-	1	1	2
2012-13	-	1	1	1	-	-	2
2013-14	-	1	1	-	2	2	2
2014-15	1	1	1	1	-	-	2

- 4) **Seminar and conferences at state or regional level:** Students are encouraged to participate in various state/ regional level seminar and conferences where they take part in oral/ poster presentation, model making, scientific demonstration or competitions.

This year large number of students have bagged state level prizes.

- 5) **Field trips** –Various Departments regularly organize excursions /field trips to different places based on curriculum demand and even to give practical exposure to students. Students are taken for visit to marine National Park- Okha, Science city-Gandhinagar, renowned labs and industries like Forensic Science Laboratory, Amul /Tata chemicals/AAU/ Gujarat Pollution Control Board and Central instrumentation facilities at SICART/ JNU etc. Students submit a tour report to the concerned faculty.

- 6) **On line Examination:** Students are encouraged to appear in on-line national level examination through internet which allow them to judge their academic performance. For example every year college arranges BAT (Biotechnology Aptitude Test) conducted jointly by pharma Care Society and Gujarat State Biotechnology Mission.

The students won prizes in Biotechnology Aptitude Test has been mentioned in the table shown below:

Academic Year	No. of students Participated from country	No. of students participated from the college	Prize winner from the college	Rank
2010-11	120	30	Mr. MaulikJani	1 st
			Ms. Unnati Patel	2 nd
			Ms. Prit Gandhi	3 rd .
2011-12	367	30	Nil	Nil
2012-13	490	26	Ms. DishaBhanderi	1 st
2013-14	600	29	Ms. Sajni A. Naik	3 rd
2014-15	There was no test (BAT) by the Pharma care society			

- 7) **Soft skill development:**The department of English conducts short story reading and poetry recitation during the practical lab sessions. They also organize viewing of films. Later it culminates in the writing an assignment. This exposes the students to different communication skills such as listening, speaking and writing.

- 8) **Practicals** are teaching /learning sessions where the opportunity is given to the students to perform and understand the actual nature and form of a specific matter. All students are required to attend the practical session as per the allotted time schedule, where students follow the instructions given by the faculty and perform the assigned experiment either in a group or individual as per the demand of the experiment. As a part of curriculum practicals in English and Mathematics are conducted regularly. College has well equipped language lab and Mathematics lab.

- 9) **MCQs**-Written tests for objective type questions are given after every course completion so that the students can have a practice of doing multiple choice questions and get prepared to answer such questions in exams too.

10) OTHERS

- (I) **Tutorials**- After lecture method this is the most widely used method at First year Level. Tutorials comprise of small group where learning is faster and students try to overcome their writing inefficiency by regular problem-solving exercise through class work and homework assignment.
- (II) **Remedial Classes**: Special assistance is provided to Weak learners in the form of Remedial classes before and after college hours. Remedial classes are conducted mainly at first year level to enhance better comprehension of the subject. Besides remedial classes crash course is also conducted in subjects like Physics and Chemistry for slow learners.
- (III) **Crash Course**: A crash course is organized for those students who fail or express weak performance in the Internal Theory Exam.
- (IV) **Language control in Classroom Interaction** -The medium of instruction at NVPAS is English. But Students joining the College at First year level come from different educational backgrounds. Switching of language by Faculty in classroom or communicating in vernacular or Hindi language makes students feel at ease in the classroom. It enhances effective and easy learning promoting active participation in classroom interaction. Multilingual control is handled by Faculty for initial few months only and towards the end of term use of other supportive languages is reduced.
- (V) The department of English conducts short story reading and poetry recitation during the practical lab sessions. They also organize viewing of films. Later it culminates in the writing an assignment. This exposes the students to different communication skills such as listening, speaking and writing.

Creativity: College has established **Technoenauprenaur club** to inculcate the spirit of creativity among the student. This club provides platform to the students where they can present their innovative ideas and develop new models/software for e.g students from the department of bioinformatics and computer science have prepared two softwares named ‘Abhyas” and “Maitry” related to examination and counseling. These softwares are uploaded on the SAKSHAM portal of MHRD.

College has also established Carbon Foot Print Club and Knowledge Sharing Forum and which interacting field are for the students with respect to the emerging trends of their interest.

KNOWLEDGE SHARING FORUM:

Objectives: Provide students a platform to share their knowledge or information collected among the fellow students.

Events conducted during the current academic year:

1	Screening test of Knowledge Sharing Forum
	The screening test of Knowledge Sharing Forum for NSS Volunteers is organized
2	First Presentation of KSF
	Mr.VedantPatani (FYBSc) made presentation on the topic “Sportsmen of the World”.
3	Second Presentation of KSF
	Mr.Pruthvish Mehta (SYIC) made presentation on the topic “Nobel Prize” and Ms.MiliVaishnav (FYBSc) made presentation on the topic “Palm Island”.
4	5 Seminars were organized on different topics during the academic year 2013-14.
5	KSF Team actively supported to Energy Conservation Seminar and Sci Fun Seminar
6	Visit to Community Science Centre for Anvention Program on 11.02.14
7	Guest lecture on Use of technology for acquiring knowledge.16.2.2015
8	Presentation on Know Ebola to No Ebola.16.2.2015
9	Presentation on Interview Skills.16.2.2015

College also encourages students to participate in model/poster/scientific cartoon making competition where student can depict their ideas in these various forms of presentation.

C. Scientific temper:

Project based learning inculcate scientific temper among the students. In this method group of a student is assigned with a problem on the basis of that students will sketch out the work plan and execute the experiments. Students will draw their conclusion from the results obtained and learn to defend it.

The Dept of Biological &Environmental Science as a part of curriculum assigns mini research projects to the student. The small group of 4-5 students works under the guidance of allotted faculty and carries out the work. The Project report in bound form with introduction, material and methods, result and findings is submitted for evaluation. The project work has viva exam in University practical exam. Department has two times availed the financial support in form of SCI-TECH projects from GUJCOST.

In Bioinformatics and Computer department also third year students (Fifth and sixth semester) are asked to do small project work and submit it for evaluation at the time of University examination

Department of Microbiology runs an Add on course- “Process development in Industrial Biotechnology” where small projects are assigned as a part of partial fulfillment of the certificate/diploma course.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? eg: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

The institution provides internet access (Wi-Fi) for both staff and students. The institution also subscribes to INFLIBNET. Students and staff are put on to the NPTEL and NME-ICT through internet access. This enhances the teaching/learning experience thereby creating enthusiasm among students and teachers.

- An audio visual room and seminar hall with LCD projectors are provided by the Institute to facilitate modern teaching methods.
- All the departments are provided with LCD projector/OHP to make the teaching learning method effective.
- In FYBSc each class/division is having 100 students. Portable mikes are provided in each department to make such big group more attentive by increasing the audibility of lectures.
- The library has a good collection of CDs and DVDs of reference books and SOUL software which maintain the records of issuing and receiving the books on daily basis
- There are scanner, photo copier and printers available for use.
- There are computer labs and a language lab equipped with the required software.
- Staff members are deputed on various training programme conducted by NME-ICT the learning outcomes of such training programmes are communicated to the peers.
Dr. Bharat Patel and Dr.UrvishChhaya were deputed in May 2011 for one such training programme of NME-ICT and Dr. Bharat Patel has delivered a presentation in the Reader's club activity regarding the learning outcome of such workshop while Dr.UrvishChhaya has registered several staff member on SAKSHAM portal of MHRD.
- Staff members of the college also serve as a resource person for the subject wise lecture series organized by BISAG, Govt. Of Gujarat where they deliver lectures which are telecast live from BISAG studio which is accessible to all the student of Gujarat state having BISAG connectivity including our institute.
- The college has a Television set and dish antenna so that students can watch and learn through live telecast of BISAG lectures.
- After successful representation by the Principal to NPTEL, our college has received a grant of Rupees 21 lakhs from NPTEL to three faculties (Dr. V D Bhatt, Dr.Hemang Desai and Dr.Nirmal Patel)

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

With a strong belief that learning has to be continuous and self- reliant, the college arranges and encourages participation in various activities to augment the knowledge of both the students and the faculty.

Faculty: Through following activities faculty is exposed to advanced level of knowledge

- 1) Participation and Presentation in Seminar/Symposia/Workshop/Short term Training programmes-** Presently Institute has 24 faculty members with doctorate degree and thirteen faculty with M Phil degree. Faculty is encouraged by the Head of the Institution and Department to participate in academic growth programmes which provides platform for learning latest developments in the specific field. Faculty members participate in National level seminar/ symposia and present research papers.
- 2) Participation in Higher education programme-** Staff members are encouraged to enroll for higher degree programme like M.Phil and/or Ph.D.
- 3) Conducting faculty development program -** The institution organizes a faculty training program to lead them to advance level of knowledge and skill. A two day NAAC sponsored seminar on empowering higher education was organized by IQAC of NVPAS where number of resource persons from various fields were invited to address faculty.
- 4) Through Active research-** Many of the faculty members are actively involved in research and development in their respective subjects. Till date college has received a total grant of **Rs1,41,16,075**(Rupees One crore forty one lakh sixteen thousand and seventy five only)through various major and minor projects.
- 5) Regular Publication-** Faculty members of NVPAS are regularly publishing research papers in journals of national and international repute with an average impact factor of 1.5, which helps them in keeping updated and informed about the latest happenings and developments in the concerned field. This directly benefits the students and contributes to the enhancement of faculty knowledge database. It also gives recognition to the college in research and development at national and international level.
- 6) GyanGoshti-** With a view to cultivate and encourage reading habit of faculty as well as to keep abreast with the latest inventions, GyanGoshti (formerly called as Reader's club) activity is of considerable value. The Staff members are encouraged to read and refer to the latest updates in the area of their interest, which is then presented by Faculty using audio visual aid (LCD/OHP). Time table for presentation is prepared by in-charge faculty in consultation with the concerned Faculty andwith Head of the Institution. Presentations are of 30 minutes duration with open discussion round.

GYAN GOSHTI (READER'S CLUB) ACTIVITIES

Date	Name of the faculty	Topic of lecture
09.09.2011	Dr. AkshayaGupte	Medicine in sports
08.10.2011	Dr.AmitBallani	Role of a teacher
12.11.2011	Dr. Archana Shah	Journey to space
10.12.2011	Dr. Ami Patel	Mahabharata-Management perspective
23.01.2012	Dr. Yogesh Patel	NSS activities
11.02.2012	Dr. UrvishChhaya	How to design multiple choice test questions.
16.03.2012	Dr. ArtiKhabia	Corruption in India
16.08.2012	Dr. Kundan Kumar Mishra	Youth potential and challenge
14.09.2012	Mr. Bhailalbhai Patel	LaTex
15.10.2012	Ms. AmishaSurti	Proud to be an Indian
22.01.2013	Dr. Bharat Patel	Learning content design software.
19.07.2013	Dr. ChetanDudhagara	Statue of unity
29.08.2013	Dr. Isha Desai	Genetic disorder- Autism
31.01.2014	Mr. J.P. Karunakaran	Mathematical Jugglery
08.08.2014	Mr. KartikJagtap	Importance of phonetics in English language.
31.01.2015	Dr. Anjali Kulkarni	Study of Chick embryo
31.03.2015	Mr.Bhailalbhai Patel	Orientation session for university supervision

- 7) **Orientation/Refresher Course-**Management encourages faculty members to attend orientation/refresher programme organized by the UGC academic staff college of the Sardar Patel University. The Orientation Courses help in enhancing the professional competence in teachers in academics or those who have just entered the profession. The programme covers Research Methodology/ Subject Up gradation/ Computer Literacy/Personality development/ Management/ Communication skills/Interpersonal skills/Experimental learning and finally philosophy of education which helps in bringing forth the hidden qualities and boosts the confidence level. Refresher course helps in updating the teachers with recent developments in their concerned disciplines. Each Refresher Course has definite thrust area depending on the need and the developments in the concerned subject. Our Faculty participates in these courses as per requirement.
- 8) **Expert lectures** are organized by various departments for both- faculty members and the students. It is worth-noticing some faculty members of our college are also invited as experts to deliver guest lectures.

Through following activities students are exposed to advanced level of knowledge

- 1. Participation in various scientific events organized by the College-** Madhyasthasamiti of the college organizes events like Quiz, Scitoon competition and Science fair, Knowledge Sharing Forum, Carbon Foot Print club, Techno innauprenaur club throughout the year for popularizing science among learners.
- 2. Lab and Classroom Interaction-** Faculty shares recent developments in concerned subject with students during lecture and Practical session.
- 3. Project work –** Students of some disciplines (based on curriculum) are indulged in project based learning which helps them to inculcate the spirit of critical thinking and scientific inquiry.
- 4. Participation in Intercollegiate/University events/competition-** College encourages students to participate in various scientific events held in other colleges across the State. Our Students have regularly bagged prizes in oral, poster, article writing and Scitoon competitions, on-line examinations organized by different state agencies or other institution at different places.
- 5. Educational/ industrial visits-** Various departments regularly organize study trips/ industrial visits to different places based on curriculum and even to give practical exposure to students. Thus, Students are exposed to group discussion, project work, State level / regional seminars, research, workshops, EEPC, COC, industrial tours, Study tours, guest lectures etc. The participation in Entrepreneur club, carbon foot print club, participation in various co curricular and extracurricular activities, all these have helped students to get advanced level of knowledge and skills.

2.3.7 Detail (process and the number of students/benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advice) provided to students?

This College strongly believes that besides strong teaching/learning process, there needs to be a structure to take care of the academic, psychological and mental well being of the students.

- 1. Academic counseling:** Academic counseling is carried out at the time of admission, in the form of orientation programme for the first and third semester students and career guidance programme for 5th and 6th semester students. Following table indicates student benefited in last five years through academic counseling.

Programme/Activity	Students benefited in 2014-15
Admission counseling	1 st semester students of B.Sc./B.C.A. and M.sc. IT (integrated)
Subject Orientation programme by the Subject Teacher	2 nd semester students for selection of subject at 3rd semester.
Career guidance programme by Alumni association at the time of farewell	6 th semester students of B.Sc., B.C.A. who are at the verge of completion of graduation.
EEPC and N-BT CBC workshops	Average 60 students per year.

2. Counseling System for personal and psycho-social support: In this system each student avails the counseling facility. This is the first line of counseling and guidance. The counselor keeps a track of the progress of the students entrusted to him/her and is also aware of the background and situation of the student. Thus, he/she mentors the student group, either when the student comes to him/her for help or when he/she feels the student needs it. This need may be indicated by a drop in performance, tardiness, absenteeism or other attitudinal problems. Counselor is also available to the students to provide academic advice. Counsellor regularly conducts the meeting with students to know their progress and problems if any. Parents are free to meet the mentor at any time to speak about their concerns or to inquire about the progress of their ward. Psycho-social classes are also offered to students during NSS special camps and workshops organized by NBT-CBC.

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faculty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

The world is rapidly advancing in the area of information technology. This is a valuable tool to make the teaching – learning experience more fulfilling.

The following table explains innovative teaching approaches and methods by the faculty to impact students' learning.

Innovative teaching approaches/ methods adopted by the faculty	Facility provided by the Institute	Impact on student learning
Use of e-learning sites	Wi-Fi internet facility	Accessible to student to cross check and verify the information
Use of ICT tools	Laptop, LCD,OHP, Conducting training programmes and deputing faculties for NME-ICT	Visualizing the concepts with more clarity
Use of audio system	Portable mikes	Increasing audibility in big class rooms.
Conducting Seminars, Workshops, expert lectures by visiting faculties	Auditorium	Update current trends of the subject.Interaction with the resource personBecause of good ambience and comfort level, attention span and sitting capacity increases.
Teaching Pedagogy	College encourages for orientation/refresher course/training programmes	Student can assimilate the content of subject in better ways
Organizing field and industrial visits	Vehicle, driver and any other facility if required	Exposure to the subject at the industrial and field level.

Add-on course (extra efforts after college hours)	Classroom, laboratory, peon, lab assistant, audio-visual facility	Students get additional credits; thus gets the benefits of admission abroad. Improve their employability.
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2.3.9 How are library resources used to augment the teaching-learning process?

The institution has a well-equipped central college library named as S.S.Patel library after the name of donor. It is the store house of not only physical but connected with internet facility with congenial ambience and free reading space. Library maintains the record of syllabi of all the courses and set of previous year question papers (unit test, prelims and arrear) as well as university exams. The books are purchased for the library on the basis of recommendations by Library committee comprise of faculty members from different departments and librarian so that every subject can be justified, and sufficient number of copies of books can be made available on hand for reference and to borrow. Library also houses the books which are obtained from the different government grants and alumni contribution. The library has 16982 books, 53 journals and a huge collection of 550 CDs and DVDs too.

The library services supplement the teaching learning process by following way.

- (1) **General section:** This section of library is comprised of curriculum based collection of books which can be issued by the students as well as teachers. Since these books are very much in demand it is being ensured that sufficient copies of these books are available to the students.
- (2) **Reference Section:** This section of library comprised of those books which can be used for topping up the regular curriculum and act as a supplementary or advance material which provides better understanding of the topic. These books are not issued to the students but they have to sit in to the library and refer the book there itself. Students are not allowed to take these books out of the library premises. Such books are issued to the faculty member for two days.
- (3) **Periodicals:** Library subscribes different scientific journals, news letters and magazines which are issued only to the faculty member as and when required.
- (4) **EEPC Section:** Library has a separate section of books on competitive examinations for those students who are members of the Entrance Exam Preparation cell. These books are purchased from the grant received from Gujarat State Biotechnology Mission to the cell as an N-BT-CBC for Anand Vadodara region. All the students are issued a separate card for these books.
- (5) **INFLIBNET and Wi-Fi Facility:** Library is equipped with INFLIBNET (N-List) and automated with SOUL program to access different journals and to access research related articles. Wi-Fi facility allows internet facility to the students in the library premises. INFLIBNET facility (N-List).
- (6) **Reprography facility**—Student while reading finds some pages important and needs to have copy, the library provides the photocopies of the material.

- (7) Any other:** Apart from books library subscribes English and Gujarati daily news papers, employment news, Rojgarsamachar etc.

The library is not merely a store house of books but an activity centre. Following activities are carried out in the library to augment teaching learning process.

1. Library has separate reading section which accommodates large number of students where students can study during the college hours.
2. At the time of examination library hours are extended after the college hours from 5:30 pm to 9:00 pm and library duty is assigned to a teacher who remains present in the library during the allotted slot and clears the doubts of the students.
3. Issuing and receiving books is a routine feature of library where bar-coding system and soul software is employed.
4. The library continues to provide the following current awareness services in order to alert users to latest information of their interest.
 - List of new arrivals
 - Useful articles
 - News items

2.3.10. Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If ‘yes’, elaborate on the challenges encountered and the institutional approaches to overcome these.

Under normal situation institution does not face any problem in completing the curriculum within the stipulated time frame and calendar. The college faculty manage to successfully follow their course plan and lesson plan. However, following challenges are encountered to complete the syllabus in intended time frame and calendar.

1. Syllabus of 1st semester in all the programmes tumbles slightly as admissions are given up to the month of August, so in order to synchronize the late admissions with a regular student is a challenging task. This challenge is overcome by conducting extra lectures, in addition to tutorial and remedial classes.
2. Sometimes due to the natural calamity/bandhs/ it becomes difficult to complete the syllabus but in such circumstances teaching schedule and examinations schedules is redesigned by the college.
3. Sometimes when in case of severe health problem or maternity leave by lady faculty member, the task of syllabus completion is hampered, this is managed by appointing Ad-hoc faculty member for that particular subject.
4. The Principal/IQAC keeps a check on the syllabus covered by the various departments on regular basis.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

1. Principal and IQAC keep a check on quality in teaching learning process.
2. HODs monitor timely completion of approved course plan and lesson plans by faculty
3. Peer reviews are conducted by Heads and senior faculty to monitor individual faculty performance
4. Students give a feed back of the teachers at the end of each year and are submitted to the Principal. This feedback is kept confidential. It is analyzed and appropriate suggestion/ actions regarding performance are made by the Principal.
5. Each faculty fills the self appraisal report and submits to Principal
6. Each department is asked the progress report in every semester regarding all academic plan fulfillment such as organizing seminar/ conferences, student focused extra curricular activity, faculty growth etc.
7. Students are evaluated about their learning round the year. Weekly tests are the best indicators of student's learning. Weak learning of some students is solved with help of tutorial and remedial classes. Weekly tests are followed by prelim exam. Prelim results are another parameter to speak about the quality of teaching learning. Still few poor performers are specially focused and treated by crash course program.
8. Parent-teacher interaction at the time of open house is another basis of evaluation which occurs before prelim exams in both the semesters.
9. Annual Meetings with the alumni lead to feedback regarding their past experience of teaching – learning process and its impact on their present status

2.4 TEACHER QUALITY

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum.

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers: 42							
Ph.D.	----	----	1	1	11	11	24
M.Phil.	----	----	----	----	09	02	11
PG	----	----	----	----	05	02	07
Temporary teachers : 16							

➤ Recruitment Procedure:

Selection of the permanent faculty is purely done on merit basis and overall score in the interview. As per the norms and conditions of University and State Government, vacancies are notified on CVM website and in National and regional dailies keeping a

reasonable time frame for receipt of filled in applications. A formal interview is carried out by a board comprising of

- One VC Nominee
- Principal of the college
- Subject Expert/s
- Chairman of the College Management Committee

The appointment letters are sent to the eligible candidates. The approval is sought from the syndicate of the S P University. If number of applicants are in very large numbers than screening test is conducted to shortlist the candidate for an interview.

The selected candidates are paid as per UGC/ State Govt/ Uni. Guidelines.

The faculty is offered good incentive for more experience and super specialization

➤ **Retention of the faculty:**

Following facilities are given to retain qualified and competent teachers

1. To retain the available staff, they are paid salaries according to the UGC scale and are given regular increments.
2. The staff is also provided other requisite facilities like, Medical leave, Casual Leave, etc.
3. They are encouraged to pursue further studies leading towards higher qualification through faculty qualification improvement programme.
4. They are encouraged to pursue research projects in their concerned field and consultancy services.
5. Accommodation facility is provided upon request by the faculty member and availability.
6. They are encouraged to participate in the seminars/workshops/conferences/orientation programme/refresher course and duty leave is sanctioned for the same.

Thus, the institution provides a conducive atmosphere for work and research and this encourages the staff to continue working in the institution. There is cohesiveness among the staff.

Sr.No.	Duration of service (yrs)	Asso. / Asst. Prof.	Technical Assistant	Office Staff	Office Peons	Lab Peons
1	15-20	13	06	03	08	12
2	10-15	04	--	03	02	03
3	5-10	17	02	03	--	
4	01-5	08	01	--	01	01
Total	College established in 1996 (completed eighteen years)	42	09	09	11	16

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

College runs bachelor's degree programme in the field of Biotechnology since 1996, Bioinformatics since 2004 and while Bachelor's as well as MSc integrated programme in the field of information technology since 2012. In order to cope with the growing demand and scarcity of qualified faculty following steps are taken.

1. College has recruited highly qualified faculty members holding MSc Ph.D degree in Biotechnology, Bioinformatics and IT.

Sr. No.	Name of the permanent faculty	Qualification	Subject	Duration of service
1	DrMadhumati Bora	MSc PhD/	Biotechnology	16 years
2	DrYachanaJha	MSc PhD,NET /	Biotechnology	12 years
3	DrKundan Mishra	MSc PhD NET/	Biotechnology	11 years
4	Dr Amit Ballani	MSc PhD NET/	Biotechnology	11 years
5	PratibhaChaurasia	MSc M Tech NET/	Bioinformatics	09 years
6	Dr. ChetanDudhangra	MCA PhD	Comp. Sci.	06 years
7	Dr. Tejas Thakkar	MCA PhD	Comp. Sci.	08 years
8	Mr. DigvijayVirpura	MCA	Info. Tech.	02 years

2. Sardar Patel University has the Post graduate departments having these subjects hence senior and highly experienced faculty members from such university departments are always available for any help. They are invited often to deliver guest lectures on some emerging topics of such subjects.
3. College also organizes seminar/ workshops and conferences / education tours for better understanding and Hands-on training in such subjects.
4. College also runs some supplementary/ add-on course in such subjects.

2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

Course	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Total
Orientation		3	2	10	3	2	20
Refresher				1	3	2	06
Training			1	1	3		05
Seminar / Conference	6	19	17	25	46	23	136
Workshop		8	3	3		6	20
Faculty Development Program		1		1	42	1	45

Professional development is a continuous process. Teachers take the initiative to learn and keep abreast of the latest developments. They innovate and seek to improve in their work, striving for individual and institutional excellence. The institute facilitated this by deputing staff to attend orientation programme/refresher course, various departmental meetings held at the university level and nominating them to attend training programmes, workshops and seminars to upgrade their knowledge. Management (CVM) encourages and inspires the faculties to apply for research projects to various funding agencies.

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

The institution extends full support for the professional development of the faculty. The faculty members are encouraged to pursue their M. Phil. and Ph. D. through faculty development schemes. The institution deposes its teachers to attend refresher and orientation programs, conferences, seminars and training programs organized by other institutes, universities and research organizations. The institution regularly conducts seminars, workshops and special lectures for the benefit of its faculties and students. The Institute grants duty leaves according to the nature of work.

Following policies are in place to recharge teachers.

- Research Grants: Faculty members are encouraged to submit major and minor research proposals to various funding agencies like UGC, DBT, GUJCOST, DST, ISRO, Aayush etc. They are deputed on workshop/training programmes conducted by other institution or state agencies for e.g. “How to write research projects” One such training programme was organized jointly by Knowledge consortium of Gujarat and BJVM college of CVM in which six staff members have participated and submitted a project proposal. At present college are having research projects of worth of more than One Crore Rupees from different funding agencies.
- Upgradation of qualification: College provides necessary facility and permits faculty on part time basis to improve their qualification like M.Phil. or Ph.D.
- Support for research and academic publication: College /management as such does not provide any funding to conduct any research project but provides supportive role in terms helping the investigators to construct new infrastructure, analysis of samples at concessional rates, office assistance to look after the accounts related to research projects, duty leave to principal investigator for field visit or attending meeting or participation at conference.
- College encourages faculty members to publish research papers in different peer reviewed journals. The Sardar Patel University’s research publication of Scientific Journal “Prajna” and Management journal publication “V” magazine both with ISSN number are immediate source for paper publication. Faculty members publish papers in many national & international journals of reputation.

Management motivates the research by recognizing the potential performer in research/academics and felicitate such faculty on college Annual day.

- Teaching experience in other national institutions and specialized programmes
- College provides boost to faculty members to become resource persons, coordinators, nodal officers at state/national level institute or depute them for some specialized programmes.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

The institution has highly experience and qualified faculty members which are recognized at State and National level for teaching and learning. They have received different awards and recognition from University/State/National Agencies. Following table enumerates different programs under which faculty members are recognized.

Name of the programme.	Name of the faculty	Category	Year
BISAG Live Lecture series- An initiative by DST of Gujarat State	Dr. AkshayaGupte Dr. H. J. Trivedi Dr. UrvishChhaya	Resource Person Resource Person Resource Person	2010 onwards 2011-12 2010-12
Network of capacity Building Cell in Biotechnology of Gujarat State Biotechnology Mission	Dr. Amit Ballani Dr. Madhumati Bora Dr. K. K Mishra Dr. UrvishChhaya Dr. H. Trivedi Dr.YachanaJha	Coordinator and Resource Person Resource Person Coordinator and Resource Person Resource Person Resource Person Resource Person Resource Person	2010 onwards 2010 onwards 2013 onwards 2008 onwards 2010 onwards 2011 onwards 2011-12
Nodal co ordinator	Dr. Rita N. Kumar Dr. UrvishChhaya	NAAC KCG	2008 onwards 2010 onwards
Biotechnology Aptitude Test jointly organized by Gujarat State Biotechnology Mission and Pharmacare society.	Dr. UrvishChhaya	Zonal coordinator	2009 onwards

KCG	Dr. Rita N Kumar Dr.Madhumati Bora Mr.Bhailal Patel	Resource person Team member Team member	2011 2012 onwards 2012 onwards
BOS Members	Dr. Rita N. Kumar Dr. AkshayaGupte Dr. Madhumati Bora Dr.YachanaJha Dr. UrvishChhaya Dr. Kundan Mishra Dr. Anjali Kulkarni Dr.Smita Srivastava Dr.Archana Shah Dr.Himanshu Trivedi Mr.Bhailal Patel	Bioscience Bioscience Bioscience Bioscience Bioscience Bioscience Bioscience Chemistry Ind. Chemistry Physics Mathematics	2005 onwards 2005 onwards 2005 onwards 2012 onwards 2011 onwards 2014 onwards 2014 onwards 2009 onwards 2011 onwards 2001 onwards 2000 onwards
Senate members	Mr.Bhailal Patel	Mathematics	2007 onwards
Faculty members	Principal & All HODs		
Syndicate members	Dr.BasudebBakshi	Principal	2009-2012
Academic council members	Dr.BasudebBakshi	Principal	2007-2013
University central assessment coordinator	Dr.BasudebBakshi Mr.Bhailal Patel	Principal Mathematics	2009-2013 2009-2013
INSPIRE Member	Dr. Rita N Kumar	Bioscience	2012 onwards
Science city coaching member	Dr.SusmitaSahoo	Bioscience	2006 onwards
Ph D guide/ referee	Dr.Rita N. Kumar Dr.AkshayaGupte Dr.Madhumati Bora Dr.Ketul Patel Dr.Smita Srivastava Dr.Archana Shah Dr. H.J. Trivedi	Env. Science Microbiology Biochemistry Biotechnology Chemistry Chemistry Ind. Chemistry Physics	2004 onwards 2004 onwards 2012 onwards 2010 onwards 2005 onwards 2011 onwards 2011 onwards 2012 onwards
Other university Visiting faculty	Dr.AkshayaGupte Dr.Madhumati Bora	Microbiology Biotechnology	2004 onwards 2004 onwards
National/international Journal editorial board	Dr.Rita N. Kumar Dr.AkshayaGupte Dr.Madhumati Bora	Biosciences Microbiology Biotechnology	2008 onwards 2011 onwards 2013 onwards
Reviewer for scientific journal	Dr. Rita N. Kumar Dr.AkshayaGupte Dr.Madhumati Bora	Biosciences Microbiology Biotechnology	2010 onwards 2008 onwards 2013 onwards
Sports	Mr.Dharmesh Patel	Physical Instructor	1998 onwards

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes, our institute gets the evaluation of the teachers through student feedback taken regularly and randomly from every semester and for every subject teacher and internal peers through HODs. At the end of every academic year students give feedback of individual faculty members on their teaching skills on a prescribed format. The feedback form mainly focuses on the various teaching skills of the faculty members, like presentation, communication, knowledge, content covered, innovative practices and laboratory work. Principal analyses the feedback forms given by the students and as per the need directs the concerned faculty for necessary improvement/s.

2.5 EVALUATION PROCESS AND REFORMS

2.5.1 How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

The college has a well defined system for communicating evaluation methods to the students. The stakeholders of the institution are communicated in both formative and summative evaluation process.

(I) Communication regarding formative evaluation:

At the beginning of the academic year, the institution announces academic calendar indicating dates for the various exams to be covered in the term. College conducts examinations in a centralized mode for each semester. There are three different levels at which evaluation methods are communicated to the stakeholders.

(A) Communication through examination section of the college.

- Time table of weekly test and prelim test is prepared by the examination Coordinator of the college in consultation with Principal and communicated to HODs and faculty members. Students are also informed well in advance about weekly tests. The timetable is also displayed on the notice board of college, staff rooms, Ladies room, Library and on college website.
- The Question paper format showing marks distribution is communicated to faculty members through notice and e-mails
- The syllabus is notified to the students one week before the commencement of each weekly test showing marks, date, time, subject code etc.
- For practical examination (skeletal) also syllabus is displayed on the notice board.
- In one week time, the answer sheet evaluation is completed by concerned faculty members and marksheets are prepared in triplicates. Marksheetworks also mention the result in terms of no of students appeared, No of students absent, no of students failed. % passing, % failed etc. The main copy is sent to Office for data entry, the other copy is displayed on notice board

for students and third copy is retained by counselor for maintain his record.

- After the evaluation, the marksheets are displayed on the notice board, answer books are shown to the students for verification and any discrepancy regarding the checking or marks counting, option is rectified and communicated to the exam committee representative of the department by concerned faculty.
- The marks of 2-3 tests are sent together to every student's parents through letter, mentioning the highest marks obtained in class. Thus the parents are made aware about their ward's performance.
- At the time of dispatching internal marks at university exam, section verification of the department wise marks through respective department representatives is done and then it is displayed on the notice board for verification by students.
- Examination section of the college also prepares department wise schedule for showing the answer books of prelim exams and students are informed to remain present to verify their answersheets.

(B) Communication through counselor:

- At the beginning of the semester, Principal conducts meeting with all the counselor and discusses about the evaluation pattern, reforms and minimum eligible marks in the internal examination.
- Counselor during his meeting with the students communicates all these details among the students of his/her group.
- Besides, counsellors regularly keep in touch with parents regarding their wards performance in the college.

(C) Open house:

College conducts semester wise parent-teacher meeting. College informs all parents through a letter inviting them to come and see ward's answer sheets and meet various faculty teaching to their ward, to meet counselor and Principal. During this interaction, answer sheet of brilliant performer is also shown, to understand how the correct answers should be written

(II) Communication regarding summative evaluation:

Summative evaluation is through examinations conducted at the end of each semester by the University in both theory and practical courses. Time table regarding the same is communicated to the students through notice board display as well as through counselors.

- University results are declared on the university website and marksheets with grade points are made available to the students through college.
- Faculties are informed regarding the change of examination patterns, deadlines for submission of question papers and central assessment.
- In case of any discrepancy student can apply for reassessment at the university.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

Sardar Patel University has Examination Reform Committee. This committee recommends various changes in the examination pattern and conducts workshops for college faculty to invite new suggestions as well as to educate them regarding the methodology to implement the reforms. Sardar Patel University has implemented following changes in last three years.

- Change from yearly to semester system.
- Change to Choice Based Credit System (CBCS) it has been implemented since 2010.
- Under this system, there are core courses, elective courses and foundation course.
- The first year course i.e. core and elective/foundation are made of 2 credits.
- The second and third year core courses are of 3 credits where as elective/foundation course of 2 credits.
- These changes have led to change in evaluation pattern too. Hence, the question paper pattern has been revised.
- Q.1. Multiple choice question (Marks 10), Q.2. Short answer any ten (Marks-20), Q.3,4,5,&6 with subquestions (Marks-10) each

College is affiliated to Sardar Patel University and following evaluation reforms are implemented by the college as suggested by Exam Reform committee of S.P. University.

- Implementation of evaluation system as per the Choice Based Credit System (CBCS) since 2010.
- Internal test (weekly test and Prelims) Paper format is changed from descriptive type of questions to MCQS, short questions and long questions.
- Total internal marks to be submitted to University are changed from 20 to 30.
- Passing marks are revised from 35% to 40%.

Moreover, College has implemented following reforms at its own for Internal examination.

- Weekly test has been shifted from Saturday to Monday as students can avail an advantage of Sunday for the preparation.
- Total Marks of weekly test are revised from 25 to 30.
- Weekly tests are now considered and counted for internal marks.
- College has introduced Arrear examination for absentees and improvement test/Assignments for poor performers.
- College has considered attendance component of 10 marks in each paper when internal marks are submitted to the university.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

Institution finds no difficulty in implementation of evaluation reforms as college has very strong Exam committee which functions successfully for the same. This committee has representatives from each department as its member which results in fast action and implementation at departmental level. The students are notified through counselors, notices on notice boards and central announcements from Principal's office.

2.5.4 Provide details on the formative and summative evaluation approaches adapted to measure student achievement. Cite a few examples which have positively impacted the system.

Formative Approaches:

The formative approach to evaluation are conducting weekly unit tests for which credence is given, performance in assignments, regularity, punctuality, class participation and general behavior, interaction, volunteering services and participation in group activities. Completing projects, reports, having organizational skills, participating in competitions, curriculum based learning are all part of the formative evaluation. The formative approach ensures continuous evaluation of student learning so that any deficiency or problem encountered can be rectified promptly. Internal assessment has positively impacted the students which gives greater credibility to both academia and co curricular activities.

Summative Approaches:

This consists of the preparatory examination which is conducted for both theory and practical papers. This is thus end semester assessment which identifies whether the learning outcomes have been achieved. The results of this assessment are notified to both the students and parents.

The following formative and summative evaluation approaches are adopted to measure student achievement at curricular, co-curricular and extra-curricular front to measure student achievement:

1. Curricular front:

Formative evaluation approaches

- Round the year assessment in form of weekly tests
- Assignments
- Preliminary examination

Summative evaluation approaches

- University examination

2. Co-curricular & Extra-curricular front (debates, elocution, quiz, Cultural level)

Formative evaluation approaches

- two days program of Talent Hunt
- Students' short listing and coaching

Summative evaluation approaches

- Selected students take part in various regional/state/national competitions

3. Extra-curricular front (Sports level)

Formative evaluation approaches

- Announcement of various collegiate level competitions
- Selected students are given coaching
- A celebration of Sports Day

Summative evaluation approaches

- Collegiate and intercollegiate Sports are conducted.
- Students play at university and state/national level and win prizes

Year	Students excelled in various national/ state level competition—few examples
2009-10	MsPallaviVarshney of SYBT won 1 st prize in oral presentation in Biotechnology category JamunaNawani of FYBSc got 1 st prize in Zoology category TanviBhuva of SYBT got 1 st prize in Microbiology category in Science Excellence -2009 held at Gujarat University Ahmedabad.
2009-10	MsRicha Patel of TYBT won 1 st prize of Rs 10,000/- in oral presentation organized by Bhabha Atomic Research Center. MrBadal Pandya and MsPallaviVarshney of TYBT and MrVallabhUpadhyaya of TYGT cleared National level test of TIFR integrated PhD programme. MrMayankPanchuria of SYGT stood 1 st in Intra University poster making competition , Ahmedabad and received cash prize of Rs 1000/-.
2010-11	MrMaulikJani of TYBSc Biotechnology got 1 st prize of Rs 5100/- in Biotechnology Aptitude Test organized by International journal of Pharmaceutical Research. MrMayurMondhe of TYBCA got first prize in paper presentation competition in Science Excellence organized by Gujarat University, Ahmedabad. MsBhoomi Patel of SYBSc Biotechnology got 3 rd prize in Swarnim Gujarat KhelMahotsava at state level.
2011-12	MsHiralSanghvi from TYBSc Biotechnology cleared National level entrance test for Tatat Institute of Fundamental Research (TIFR). Josmy Joy and Vidhi Shah of TYBCA won 2 nd prize in poster presentation in national level competition held at Christ college, Rajkot. BhavnaRatnani of SYBSc Microbiology bagged 2 nd prize in the state level competition sponsored by Microbiology study circle organized by M B Science college.
2012-13	MrVenkat P AnandTYBSc Microbiology and MS DishaBhanderi of TYBSc Biotechnology bagged 3 rd prize in state level quiz competition sponsored by GSBTM gandhinagar, at St Xavier's college Ahmedabad.
2013-14	Drasti Amin and Khushboo of T Y ES stood first and second

	respectively in poster, RushirajZala T Y ES stood second in Oral presentation at State Level Science Excellence held at Guj Uni.
2013-14	State Level Intercollegiate competition Organized by Microbiology Study CircleShibaMadan and Aditi Gupta stood second in quiz competition.
2013-14	In Minaxilalit state level exam MsBinal Shah and Binumol Thomas stood first and second respectively in Env.Science In Minaxilalit state level exam MsLokita Patel and Nehal Patel stood first and second respectively in Maths
2014-15	In Minaxilalit state level exam our students stood first in Biotechnology, (RoshniKalal) Environmental science (SwashatiMahanta), Microbiology (PurviBangoria), Zoology (Avani Patel) and computer applications (Priyeshpillai).
2014-15	State Level Intercollegiate competition Organized by Microbiology Study CircleMsRajvee Shah and MsNisha Desaistood first in quiz competition and MsShiksha Sharma stood second in poster making competition.

2.5.5 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the student's results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

- a) **Evaluation of student performance-** The College conducts unit tests through out the semester on Monday for one hour from 10:30am to 11:30am. Students appear for the tests in different subjects based on their combination at first/third and fifth semester level and are assessed for 30 marks for the content of the syllabus. A common failure and absentee list of students is prepared by the college office after submission of marksheets by faculty within a week. The list is circulated to Counsellors through Head of the departments
- b) **Through counselors-** NVPAS has a very strong Counselling system to ensure smooth sailing and minimization of problems of students during the graduation phase. Counsellors are appointed by the college at the beginning of academic session every year under the guidance of the Principal and Counselling coordinator. Each counsellor is given a batch of 30 to 40 students based on division and class strength. Counsellors are given a file with various formats to be maintained for each student by the college and regularly keep in touch with parents regarding their wards performance in the college. At the end of every month a counsellor has to submit the data of attendance of his/her counselling batch. If a student is found irregular, his/her parents are informed through a specific letter-format prepared by counselling system. Parents of extremely irregular students are informed through a letter drafted on the letterhead of the college signed by both concerned counsellor and Principal. Parents are requested to meet Principal within a week through such letter.

Communication through college office

- a) **Open house-** The College organizes parent, faculty and student meeting in the first or second week of December after the results of first internal examination is compiled by the college through respective departments. Invitation letters to parents are dispatched in advance and the letter has details regarding the date, venue and result card of their wards with special mention about the highest marks scored in each subjects. Open house is organised for two days and teaching and non-teaching members are allotted duties in specific room numbers based on the subjects taught by the faculty. Registration committee welcomes parents with their wards and are given the merit number of their ward with average of attendance. Parents have one to one interaction with faculty and are given practical suggestion for the improvement of their wards result.
- b) **Through letters to parents**
Regular letters from the college office are sent to parents regarding the internal marks of their ward with maximum marks obtained in the concerned subject. Special letter formats are there for the poor performer and highly irregular students. These letters are sent through principal to the concerned parents.

2.5.6 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightage assigned for the overall development of students (weightage for behavioral aspects, independent learning, communication skills etc).

NVPAS ensures transparency in its internal assessment strictly adhering to the following points

- a) The question paper is set with great confidentiality
- b) For every weekly test also the question papers are to be submitted by concerned faculty in sealed cover three days prior to exam dept.
- c) Exam rooms are kept locked and are opened only when the prefinal bell 10 min prior rings.
- d) Regular duties of junior and senior supervisors are allotted to all faculty members well in advance for whole term.
- e) The students are not allowed to keep mobile /bag /reading material/book with them in exam hall
- f) NVPAS is well reputed in University for its transparent, rigorous functioning during internal and external examinations
- g) Exam is conducted under strict vigilance.
- h) Any student found copying or doing any malpractice is punished by marking zero in internal exams
- i) Any student attempting such malpractice during university exam is reported to SeniorSuperviserand expelled from examination.
- j) Internal assessment of answer sheets are made by the teacher who taught the subject.
- k) During the internal assessment faculty also makes remark for mistakes done or right answer.
- l) While showing the answersheets to students, the students can ask for any doubt in assessment.

- m) Before sending the internal marks to the University departmental exam coordinator verify the marks and same is displayed for the verification by the students.
- n) Answers sheets of Prelim exams are shown to the students at the end of the semester for which separate time schedule subject wise is notified to the students.
- o) During open house parents are shown the answer books of their ward.

**Weightage is given for the following aspects which are taken into consideration
For behavioural aspects, independent learning**

- a) 10 marks are given for regularity in theory exams.
- b) In Practical examination weightage of 5 marks each is assigned for vivavoce and maintaining record book/journal respectively.
- c) In some of the subjects like Environmental science, Bioinformatics, BCA, Computer Science and certificate and diploma course of Process development in Industrial biotechnology project based learning is introduced as a part of curriculum.
- d) Any student representing the college at state / national level if required is exempted from regular schedule of examination and separate examination is arranged for them.

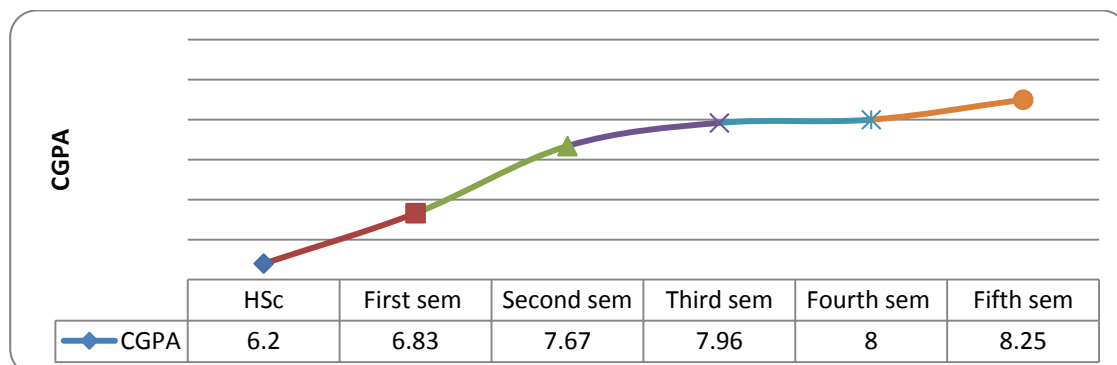
2.5.7 Does the institution and individual teachers use assessment/evaluation as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

The Institution uses assessment as an indicator for evaluating student performance, achievement of learning objectives and planning. One of the purposes of evaluation is to provide development – inducing feedback. It acts as a gauge not only for the student but also for the teacher. It helps to identify areas of difficulty and failure and poor performance indicates lack of understanding or need of motivation. These issues can be addressed if they are correctly and promptly identified. Remedial classes are taken for students who are academically weaker. When a large group has done badly the teacher can go back to the basics of the lesson so as to clarify understanding and then progress to the next level. Thus oral quizzes/viva are conducted before proceeding with a lesson and tests and assignments are given. Students are encouraged to think for themselves and extra care is taken when there is a lack of understanding. Question banks and unit notes are provided and students are encouraged to go through the previous year's question papers and even try solving them. This is to ensure that on completion of the course the student has a basic understanding of the subject. Thus skill development is tested throughout the learning process. Different forms of assessment measure different learning outcomes:

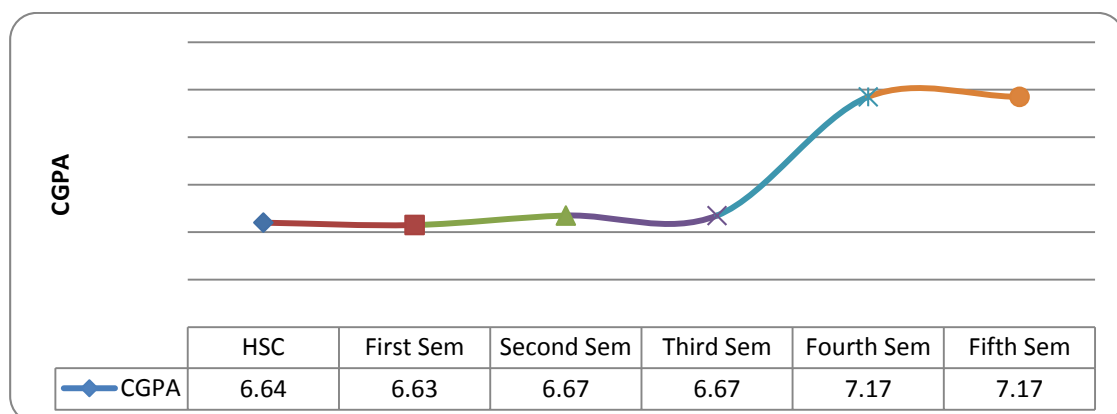
Assessment measure	Learning outcomes
Attendance	Ensures regularity and punctuality
Performance in tests and exams	Evaluates understanding of the subject and the ability to put forth in writing

Class interaction/ participation	Assesses independent and knowledge based thinking
Assignments	Assesses ability to get relevant information and present it creatively and promotes independent learning.
Projects/Models/Posters/ Reports/Presentations	Ability to display a scientific temper and application of theory

Following case studies justify the efforts of the institution to achieve the above said learning outcomes by implementing various assessment measures.



Case Study : Purvi Joshi (Roll no 106) from Gujarati medium Schooling admitted to BSc Microbiology showing consistency in improvement



Case study: Harshad Patel (Roll no 301) from Gujarati medium Schooling admitted to BCA showing consistency in improvement

2.5.8 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

At the college level: Evaluation process is transparent in the College as it is open to all.

1) Unit test answer sheets are shown to students so that they can see the remarks mentioned in their answer sheets regarding deduction of marks. Otherwise doubts are clarified by the faculty during classroom or laboratory interaction session.

2) Prelim Examination- Answer sheets of Prelim examination is shown to students at the end of semester and to their Parents too in Open house. Parents are allowed to see the answer sheet of the topper student in a specific subject or class if asked. A

separate time table for First, Second and Third year students are prepared for showing the answer sheets of internal examination. Time table is displayed on College notice board and contains information regarding Date, Class, Year, Subject and time.

3)Verification of marks---Marks are verified first by the committee members of the concerned department and then by the student themselves before sending to the University.

At the University level—University has the provision for rechecking or revaluation of the answer sheet within 10 days after declaration of the result. The student can also apply to see their answersheets. Separate examiners are appointed by the University for the same.

2.6 STUDENT PERFORMANCE AND LEARNING OUTCOMES

2.6.1 Does the college have clearly stated learning outcomes? If ‘yes’ give details on how the students and staff are made aware of these?

Learning outcomes are the specifications of what a student should learn and demonstrate on successful completion of the course. Thus it is the acquisition of the skills and knowledge that should come with education. The learning outcomes of the institution are:

Students will be able to:

- Develop communication skill and language proficiency.
- Develop curiosity in the subject by sharing information and facts.
- Become a human being with a firm value base which respects others and one's self
- Develop technical competence, logical and scientific thinking and reasoning ability.
- Develop a desire to achieve, innovate and implement the knowledge gained.
- Strive to achieve high standards in academics so that they have the capacity to meet the professional requirements of the competitive world
- Understand the subject which inculcates knowledge and wisdom among them.

These learning outcomes are enshrined in the institutionanlprospectus and website and also displayed on notice boards.

When these learning outcomes are achieved, the institution can proudly say that it has contributed to the core values of national development, fostering global competencies among students, developing a quest for excellence, inculcating a value system and promoting the use of technology.

2.6.2 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

- Students are propelled to reach their potential through providing them with a supportive, dynamic and challenging environment. The learning imparted is student centric and it strives to cater to the needs of different categories of students. Thus, the entire syllabus is taught in class irrespective of whether the topics have also been given in the form of assignments or paper presentations.

- Individual attention is given and special coaching is given to the weaker students. Students are motivated to give their best and they are provided with various opportunities to display their skills and gain new ones in the course of participating in competitions and other related activities. A great emphasis is placed on value education and respect for life.
- Students are taught for values of honesty, hard work and sincerity in different walks of life.
- Students are encouraged to look beyond their own needs to the needs of others and to do their part in uplifting humanity. They are given opportunity to build up leadership skills and to participate in group activities which fosters team work such as being a part of the institution union or various clubs. The importance of religious harmony is emphasized by creating a secular atmosphere. Personality development seminars are conducted to aid in life skills development. The grievance cell teaches the student that redressal is possible and they need to speak out at times. Thus, the students active participation in the system is required if the student is to gain maximum benefit. They are ultimately responsible for what they learn. The aim is to make them confident young citizen who are capable of excelling at work or in other relationships, with the knowledge, skills, attitudes and values required to face life.

2.6.3 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

Career Guidance: Students are given career guidance so that they know the scope of their course of study. This is given by Entrance Exam Preparation Cell of the college and outside agencies as well as the teachers themselves. They are made aware of different job opportunities as well as the avenues for higher studies.

Value based education: The value system that is inculcated ensures that they are aware of their social responsibility. A job is not just a job; it is a vocation. This type of education is implemented through various extension activities under National Service Scheme (NSS).

Research Aptitude: They are encouraged to innovate. The projects/ models/ posters/ seminars that are used as tools to develop scientific temper and a taste for research.

Placement Cell: Campus recruitment gives them an impetus to start working after completing their degree.

Club activities: Various activities and competitions conducted by techno innauprenaur club, carbon foot print club, knowledge sharing forum etc. give many valuable dimensions to the skill and competence of the students in the area of their interest.

Add on course: Certificate and diploma course in process development in Industrial Biotechnology help the students to prepare themselves for the employment and can also earn extra credits for higher education.

PDP: Personality development programmes are conducted regularly by Career development center to inculcate the soft skills among the students.

2.6.4 How does the institution collect and analyze data on student learning outcomes and use it for planning and overcoming barriers of learning?

Result of internal exam and university result are used as indicators of the student performance and teaching methods are improved accordingly. Feedback on teachers also points to barriers in learning. Peer group formation and discussion make the slow learners to improve their study. Power point presentations, animations, software, hands on experience are used by the teachers considering the different types of learners. Interdisciplinary topics are handled by teachers of respective departments to make students understand the topics effectively and to break the monotony. For instance, the Fundamentals of Microbiology an elective paper for B.Sc. Biotechnology (core) students is handled by faculty of Microbiology and a topic related to 'Computers' will be handled by faculty of Computer science. Interdisciplinary projects are also carried out in different semesters to widen the knowledge and to make them understand about the relevance of the subject in other fields as well. Use of internet, virtual class room and student oriented teaching methods are also carried out to make them more involved. The class tutors monitor the slow learners to find out the exact reason of their low performance and give necessary suggestions and motivations. Counselors keep track of the performance of each student and communicate to the HOD, Principal and parents and provide necessary help and motivation to ensure the achievement of desired learning outcome.

Learning Outcome	Barriers Identified	Mechanism to overcome the barriers.
Students will understand the subject which inculcate knowledge and wisdom amongst them	Vernacular medium and rural background Late admission and poor academic performance Confusion/Dilemma for subject selection Poor financial background	Multilingual switch in classroom teaching Remedial classes and crash course. Subject wise orientation programme. In house scholarships and assistance for scholarship for SC-ST and Minority
Student will strive to achieve high standards in academics so that they have the capacity to meet the professional requirements of the competitive world	Lack of awareness regarding the post graduate admissions/ Opportunity abroad and Employment	Entrance Exam Preparation cum Career guidance Cell. Job Placement Cell Issue of recommendation letters to the students. Inspire Scholarship by UGC
Student will develop technical competence, logical and scientific thinking and reasoning ability	Poor logical thinking and reasoning ability	By conducting practicals, workshops, Training, Field and Industrial visits and Add on course
Student will develop curiosity in the subject by sharing information	Less or limited exposure to the current trend of the subject	Conducting seminars/symposium/conferences/guest lectures

and facts		
Student will develop communication skill and language proficiency	Poor communication skills Poor presentation skills Lack of confidence	Highly equipped English language lab Provision for personality development programmes Counseling system
Student will develop a desire to achieve, innovate and implement the knowledge gained	Examination/marks oriented approach.	Project based learning Collaborative learning Student forums like Technoinnauprenaur club, Knowledge sharing forum and Carbon footprint club etc
Student will become a human being with a firm value base which respects others and one's self	Lack of holistic approach and lack of awareness about morale values and social justice	Madhyasthasamiti activities NCC and NSS activities

2.6.5 How does the institution monitor and ensure the achievement of learning outcomes?

The institution records and monitors the achievement of the learning outcomes on a regular basis. One of the basic criteria for learning is regular attendance in class. Thus attendance is taken every hour to keep a record of the students' regularity in each subject. Counselors maintain a record and students having shortage of attendance at the end of each month are notified/warned the same by taking their signature. Tests and assignments are corrected and the marks obtained are recorded.

Assignments, answersheets, practical record book are corrected regularly and students are given suggestions/recommendations regarding their performance. A mentor record is also maintained to trace the all round performance of the student. Student achievement is recognized and awarded.

2.6.6 What are the graduate attributes specified by the college/affiliating university? How does the college ensure the attainment of these by the students?

The college attempts to build 21st century career skills among the graduates in a number of ways. The mode of delivery of curriculum is managed in such a way that future graduates are made to develop these skills. Self reliance in academic and personal matters is the graduate attribute specified by the college. Decision making, leadership skill, social and personal initiation through participation in National Service Scheme, National Cadet Corps, Personality development programmes, Office bearer ship in college central committee activities. A full-fledged NCC unit offers opportunity for personality development as well as creating flag bearers of civilian responsibility. NSS unit renders chances to serve the society, developing a sense of community and commitment which are valued as quality attributes by the institution. Soft skill development is attained through the IT Skill development programmes, NCC and NSS camps.



Criterion

III

Research Consultancy & Extension



CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 PROMOTION OF RESEARCH

3.1.1 Does the institution has recognized research center/s of the affiliating University or any other agency/organization?

No, the institute does not have a recognized research center, however, the institute is affiliated to Sardar Patel University and the faculties are recognized guides in various subjects like Microbiology, Biotechnology, Botany, Environmental Science, Chemistry, Industrial Chemistry and Physical Sciences. The students can enrol for Ph.D programme under the recognized supervisor provided he/she passes the Ph. D entrance examination. The registration of the candidate is carried through SICART.

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes, there is a formal research committee at NVPAS to address the issues pertaining to research and monitoring. The composition of the research committee is as follows:

Chairperson	:	Dr.BasudebBakshi (Principal)
Co-ordinator	:	Dr. Akshaya Gupte (Head, Department of Microbiology)
Members:	:	Dr. Rita N. Kumar (Head, Department of Biological and Environmental Science) Dr. Madhumati Bora (Head, Department of Bio Technology) Dr.Himanshu J Trivedi (Head, Department of Physics) Dr.SmitaSrivastava (Head, Department of Chemistry) Dr.TejasThakkar (Department of Computer Science)
Subject Experts	:	Prof.Datta Madamwar (BRD School of Biosciences, S. P. University) Prof.Nirmalkumar (ISTAR) Prof. D. K. Raval (Chemistry Department S. P. University)

The faculty who proposes to put a project before the funding agency has to get the recommendations of the research committee prior to its submission. The faculty members are encouraged time to time for actively participating in research activities.

The committee made following recommendations:

- Setting up of Biotechnology research lab
- Setting up of Env.Science research lab.
- Usage of instruments to all the faculties which are with various PI.
- Eligible faculty members should be applying for recognition as PhD mentorship from Sardar Patel University

- Eligible faculty members should be applying for research grants from the various funding agencies there by improvement in the faculty self development as well as progress of the institute.
- Students & Faculties are encouraged to participate in various national and international conferences, seminars and workshop.
- Encouraging students & faculty for publication of research articles in journals of national and international repute.
- Training to technical staff from Physics and Biological sciences dept. for instrument repair and maintenance.

Implementations:

Biotechnology research lab and Env.Science research labs were made with necessary requirements. Dr. Madhumati Bora and Dr. Rita N. Kumar are in-charge of the respective labs.

- The institute has also made one Instrument Maintenance Room in the physical sciences dept. which carries out the repair on site or in the said room as per the requirement.
- The institute deputed lab assistants and computer programmers time to time for the updating their knowledge in modern instrumentation.

Impact of the recommendations

- Three faculty members were recognized as Ph.D guides in Chemistry, Industrial Chemistry and Biotechnology. Six students completed their master's dissertation in Microbiology research lab.
- Two lab assistants were sent to the workshop on hands on training and maintenance of Opto-analytical instruments with WRIC, Mumbai, organized at ARIBAS and were trained for the repairing and maintenance of certain instruments.

Following funding proposal are submitted

National (Multi-institutional):

1. One major project submitted in Department of Biotechnology Govt. of India in collaboration with University of Pune (Funded by DBT now)

National (Institutional):

1. Three projects submitted in Department of Biotechnology Govt. of India.
2. One project submitted to AYUSH, DST Govt. of India.
3. One project submitted in GUJCOST Govt. of Gujarat.
4. Three major research projects submitted in UGC, Govt. of India
5. 5 minor projects for UGC have been submitted.

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/projects?

- Autonomy to the principal investigator
- Timely availability or release of resources
- Adequate infrastructure and human resources
- Time-off, reduced teaching load, special leave etc. to teachers

- Support in terms of technology and information needs
- Facilitate timely auditing and submission of utilization certificate to the funding authorities.

Autonomy to the Principal Investigator:

1. Yes, autonomy is provided to the Principal Investigator.
2. Principal Investigator is allowed to carry out the research of his/her specialization.
3. Neither institute nor the management imposes any restriction for procuring specific brand/ sources for equipments, chemicals, glass wares, analysis etc. as long as general financial rule (GFR 2005) of Govt. of India is followed. PURCHASE ARE TO BE ROUTED THROUGH THE PURCHASE COMMITTEE.(For RESEARCH PURPOSE ONLY)
4. Principal Investigator is allowed to select research fellows following the norms of funding agency.
5. Principal Investigator can avail duty leave to do his/her research related work and to present research work in conferences / seminars / workshops.

Timely availability or release of resources:

1. Extramural funding is made available to Principal Investigator immediately after release of the grants from the funding agency.
2. Administrative facility for purchase of equipments, chemicals, glass wares and analysis etc. are provided for timely procurement.

Adequate infrastructure and human resources

1. Human resources in the form of JRF/Project assistant/Project associate can be hired after proper screening and advertisement of the said post.
2. Yes, adequate infrastructure is also provided. Institute has well established labs for Microbiology, Biotechnology, and Env. Science and Chemistry and Industrial Chemistry with proper installed working instruments and proper set up.
3. Institute has its own committee regarding repair& maintenance.
4. The Departmental store in-charge maintains record of chemicals, glass wares and plastic wares procured to meet the necessities for an ideal research (student dissertation)

Time-off, reduced teaching load, special leave etc. to teachers

1. Sometimes adjustment of time table is permitted if at all required in consultation with the Head of the Dept. and Head of the institute without affecting the progress of the regular students. Work load is strictly maintained as per UGC norms.

Support in terms of technology and information needs

1. Yes, the total support is provided for any technology and information needs.
2. Each of the Dept. is provided with a desk top computer with the internet facility and also other ICT needs for the faculties involved in active research are provided with Wi-Fi and INFLIBNET.
3. Laptop and printers are provided to all the Heads of various departments.
4. Physical as well as Digital library of Sardar Patel University can also be assessed after becoming its member.

Facilitate timely auditing and submission of utilization certificate to the funding authorities

1. Yes, institute provides facility for timely internal and external auditing and submission of utilization certificate to the funding authorities.
2. The institute has recruited a CAG recognized auditors who takes care of credit and debit regarding funding.
3. Regular results and annual developments reports are sent to the funding agencies.

Any other

From time to time the faculties involving in research are felicitated by giving an appreciation award to them thereby creating an environment of motivation to others.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

The institute is in constant pursuit of developing scientific temper and research culture amongst the students. The initiatives taken by the institute for the same are as follows:

- Organizing the science exhibition and quiz programmes for the students
- By holding intra-college and inter-college competitions based on various latest research topics.
- By arranging seminars and conferences whereby students can have an ample opportunities to interact with eminent researchers.
- The students are always encouraged to participate in various state level/national and international symposium and conferences and participate in the various theme based competitions. The college has always been in forefront among the science colleges of the state and has brought laurels to the institute by securing various top positions which goes well with record presented.
- By providing books, journals, magazines of research importance in library and modern equipments in laboratories.
- For inculcating practical aptitude among students through participation in experimental exercises.
- The student's project funded by various funding agencies is one such initiative by the college in collaboration with GUJCOST, Govt. of Gujarat with whom the college has a MoU.
- Students are also encouraged to visit certain sister institutes to for the technical knowhow of certain latest instrument facility which they study theoretically in their curriculum.
- The institute has received number of student research projects in Env. Sciences from GUJCOST, Govt. of Gujarat and has carried out fruitful result oriented research under the observation a faculty guides.
- Research students are to present their work regularly of the ongoing projects.

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.

The details of the faculty involvement in active research are given below:

a) Faculties involved in guiding student research

Dr. Akshaya Gupte, Dr. Rita N. Kumar, Dr M. Bora, Dr.Archana Shah, and Dr.Ketul Patel are involved in guiding research students.

Guiding student Research Total Nos		
No	Name of the Faculty	Number of students guided
1	Dr. Akshaya Gupte	07 completed + 3 registered
2	Dr. Rita N. Kumar	04 completed + 3 registered
3	Dr. Madhumati Bora	02 registered
4	Dr.Ketul Patel	02 completed
5	Dr.Archana Shah	01 registered

b) Faculties involved in guiding student research (Ph.D.):

Details of the faculty involvement in guiding student research (Ph.D.).

Name of Ph.D. Guides	Number of students enrolled for Ph.D. (At present)	Name of the students	Date of Registration for Ph. D.
Dr. Akshaya Gupte	3	Mr.UrvishChhaya Ms. Shilpi Thakur Mr.MayurGahlout Mr.Mayur Joshi Ms.ArchanaTripathi Ms.Helina Patel Mr.DarshanRudakiya	07/01/2010 03/08/2009 28/11/2009 27/11/2009 17/10/2013 17/10/2013 21/04/2014
Dr. Rita N. Kumar	3	Ms.RajalSolanki Ms.PayalParmar Ms. Mansi Banker Ms. Annie	31/08/2009 01/03/2014 07/10/2014 27/05/2014
Dr. Madhumati Bora	2	Ms.PratibhaChaurasia Ms. Ami Lokhandwala	15/10/2011 27/07/2011
Dr.Archana Shah	1	Mr.SandeepShivhare	07-10-2013

c) Faculties involved in leading Research Project:

Name of the Subject and Total Number of Faculty	No. of Faculty involved in a active research *								Ph. D. Guide
	Student Research		Research Project				Total Projects		
	UG	PG	Minor (MI)		Major (M)		Mi	M	
			PI	Co- I	PI	Co- I			
Biological & Environmental Science	02	-	06	-	1	-	-	-	1

Bio Technology GT, BNF	-	-	04	-	1	-	4	1	1
Chemistry and Industrial Chemistry	-	-	05	-	2+ 2(NPTEL)	-	5	2	3
Computer Science	-	-	-	1	-	-	-	1	-
Mathematics	-	-	-	-	-	-	-	-	-
Microbiology – (04)	-	09	02		5	-	2	5	1
Physics and Instrumentation	-	-	03	-	3	-	3	3	1
English	-	-	01	-	1 (NPTEL)	-	1	1	-
TOTAL	02	09	21		15	-	15	13	7

3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

The following workshops/ training programmes/ sensitization programmes were conducted/ organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students:

Year *	Workshops		Training		Seminar/Conference		Other	Total
	SL	NL	SL	NL	SL	NL		
2009-10	1	-	2	-	-	2	-	5
2010-11	2	-	3	-	1	2	-	8
2011-12	3	-	-	-	1	1	-	8
2012-13	3	-	1	-	2	1	-	8
2013-14	1	-	-	-	1	3	1	6
2014-15	-	-	-	-	4	-	-	4

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

Details of prioritized research areas

The Institute has following major thrust areas for research

1. Bioremediation
2. Fermentation Technology and Enzymology
3. Plant Tissue culture and Secondary metabolite production
4. Plant Molecular Biology
5. Environmental Sciences
6. Industrial Chemistry
7. Polymer Chemistry
8. Physical Chemistry

Field of M. Sc. /Ph. D.	Faculty No.	Area of expertise
Physics	01	Small molecule crystallography; Solid State Physics
Chemistry	05	Polymer synthesis, Analytical Chemistry, Supramolecular Chemistry, Mixed-ligand complexes, Theoretical chemistry, Coordination chemistry
Computer	02	Cloud Computing
	03	Image Processing
	02	Artificial Intelligence
	01	Semantic web
Botany	03	Plant physiology, Ethno botany, Plant tissue culture, Medicinal plants.
Zoology	02	Avian Biology, Wildlife Biology, Biodiversity and Developmental Biology, Animal physiology
Biochemistry	01	Enzymology, Clinical Biochemistry
Environmental Science	02	Ground water quality assessment, Green house gas emission, Phytoremediation, Bio diversity, Forestry, River pollution,
Environmental Biotechnology	01	Agricultural Soil quality assessment
Microbiology	03	Microbial physiology, Fermentation and scale up technology, Bioremediation
Mathematics	02	Special functions
Biotechnology	04	Molecular markers technology, Genetic Engineering, Molecular techniques Molecular biology plant tissue culture plant tissue culture, Genomics, Molecular markers, Drought tolerance Molecular markers technology, Genetic Engineering, Molecular techniques Molecular biology
Bioinformatics	01	Bioinformatics, genomics, proteomics.
Animal genetics breeding	01	Polymorphism studies by molecular markers

3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

Since the inception of the college in 1996 and keeping in mind the objectives and mission to achieve excellence and impart quality education to the students, the institute regularly organizes conferences, seminars, workshops inter-college and intra college competitions to keep the students well informed in the recent advances in the various courses offered by the college. Researchers of eminence are called to the campus to interact with teachers and students. From the beginning only, the institute has welcomed guest faculty and researchers of various field who have delivered good scientific notions and experiences to us. Institute has Faculty of Knowledge forum which conducts various activities. Heads of Various Depts. are always asked to invite the renowned resource persons to visit as a guest faculty. The institute has invited 18 scientists from national institutes, 9 from industries and 59 academicians, 1 eminent

industrialist and orator. The eminent personalities have visited in several capacities, for delivering key note address, expert/invited/special lectures during National/State Level seminars. Following table shows the number of eminent personalities visited the institute.

Year	Scientist	Scholar / Professional	Industrialist	Others	Total
2009-10	3	14	-	-	17
2010-11	5	9	1	1	16
2011-12	3	11	-	-	14
2012-13	2	13	-	-	15
2013-14	4	9	4	-	17
2014-15	-	1	-	-	1
TOTAL	17	57	5	1	80

*More details are available with the college files & records.

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

There is no provision of providing Sabbatical Leave to the faculty. However, the time table and workload of that faculty is adjusted by the department for the smooth perusal of the doctoral programme. The faculties are also encouraged to go for short term training programmes to get updated in the respective field of specialization

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land).

It has always been our attempt to take the research from lab to land. In this context some success has been attained by some of our faculty:

1. Dr. Akshaya Gupte works for the production of laccase by white rot fungi and has been asked by UGC committee to go for the filing of patent.
2. Development of a Vermicompost by the Dept. of Microbiology.

3.2 RESOURCE MOBILIZATION FOR RESEARCH

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

Being the undergraduate college there is no allocation of the budget, however, 100% utilization of the extramural funding received are used for the purchase, maintenance

The Institution does not have any specific budget allocated to research. However, the institute provides the infrastructure facility, ICT facility. The institute allocates a maximum of Rs. 40,000/- for the consumables and analysis work for the research

students. Major expenditure has to be borne by the faculty through extramural funding.

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

There is no provision for providing a seed money for research by the institute. However, the faculty can very well use the instrumentation facility, ICT, and the space for carrying out research. The institute also wishes to promote in - silico research. Our sister institute SICART provides all the necessary instrumentation facility on discounted rates. All the faculty members are always encouraged to submit the proposals for extramural funding.

3.2.3 What are the financial provisions made available to support student research projects by students?

The financial provisions for student projects in Env. Science, BCA and M. Sc. IT are borne by the institute as it is a part of curriculum. The institute provides all the necessary equipments, chemicals glassware's for the same. Apart from this ICT facility is available to all students and teachers. The whole institute campus has a Wi-Fi set up to enable the students to access the latest search engines. The college has received various student research projects from GUJCOST, Govt. of Gujarat which further strengthens financially the research and enables to have a concrete data to turn into a full major research project.

Student Minor Projects

Faculty	Student	Duration	Title of the project	Funding Agency	Total Grant Sanctioned (Rs.)
Dr. Rita N. Kumar	B. Sc (E.S)	2012-13	Ecological studies of Mahi river in relation to pollution status and biodiversity of Gujarat, India	GUJCOST	1,80,000/-
		2009-10	Study of Hydrological parameters of Sabarmati river with reference to riverfront development	GUJCOST	22,000/-
Dr.Susmita Sahoo	B. Sc (E.S)	2010-11	Study of environmental stress on medicinal plants	GUJCOST	15,000/-
Dr.SukalyanChakraborty	B. Sc (E.S)	2009-10	A study of air pollution status of Anand with special reference to ozone concentration	GUJCOST	15,000/-

Dr. Leena Abraham	B. Sc (E.S)	2010-11		GUJCOST	20,000/-
Dr. Nitin Sharma	B. Sc (E.S)	2010-11		GUJCOST	15,000/-

3.2.4. How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

The Microbiology Dept. has undertaken interdisciplinary research project with Dept. of Chemistry of the college and with Prof. K. M. Kodam&Prof. S. Waghmode, Dept. of Chemistry University of Pune on Biotransformation of organic compounds.

The Dept. has also successfully helped the Dept. of Industrial Chemistry, ISTAR (our sister institute) for their students doing dissertations with respect to the different polymers and surface coating made by them and to test their effect on microorganisms. Four research papers have been published of the work carried out with them.

One of the major Research Project (Collaborative with Univ. of Pune) has been sanctioned by the Dept. of Biotechnology, Govt. of India on Transformation of organic compounds using Laccases. The funding made is of Rs. 30 Lakhs.

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

The institution ensures optimal use of various equipment and research facilities of the institution by its staff and students.

- Each of the PI is in charge of the instruments purchased in his/her project. Once the project is finished in the stipulated time the instrument is entered in the register of the college. However, its usage and maintenance is with the PI only.
- The lab assistants maintain the records of calibration and usage of the different instruments.
- The institute deputed its lab. Assistants for the workshop on hands on training and maintenance of Opto-analytical instruments with WRIC, Mumbai. Through this workshop in total two lab assistants were trained for the repairing and maintenance of certain instruments.
- The institute has also one Maintenance Room and Mr.Girish Tailor of Physics dept. takes care of the electrical equipments. Ms.KalapanaMahant and Ms.Sejal Patel take care of the instruments of Biological Sciences. Similarly Mr.Sudhir Patel and Mr. Nilesh Patel look after the instruments of Chemical Sciences.
- The Wi-Fi connectivity is provided to faculty and research students for internet access. Moreover INFLIBNET facility is also available.
- Practical sessions are also conducted in morning and afternoon sessions to ensure the maximal use of instruments.

- The computer programmers of the Computer Science department take care of maintenance of all the computers and laptops of the institute.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

The institution generally receives finance or grants from various central and state funding agencies like DBT, UGC, ISRO, and GUJCOST. The allocated amount in each project is utilized for the purchase and of instruments and chemicals as enmarked for the research purpose. The grants received have enhanced the research facilities in the departments of Microbiology, Biological and Env. Science, Biotechnology/Genetics/Bioinformatics, Chemical sciences and Physical Sciences.

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.

The faculty members are encouraged to write and send the research proposals to various funding agencies. The management, Principal, Institutional research committee and Heads of the departments provide the information regarding the advertisements by National/State level funding agencies time to time and help them to apply for the same. The project proposed is put forward to the research committee for their critical review and suggestions (if any) which could be incorporated and thereby making the proposal strong. Such constant endeavors has enabled the institute to receive 14 major and 21 minor projects (Total of 35) from various funding agencies in the last 5 years.

Following are the details of ongoing and completed projects and grants received during the last four years.

Nature of the Project	Tenure	Title of the project	Name of the funding Agency	Total Grant (Rs.)		Total grant received till date (Rs.)
				Sanctioned	Received	
Major	2009-2012	Production of Fungal Metalloenzymes by <i>Pleurotus ostreatus</i> and their application in Bioremediation of Azo dyes	DBT	30,09,000/-	30,09,000/-	30,09,000/-
Major	2008-2012	Production and characterization of laccase from <i>Pleurotus ostreatus</i> & <i>Fusarium incarnatum</i> and their potential role in delignification of Banana stem / wheat straw.	DBT	22,51,000/-	22,51,000/-	22,51,000/-
Minor	2008-2010	“Production of Low cost Biofuel –ethanol form agricultural waste.	UGC	77,000/-	77,000/-	77,000/-

Major	2011-2014	Production of exopolysaccharides from basidiomycetes and their possible antioxidant properties	UGC, New Delhi	6,98,100/-	6,98,100/-	6,98,100/-
Major	2013-2016	Biodegradation of high molecular weight polycyclic aromatic hydrocarbon by defined fungal culture	DBT	25,00,000/-	12,68,000/-	12,68,000/-
Major	2013-15	Production and purification of laccase and its application for the synthesis and biotransformation of organic compounds	DBT	30,03,000/-		
Major	3 Years	Pollution Status of Sabarmati River With Reference To New River Front Development Project and Kharicut Canal	UGC	70,38,000/-	70,38,000/-	70,38,000/-
Major	3 Years	Ecological studies of Mahi River in relation to pollution status and biodiversity of Gujarat, India (On going).	GUJCOST	1, 80,000/-	1, 80,000/-	1, 80,000/-
Minor	3 Years	Study of Hydrological parameters of Sabarmati river with reference to riverfront development	GUJCOST	22,000/-	22,000/-	22,000/-
Major	2011-2014	Establishment and molecular characterization of resistance against common pathogen (<i>Pseudomonas aeruginosa</i>) in tomato (<i>Lycopersicon esculentum</i>) using selected mycorrhizal strains	UGC	10,09,800/-	10,09,800/-	10,09,800/-
Major	April 2012 – June 2014	Retrieval and validation of surface reflectance from Resourcesat-2 AWiFS Data	SAC, ISRO, Ahd	12,00,000/-	12,00,000/-	12,00,000/-
Major	2011 - 2014	Retrieval of Land Surface Temperature From The INSAT – 3D Imager Observations	SAC, ISRO, Ahd	8,50,000/-	8,50,000/-	8,50,000/-
Major	2008 – 2011	Sensor System Studies for Vegetation Monitoring.	SAC, ISRO, Ahd	13,60,000/-	13,60,000/-	13,60,000/-
Minor	2010-2012	Mixed Ligand Complexes: Synthetic, Thermal, Spectral Aspects and Biocidal Applications	UGC, PUNE	65,000/-	65,000/-	65,000/-

Major	2012-2015	Synthesis of H - bonded and metal - ligand supramolecular polymers: characterization of their physical, optical, magnetic, electronic	UGC	10,90,800/-	10,90,800/-	10,90,800/-
Minor	July 2012 – July 2014	Three Dimensional Crystallographic Studies of Important Heterocyclic Compound by X –ray Diffraction Technique	UGC, Pune	1,85,000.00	1,85,000.00	1,85,000.00
Minor	2007-2009	Operational Strategies to improve laccase production from white rot fungi and its application for the degradation of polycyclic aromatic hydrocarbons.	UGC, Pune	70,000/-	70,000/-	70,000/-
Minor	2013-2015	Bioremediation of phenolic environmental pollutant using fungal metalloenzymes by non-aqueous approach	UGC, Pune	1,50,000/-	1,50,000/-	1,50,000/-
Minor	2010	Synthesis, Characterization And Biocidal Activity of Some Mixed-Ligand Complexes	UGC, Pune	80,000/-	80,000/-	80,000/-
Minor	2008-2010	Conducting Polymers: Synthesis, Characterization, Molecular Orbital Calculations and Surface Coating Applications	UGC, Pune	65,000/-	65,000/-	65,000/-
Major	2012	E-Content Preparation On Selected Topics In Coordination Chemistry	NPTEL	7,00,000/-	7,00,000/-	7,00,000/-
Major	2010-2013	STUDIES ON MIXED METAL COMPLEXES	UGC	5,75,800/-	5,75,800/-	5,75,800/-
Minor	2008-2010	Jatropha Oil Based Binders for surface coating application in Chemistry	UGC, Pune	50,000/-	50,000/-	50,000/-
Minor	2011-2013	2.Molecular Phylogeny of Plant Growth Promoting Rhizobacteria and its effect in abiotic stress on rice	UGC	2,00,000/-	2,00,000/-	2,00,000/-
Minor	2009-2011	Study of plants in control of diabetes	UGC, Pune	85,000/-	85,000/-	85,000/-
Minor	2012	Study of environmental stress on medicinal plants	GUJCOST	15,000/-	15,000/-	15,000/-
Minor	2012-2014	DNA bar-coding among various germplasm of Ashwagandha (<i>Withaniasomnifera</i>)	UGC, Pune	1,25,000/-	1,25,000/-	1,25,000/-

Minor	2014-16	Identification and analysis of QTL linked SSR markers for fiber quality traits in Asiatic cotton	UGC, Pune	2,90,000/-	Grants yet to be released	
Minor	2012-2014	Preparation & Characterization of binders (styrenated and vinylated) for surface coating applications from salicornia oil.	UGC, Pune	1,45,000/-	1,45,000/-	1,45,000/-
Minor	Jan 2010 – Dec 2011	The study of the role of the dopant on Physical Properties of single crystals of oxalates grown by gel technique	UGC, Pune	85,000/-	85,000/-	85,000/-
Minor	Sept 2009 - Aug 2011	Development of Electronic Devices Based on Organic Semiconductors	UGC, Pune	1,16,000/-	1,16,000/-	1,16,000/-
Minor	2009-11	Marine benthic algae as metal biomarker in selected areas of gulf of kutch	UGC, Pune	1,59,875/-	1,59,875/-	1,59,875/-
Minor	2009-2010	A study of air pollution status of Anand with special reference to ozone concentration.	GUJCOST	15,000/-	15,000/-	15,000/-
Minor	2008-2010	Physiological and biochemical studies on <i>Andrographispaniculata</i> .	UGC	80,000/-	80,000/-	80,000/-
Minor	2008-2010	Biomonitoring studies of certain wetlands of Central Gujarat with reference to nutrient status	UGC	55,000/-	55,000/-	55,000/-

3.3 RESEARCH FACILITIES

3.3.1 What are the research facilities available to the students and research scholars within the campus?

The following research facilities are available to the students and research scholars within the campus:

- The departments in the institute have their own small research lab which caters the basic and some modern instrument facilities required for research. Well equipped science laboratories have instruments like PCR, refrigerated centrifuges, UV-Visible spectrophotometer, lyophilizer, Multiscan GO, Electrophoresis units, Lab Scale Fermenter, sonicator etc.
- The undergraduate students are allowed to work in their laboratory during their free time for the completion of the project.

- Research students have their research labs and they are permitted to work beyond the college hours.
- Availability of Plant Tissue culture room.
- Availability of analytical grade and high standard chemicals (Sigma Aldrich Brand).
- Wi-Fi and Internet facility, Central computer lab.
- Overnight issue of reference books.
- Facility of INFLIBNET, international journals and books.
- E-library with e-books and CDs.
- Departmental Library

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The upgradation and creation of infrastructural facilities depends upon the requirements of the staff. The faculties are encouraged to write the research projects in order to be in line with the scientific community. During the last five years the institute has added a Biotechnology research lab, Env. Science research lab along with the upgradation of the instrumental facility in Microbiology Research lab. The institute through various funding agencies has been able to procure high quality equipments like Fermentor, Lyophilizer, MultiScan Go (Nano drop) Spectrophotometer, Viscometer, Humidity chamber, Microscopes. INFLIBNET facility, Wi-Fi connectivity, ENLIST facility were introduced in the college campus to promote the research among the students and staff.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?? If 'yes', what are the instruments/ facilities created during the last four years.

Yes, the institution has received special grants or finances from the various funding agencies for developing research facilities. Following are the details of instruments / facilities created during last four years:

Faculty	Funding agency	Equipments funded	Year
Dr. Akshaya Gupte	UGC, DBT	Laminar air Flow, Refrigerated centrifuge (Kubota), Jiotech Shaker, Remi Temp. controlled shaker (2), Sonicator, UV- Visible spectrophotometer (Shimadzu and Elico), Remi centrifuge C-24,RO system, Multi Scan GO, Lyophilizer, Microscope, PCR, Rota evaporator, Electrophoresis unit horizontal and vertical, Peltier machine for temperature based enzyme kinetics, Brookfields Viscometer, Humidity chamber, Refrigerators	2008-2104
Dr. Rita N. Kumar	UGC	Autoclave, Distilary, Hot Air Oven, Incubator, Rotary flask shaker, Mass flask shaker, Magnatic stirrer, High Volume Air Sampler, Digital Weighing Balance, Kjeldhal Assembly.	2009-2014

Dr. Madhumati Bora	UGC	Microscope, Electrophoresis, pH meter-1 Electrophoresis apparatus with power pack, distillation unit-1, camera – 2, balance – 2, microscope – 1.	2011-2013
Dr. Yachana Jha	UGC	Refrigerated centrifuge	2011
Dr. Archana Shah	UGC	Heating mantle-1000 ml Multipurpose stirrer RQ-122D	2009
Dr. Sanjay Panjabi	UGC	Digital conductivity meter with cell 304 Digital Nephelo/turbidity meter 132 Kinematic viscometer RAP 118 Scale tee make Precision balance SAB 203 Magnetic stirrer with hot plate 5 MLH	2010
Dr. Nirmal Patel	UGC	Spectrophotometer ALI-21 Digital tablet friability test apparatus Tablet dissolution test apparatus Tablet hardness tester Digital pH meter	2010
Dr. V. D. Bhatt	NPTEL	Brother printer DCPJ-125 HP notebook DV-6 core-17 HP laptop bag Intel core-13 desktop computer Canon laser printer LBP-3300N Tablet iball 3G 7334 Tablet iball 3G 7334 USB 1-TB hard disk-Seagate Panasonic camera DMC-L USB 1-TB hard disk-Seagate	2012
	UGC	Toner cartridges	
	NPTEL	Konica Minolta BIZHUB-164	2013
Dr. Smita Sri vastava	UGC	Autoclave big size SS Scale-Tec Precision Balance Model SAB-203	2013

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

The following research facilities are made available to the students and research scholars outside the campus / other research laboratories:

- The institute is managed by CVM and has a benefit of SICART, V.V. Nagar (Sophisticated Instrumentation Center for Advanced Research and Testing, DST sponsored).
- Research scholars are given 75% discount on analytical charges.
- The institute can also avail the facility of instrumentation from another sister institute (IICP, New V.V. Nagar), A. R. College of Pharmacy, and Ashok and Rita Institute of Biotechnology (ARIBAS).
- For practical, research and survey purpose students can visit National Research Center for Medicinal and Aromatic Plants (NRCMAP), Boriavi.

- Students can also avail certain facilities in Anand Agricultural University and in CALF at NDDB.
- Certain clinical samples and pathogenic strains of microbes are also available for research work from Shri Krishna Hospital, Karamsad.
- There is also collaboration with Space Application Centre – ISRO, Ahmedabad which also provides funding for research.

3.3.5 Provide details on the library/ information resource centre or any other facilities available specifically for the researchers?

The library serves as an important resource center which facilitates in-house research.

- Automated library facility with well stocked no. of books, journals. It has a separate reference section for students and faculty. It has spacious reading room.
- The library also has permitted specific IT zone with two computer terminals where the faculty and students can assess different e-resources.
- Facility of INFLIBNET / N-List on line service is also available to refer journals and books
- The institute has Wi-Fi and Internet facility, Central computer lab.

3.3.6 What are the collaborative researches facilities developed / created by the research institutes in the college? For ex. Laboratories, library, instruments, computers, new technology etc.

The institute being an undergraduate college has not developed any specific facility for collaborative research. However, the Dept. of Microbiology, Department of Industrial chemistry (ISTAR our Sister Institute) and Dept. of Chemistry have carried out various Collaborative work on regular basis in the last six years with respect to the antimicrobial experiment involving paints, oils and polymers synthesized by the chemists. The Dept. of Physical Sciences works in collaboration with ISRO for the imaging of vegetation.

3.4 RESEARCH PUBLICATIONS AND AWARDS

3.4.1 Highlight the major research achievements of the staff and students in terms of

- **Patents obtained and filed (process and product) –None**
- **Original research contributing to product improvement**

The Dept. of Microbiology through its various research projects has developed the consortium for the degradation of dyes and also has developed a method for an efficient enzyme production of the enzyme laccase. The consortium of dye developed in the lab has also been tested on commercial dye effluents with a success. The enzyme produced is to be tested at pilot scale at NIIST, Trivandrum/Dept. of Microbiology, University of Delhi. The Dept. of Microbiology has also produced organic and bio-fertilizer on a lab. Scale to be used in the college garden.

The Dept. of Biotechnology has developed certain mycorrhiza which have been tested on the tomato plants to increase its disease resistance.

- **Research studies or surveys benefiting the community:**

This year final year students of Environmental Science have carried out research work on various topics such as Heavy Metal Toxicity, Pollution Tolerant Species, Carbon Sequestration in Trees, Water Pollution, Noise Pollution, and Antioxidant Properties of Vegetables.

The original research of the dept. of Microbiology and Biotechnology may surely help the community at large in the future and also make the environment safe.

3.4.2 Does the Institute publish or partner in publication of research journal(s)?
If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

Yes, the college has published two special issues one as a proceeding of Research Matrix an International Multidisciplinary Journal of Applied Research with an ISSN no. 2321-7073 Vol.1 issue 5 part II Dec. 2013. And another as special issue with International Journal of Agriculture, Environment and Biotechnology July 2014 with New Delhi Publishers with NAAS rating of 4.10.

The college also takes out a science magazine called e-magazine where in the staff and students contribute with full enthusiasm. The composition of the editorial board is as follows: Chief Editor, Managing editor, Technical editor and Assistant Editor.

3.4.3 Give details of publications by the faculty and students.

a. Publication per faculty

Department	No. of Faculties engaged in research publication	No. of Research publication (After 2009 – 2010)
Biological & Environmental Science	4	110
Bio Technology GT, BNF	6	30
Chemistry and Industrial Chemistry	4	22
Computer Science	6	23
Mathematics	2	1
Microbiology	2	42
Physics and Instrumentation	2	15
English	-	-
TOTAL	26	243

b. Number of papers published by faculty and students in peer reviewed journals (national / international)

The total number of research publication by the college faculty in last five years is 243.

c. Number of publications listed in International Database (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database – International Social Sciences Directory, EBSCO host, etc.)

Total number of publications in international database is 235.

e. Chapter in Books/Books

No	Name	Author details	Publisher	Title, year and details
1.	Dr. Akshaya Gupte	Thakur, S., Patel, H., Gupte, S., and Gupte, A.	Springer	Laccase: The biocatalyst with Industrial and Biotechnological Applications. In book “(2012). Pp 309-342.
2.	Dr. Rita N. Kumar	Author P.C.Trivedi	Aavishkar Publishers, Distributors, Jaipur, Rajasthan	“Drugs from Plant” – <i>Andrographis paniculata</i> – An Important medicinal Herb (2010)
	Dr. Rita N. Kumar Dr. Susmita Sahoo		AtulPrakashan, Ahmedabad	“A Text Book of Botany Semester I, Semester II”, 2014-15. ISBN-978-81-930503-6-1
	Dr. Ami Patel Dr. Isha Desai		AtulPrakashan, Ahmedabad	“A Text Book of Zoology Semester I, Semester II”, 2014-15. ISBN-978-81-930503-7-8
			AtulPrakashan, Ahmedabad	“A Practical Book of Biology Semester I, Semester II”, 2014-15.
3.	Dr. Susmita Sahoo		Scientific publishers, ISBN: 978-81-7233 (2012)	“Phytotechnology: Emerging Trends”- Approach of Medicinal Botany based on Disease oriented study (2012)
			Charotar Publication, Anand	“Trends in Aquatic Chemistry” – Phytoremediation by

				<i>Eicchornia</i> Species (2014)
4.	Madhumati Bora.	DeepshikhaKatareMedicinal plants: Research Progress and Environmental Concern	Capital Publishers, New Delhi	Environmental stress enhances the level of secondary metabolites in medicinal plants2010
5.	Kundan Mishra, AmitBallani and UrvishChaaya,		LajjaPrakashan, VallabhVidyanagar	Concept in Elementary Biotechnology 2013
6.	Mr.Bhailal Patel		RoopalPrakashanV.V. Nagar	A textbook of Calculus with an Introduction to differential equations2003
			Gujarat Granthnirman Board,Ahmedabad	“ Calculus and Matrix Algebra” 2012
		Mr. Niraj Babariya	Atul Prakashan, Ahmedabad	College Mathematics ISBN 978-93-85138-02-7
7.	Dr. Ketul Patel		Atul Prakashan, Ahmedabad	Inorganic Chmeistry
8.	Dr. Smita Srivastava	Dr. Bhavin Patel	Atul Prakashan, Ahmedabad	A text book of Physical Chmeistry ISBN 819305033-9
9.	Dr. Shveta Trivedi		Atul Prakashan, Ahmedabad	A text book of General Chmeistry
10.	Mr. Manish Parmar		Atul Prakashan, Ahmedabad	A text book of Organic Chmeistry ISBN 978-81-930503-1-6
11.	Dr. Himanshu Trivedi	Dr. Mehul Dave Dr. Yogesh Patel	Atul Prakashan, Ahmedabad	College Physics ISBN 978-81-930503-0-9
12.	Dr. Mehul Dave		Lamburt Publications	Properties of Niobium Sulphoselenide single crystals ISBN -13-978-3-639-76165-8 ISBN 10-3639761650

f. Citation Index, Impact Factor and h-Index (as on Feb. 15, 2015 Google Scholar information)

No	Name of Faculty	Citation Index	i-10 index	h- Index
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01	Dr. Rita. N. Kumar	269	10	9
02	Dr. Akshaya Gupte	251	9	9
03	Dr. Madhumati Bora	63	1	5
04	Dr.HimanshuTrivedi	35	01	3
05	Dr.Ketul Patel	79	-	7
06	Dr.UrvishChhaya	18	1	2
07	Dr.Isha Desai	18	0	3
08	Dr.Kundan Kumar Mishra	4	00	00
09	Dr.ChetanDudagaraha	1	-	1
10	Dr.TejasThakkar	14	1	2
11	Dr. Yogesh Patel	5	00	2
12	Dr.Mehul Dave	18	1	4
13.	Ms.PratibhaChaurasia	-	00	1

3.4.4 Provide details (if any) of

- research awards received by the faculty
- recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally
- Incentives given to faculty for receiving state, national and international recognitions for research contributions.

a) Research awards received by the faculty

Sr. No.	Name of Faculty	Details
1	Dr. Akshaya Gupte	1. Second Prize in Poster presentation at Emerging trends in Biotechnology ETBT 2009 (Nov, 2009) at Banaras Hindu university, Banaras 2. Appreciation Award by CVM for Research in 2014.
2.	Dr. Yogesh Patel	1. First Prize in Oral Presentation at 24 th Gujarat Science Congress organized by Gujarat University and Gujarat Science Academy, Ahmedabad March 2010. 2. First Prize in Oral Presentation at 26 th Gujarat Science Congress organized by M.S. University of Baroda and Gujarat Science Academy, Ahmedabad Feb.2012.
3.	Dr. Isha Desai	Best paper award for paper: Evidence for the involvement of prostaglandin E2 in different cellular activities during epimorphic regeneration. By Suresh, B., Sharma, P. and Desai, I. 2009. In J. of Cell and Tissue Research, 9 (2): 1883-1890. Gold medal was awarded in October 2009.
4.	Dr. Susmita Sahoo	Awarded 2 nd Prize in Sci excellence in Dec.2013.
5.	Dr. Tejas Thakkar	First prize in Oral presentation at National conference (ETKDM -09) at Vasad on 26 th , 27 th Dec 2009 for the paper title “Agent based knowledge discovery Framework

		to Access Data Resource Grid for university Domain”
6.	Ms. Shreya Bhavsar	Second Position in Poster Presentation on “Cloud Computing” in 7 th National Level Science Symposium Organized by Christ College Rajkot
7.	Dr. Chetan Dudhagara	First Position in Oral Paper Presentation on “Quantum Computing” and First Position in Project (IT) Presentation in 7 th National Level Science Symposium Organized by Christ College Rajkot.

b) Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally

Faculty members of various departments are nominated as Member of Board of Studies in subjects of Biosciences, Chemistry, Physics, Mathematics, English and Industrial chemistry and Computer Sciences. Some faculty members are also members in the BISAG committee (for Virtual learning portal of Knowledge Consortium of Gujarat)

c) Incentives given to faculty for receiving state, national and international recognitions for research contributions.

The college gives an appreciation award to the faculties receiving major projects from the various funding agencies. The news of research awards and Research funding obtained are put on the college website and announced through local news papers.

3.5 Consultancy

The Department of Microbiology provides technical consultancy on bioremediation of industrial effluents to Phycolinc/ Linc Digital systems Pvt. Ltd., Ahmedabad since 2014. The department has successfully made microbial consortia from the samples provided for waste water treatment.

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

The departments such as Chemical Science, Environmental Science, Microbiology and Bio-technology have regular intersection with concerned industries which helps in imparting student training during vacation period, helps in placement, curriculum revision, and organizing expert talks. Institutions has signed MOU with Life Cell, Department of Chemistry, Pune University.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

- Dissemination of the knowledge and maximum utilization of the resources-the college encourages its faculty to share their expertise. The college also deputed the faculty to the sister institutions and other neighboring villages to offer honorary consultancy services.
- The College website shows the expertise available with its faculty. Any individual or industry can contact the individual as per the needs and if the

consultancy is to be made on chargeable basis then some share is given to the institute as per the management norms.

- The seminars, conferences and workshops organized by the college reflects the specialization of the faculty of the various departments thereby paves the way of publicizing the areas of consultancy.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

The institution always encourages faculty to carry out consultancy work. The college has always been in the forefront to encourage the faculty to share their expertise with other institutions and industry whenever required as resource person, examiner, consultant and trainer.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

Consultancy services has not been one of the thrust areas, however, small consultancy services have been done by the Dept. of Microbiology for Metror Life Sciences, Ahmedabad for testing of Animal feed for Rs. 20,000/-

The faculties have been asked to promote the consultancy services. They can offer not only through college web site but also at personal levels with the industry and other academic institutions. Meager revenue has been generated through this mean.

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

Institute has framed the policy for sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development in association with the other sister institutes as per below:

Sr. No.	Staff involved	Assignment involving use of college facilities % of total amount received	Assignment NOT involving use of college facilities % of total amount received
1	College	50	30
2	Principal	08	08
3	Head	08	08
4	Investigators (s)	21	38
5	Lab. Assistants	04	06
6	Hamals	03	04
7	Office	06	06
8	Total	100	100

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighborhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The institute always emphasizes on nurturing a spirit of social responsibility among the students. The college provides ample opportunities to the students to reach out to the society through a few councils initiated to contribute to good citizenship and orient them towards services. The college ensures the transmission of values, attitudes and beliefs that will encourage the students to be sensitive to several social issues and would help to become responsible citizens. The college is conscious of its role in campus-community connection and well being and has initiated a number of community development activities.

Following activities were organized during the last five years:

- The Faculty of Social Service, in association with Vidyanagar Nagarpalika, distributed more than one thousand abandoned and woolen cloths collected from students and faculty members to the needy people at Hari Om Nagar area in V. V. Nagar on 20.12.2014.
- The Faculty visited some places like Anand Railway Station, Bus station, BorsadChokdi Area and Jalaram Temple, Anand on 03.01.2015 and distributed 50 blankets to the needy people.
- NSS volunteers in coordination with the extension cell made an extensive survey on the availability of the primary facilities in the adopted village Dahemi (Ta: BorsadDist: Anand). Besides, nearly 200 villagers were helped to open their bank accounts under 'Pradhanmantri Jan-Dhan-Yojana'.
- The extension cell organized One Day Training Programme for the computer teachers of Dahemi village wherein computer faculty of our college conducted workshop on advanced usage Word, Excell, Power Point Presentation and Internet services.
- A seminar on "Youth Empowerment" was organized by DivyaYuvaVishwaVidyalaya, Shantikunj, and Haridwar on 22.06.2013 in the college auditorium.
- The NSS Unit organized "Tree Plantation Programme" on 18.07.2013 in the premises of college library wherein the NSS Programme officers and student volunteers enthusiastically participated.



- Organized regular blood donation camps in collaboration with A.D.Gorwala Blood Bank, Karamsad and motivating students and staff to donate blood in a timely fashion to save life in emergency situations.



- NSS Unit and Faculty of Social Service, in association with Shankara Eye Hospital, Mogar organized an awareness programme on “Importance of Eye-donation”.



- In association with JCI, Vidyanagar Chapter and Indian Red Cross Society, the NSS Unit organized a Thalassemia Prevention Awareness Programme for the students of NVPAS College.



- In association with JCI, Vidyanagar Chapter and Indian Red Cross Society, the NSS Unit organized a Thalassemia Screening Camp wherein blood samples of 255 students were collected for screening.



- The NSS unit organized Health Check up camp in association with Shri Krishna Hospital Karamsad for the students of NVPAS College.
- The NSS Unit celebrated Eco-friendly Day on **04.01.13** by organizing a poster making competition on “Global Warming”. Prof. Daniel Arthur, University of Massachusetts was invited as the chief guest.
- The NSS unit celebrated NSS Day and also organized Tree Plantation Programme on 24.09.2011. The students were made to watch the movie “Sardar”. Dr.Amrapali Merchant, Ex- Vice Chancellor of BabasahebAmbedkar Open University was invited as the chief guest who addressed students on the topic “The Role of Youth in Building the Nation”.
- A Poster Making Competition on the topic “Save Birds, Save Animals” was organized on 02.01.2012.

3.6.2 What is the Institutional mechanism to track students’ involvement in various social movements / activities which promote citizenship roles?

The institute has several committees which include student volunteers as members such as knowledge sharing forum, Anti tobacco cell, Nature Club, NSS, and NCC etc. These committees conduct various activities for the society, preservation of wild life and nature for bringing awareness among the society and community. The college conducts ten days annual NSS Camp at various villages, promotes the well being of the villagers by organizing Yoga classes, Silent Rally on the subjects ‘Addiction Eradication’ and ‘AIDS Prevention’, Health and Hygiene awareness, animal checkup camp thereby involving in various social activities. On the theme “Addiction Eradication” of Tobacco a rally was organized for its awareness.

The Anti-tobacco cell, in association with NSS Unit, organized a Poster Exhibition on “addiction Eradication’ at Shapurji Hall of CVM on 25th November 2014 wherein First Year students of the college and students of CVM Schools participated. Nearly 150 posters were exhibited and more than 300 students of schools visited the exhibition.

Dr. S. G. Patel, Hon. J/t Secretary CVM inaugurated this exhibition. Dr. Rajesh Patel, Health Officer, Bakrol and Dr.Kundan Mishra, Faculty in BT, GT, and BNF Dept. of the college delivered lectures on the harmful impact of tobacco on human body in the valedictory function.

The Anti-tobacco cell organized rally and performed street plays during the Annual NSS Camp organized at Dahemi village from 5th Jan. to 11th Jan. 2015 and oriented the villagers about socio-economic harms caused due to consumption of tobacco.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The institute asks for the stakeholder's perception on the overall performance and quality of the institution in the following ways:

Students: The students are the priority stakeholder. The students are required to enrol either in NSS, NCC or Physical Education in the first year. The institution has evolved a stakeholder's network by providing different platforms like faculty of knowledge, Music Dance and Theatre, Creating Expressions and Sports, wherein the students actively participate and necessary suggestions are always welcome through the stakeholders as well as alumni. Special invitations for all the events planned and organized by the institute are always sent to the alumni. **The enthusiasm of the students to carry out social service prompted the institute to adopt a village "Dahemi" in 2013-14 and village "Alarsa" in 2008-09 in consultation with the management of the Institute.**

Parents: The parents are also equally important stakeholders. Two parent teacher interaction program (Open House) are organized in a year which brings the open discussion amongst the parents and the teachers. The teacher counsellors of the respective group of the students are in constant touch with the Parents/Guardians.

Staff: Regular academic and administrative staff meetings are held chaired by the Principal to update them about academic and extracurricular activities and developments.

Alumni: The Alumni Association was established by the institute. An annual Alumni meet is organized in the month of December. The alumni has contributed to the college library by donating books for the book bank for the students.

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

Year	Amount Utilized for NSS AND EXTENSION and Red Ribbon Club (Rs.)
2010-11	1,16,250/-
2011-12	1,61,000/-
2012-13	93,000/-
2013-14	1,22,500/-
2014-15	1,50,000/-

The institute's NSS unit and Faculty of social work carries out major extension and outreach programmes which allow the students to learn Micro management, team work and time management.

- NSS volunteers in coordination with the extension cell made an extensive survey on the availability of the primary facilities in the adopted village Dahemi (Ta: Borsad, Dist: Anand). Besides, nearly 200 villagers were helped to open their bank accounts under 'Pradhanmantri Jan-Dhan-Yojana'.
- The extension cell organized One Day Training Programme for the computer teachers of Dahemi village wherein computer faculty of our college conducted workshop on advanced usage Word, Excell, Power Point Presentation and Internet services.

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

All first year students were addressed and informed regarding activities such as NSS and NCC activities in Orientation Program "PARAMPARA". After this briefing students are asked to join NSS or NCC or Physical Education which is compulsory. The programs are regularly displayed and students can meet the respective program officers for taking up due responsibility. The NCC boys unit was started in 2013-14 with 28 students and same no of students have been enrolled in 2014-15.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from underprivileged and vulnerable sections of society?

An exhaustive survey was carried out by NSS and NCC cadates in order to catch hold underprevilaged and vulnerable sections of society. This survey enabled to select two places namely Blind School, Mogari and Hindu Anathashram (ORPHANAGE), Nadiad.

The NSS Team with its program officers and student volunteers visited the Blind School and the college donated Rs. 30,000/- for improvement of the facilities for blind children. The students of Department of BT/GT/BNF visited the orphanage and donated books, notebooks and other stationary accessories. The college has also regularly donated clothes to the orphanages and old people home.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The objectives of NSS are realized by the students when they participate in the community service and their mindset gets changed with respect to their thinking and behavioral aspects. Participation in such programs sensitized them towards the community problems and helped in developing the moral responsibility towards the community.

The institute is an equal opportunity institution with respect to caste, religion, color, to live in harmony and priority to moral values. Students are given an opportunity to participate in awareness and training programmes which equip them to face the challenges.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The adoption of villages successively for five years shows the commitment of the institute for the development of the village community. During this program the village folks and the students get to know the lifestyle of a village, a villager, his family and their daily routines. The students stay with them in order to get the knowhow during annual camps.

The following activities were carried out to encourage community participation and development:

1. Two sessions of Gyandhara (on 22.01.15 and 18.02.15) have been conducted by 30 NSS volunteers and more than 65 students have been provided extra coaching so far.
2. The NSS Unit of the college organized ANNUAL NSS CAMP at Dahemi village (Ta: Borsad and Dist: Anand) from 05.01.15 to 11.01.15. Where in 150 (One Hundred and Fifty) students participated. Many activities related to social service such as Free Medical Check-up Camp, Eye Check-up Camp, Superstitions Eradication, Rally for AIDS prevention and Addiction Eradication, Street plays on 'Save Girl Child' and 'Clean India Mission' were organized in this camp.
3. In association with A. D. Gorwala Blood Bank, Karamsad the NSS Unit organized Blood Donation Camp on 16-07-14 wherein 91 units of blood was collected.
4. A seminar on "Youth Empowerment" was organized by DivyaYuvaVishwaVidyalaya, Shantikunj, and Haridwar on 22.06.2013 in the college auditorium.
5. The NSS Unit organized "Tree Plantation Programme" on 18.07.2013 in the premises of college library wherein the NSS Programme officers and student volunteers enthusiastically participated.
6. In association with A. D. Gorwala Blood Bank, Karamsad the NSS Unit organized Blood Donation Camp on 07-08-13 wherein 101 units of blood was collected.
7. NSS Unit and Faculty of Social Service, in association with Shankara Eye Hospital, Mogar organized an awareness programme on "Importance of Eye-donation" on 14-09-13.
8. In association with JCI, Vidyanagar Chapter and Indian Red Cross Society, the NSS Unit organized a Thalassemia Prevention Awareness Programme for the students of NVPAS College on 18-09-13.
9. In association with JCI, Vidyanagar Chapter and Indian Red Cross Society, the NSS Unit organized a Thalassemia Screening Camp on 20-09-13 wherein blood samples of 255 students were collected for screening.
10. Silent Rally with 30 posters based on the subjects 'Addiction Eradication' and 'AIDS Prevention' in NSS annual camp at NAVLI.
11. Mr.SomabhaiPrajapati, retired professor of BJVM College, V. V. Nagar and Mr.Chaturchauhan, a social activist gave demonstrations on 'Blind Faith Eradication'.

12. In association with JCI, Anand Chapter a 'Free Eye Check-up Camp' was organized from 10 am to 4 pm. approximately two hundred and fifty villagers were examined at NAVLI.
13. Students were sent to the slum area to carry out a survey at NAVLI Village. Students collected data regarding family background, source of income, boys-girls ratio, no. of students receiving primary, secondary or higher secondary education, drop-out ratio, elementary facilities like electricity, water supply, toilets availed to them, services provided by Primary Health Centre etc.
14. Dr.Jaynaben Shah, the renowned Gynaecologist of Anand oriented village women and our female students on health and hygiene and Gynaecological problems for NAVLI Village women.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

1. The college has made an MoU with B& B Institute of Technology (BBIT), Vallabh Vidyanagar which will render its expertise
2. Our institute is conducting blood donation camps and it has with A. D. Gorwala Blood Bank, Karamsad(Leading blood bank in Gujarat).
3. Our institute is also conducting joint activities time to time with the association of Shree Krishna Medical College, Karamsad and Kidney Hospital, Nadiad.
4. The institute has organized an "Importance of Eye-donation" program with the support of Shankara eye Hospital, Mogar.

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

The institution has been acclaimed by various organizations such as Indian Red Cross Society, Anand, JCI Vallabh Vidyanagar, A.D.Gorawala Blood Bank, Karamsad for our work in Thalesemmia and Blood Donation. The institute in collaboration with Ayurvedic Hospital has conducted Medical Check up Camp in various villages. The institute has also received an Appreciation certificate from Jethwa Eye Hospital for conducted eye check up in the village Navali and Dahemi with their collaboration.

3.7 COLLABORATION

3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

The institute has collaborative research approach with sister institutions and other institutes of national repute. The collaborations are interdisciplinary in nature. The collaborations provides an approach for exchange of idea, exchange of instrument facility and exchange of field expertise which would ensure the fruitful results in research activities. It is further expected in near future that certain collaborations would enable the college to carry forward its educational goals and would make the

education to be more relevant to the societal upliftment. The research students of Microbiology Dept. of NVPAS and the students of Industrial Chemistry Dept. at ISTAR are involved in interdisciplinary research in polymer chemistry, and paints.

- Two Ph.D. students are involved in a Collaborative research with Dept. of Chemistry University of Pune for biotransformation and PAH degradation
- The few students have also done summer training programme in AMUL and various other industries.
- Facilities at the Post Graduate Dept. of Home Science, S. P. University has been used for various research experiments on antioxidant properties.

3.7.2 Provide details on the MoUs/collaborative arrangements (if any) with institutions of national importance/other universities/ industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

The institute has signed MoU and made collaborative arrangements with other institute, for various research and societal development activities.

a. Dr. Akshaya Gupte

1. Collaborations with Dept. of Chemistry, University of Pune for research in Biotransformation and PAH degradation.
2. Collaborations with Dept. of Industrial Chemistry for research in polymer science at ISTAR.
3. With Dr.Darshan Patel of P. D. Patel Institute of Applied Science, CHARUSAT, Changa, Anand

b. Dr. Rita N. Kumar

1. MoU with GUJCOST, Govt. of Gujarat.
 2. With VNC (Vidyanagar Nature Club) to carry out the environment projects and awareness programmes.
- c.** The Department of Computer science has a MoU with BSNL, Ahmedabad regarding the training and visit.
- d.** The College has a MoU with B&B Institute of Technology, Vallabh Vidyanagar for the collaboration in carrying out extension activities at Dahemi village of Ta. Borsad.

3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation/up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services etc.

The institute continuously interacts with industry and other community for establishing proper insight for research.

- The institute runs a Carrier Oriented Course in process Development in Industrial Biotechnology sponsored by UGC, New Delhi which helps the

students to know how the industry especially pharma and biotech industry work. They are sent for a month training during their vacations.

- Various seminars, conferences, workshop have been held, partly financed by governing bodies like GUJCOST, GSBTM, UGC etc.
- Visit to various industries of various fields are regularly arranged for students where they are shown their theoretical knowledge being applied practically.

3.7.4 Highlighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

Sr. No.	Faculty	Institute	Occasion	Year
1	Prof. Ashok Pandey	NIIST, Trivandrum	National Symposium	2014
2	Dr. Rakesh Sharma	IGIB, New Delhi	National Symposium	2014
3	Dr. Sumit Gandhi	IIM, Jammu	National Symposium	2014
4	Dr. J. D Desai	Reliance Industries, Vadodara	National Symposium	2014
5	Dr. Lakhamapurkar, Deputy Director	Gujarat Ecology Society, Vadodara	National level seminar	2014
6	Mr. Milind Phanalkar	General manager, Alembic Limited	Guest Lecture	2014
7	Prof. Arun Arya	MSU Baroda	State Level Symposium	2014
8	Mr. Dipak Rai	Ex-Vice President (IT) Reliance Ltd.	State Level IT "Techno Astrum"	2014
9	Prof. H. A. Modi	Dept. Life Sciences, Gujarat University	Guest Lecture	2013
10	Dr. Onkar Tiwari, Scientist	DBT	GSBTM sponsored Crash Workshop	2013
11	Prof. J. C. Prajapati	Mathematics Dept. Changa University	Gujcostsponsored state level Seminar	2013
12	Dr. Narottam Sahoo, Advisor & Senior Scientist	GUJCOST, Gujarat Science City, Ahmedabad	National Seminar	2012
13	Prof. Hari Om Vats, Professor	Astronomy and Astrophysics division, PRL, Ahmedabad	National Seminar	2012
14	Prof. J. Adinarayan	IIT, Mumbai	National Seminar	2012
15	Dr. T. R. Sharma, Principal Scientist	IARI, New Delhi	National Seminar	2012
16	Dr. M. Bhatnagar, Dean, Faculty of Sci.	M. L. Sukhadia University, Udaipur	National Seminar	2012
17	Dr. Jaswant Singh, HOD of Env. Science	Dr. R. M. L. Avadh University, Faizabad.	National Seminar	2012
18	Dr. S. D.	MLS Udaipur	GSBTM sponsored	2012

	PurohitProfessor		Crash Workshop	
19	Prof. H.D. Kumar, Retd. Professor	Banaras Hindu University, Varanasi	National Symposium	2011
20	Dr. S. K. Path an, Scientist	ISRO, Ahmedabad	National Symposium	2011
21	Dr.ManmohanSarin, Scientist	PRL, Ahmedabad	National Symposium	2011
22	Dr. Parmeshwaran, Director	United Phosphorous Ltd., Ankleshwar	National Symposium	2011
23	Sh. Bharat Pathak, Director	GEER foundation, Gandhinagar	National Symposium	2011
24	Dr. B. R. Naidu	Central Pollution Control, Vadodara	National Symposium	2011
25	Prof. N. K. Singh	IARI, New Delhi	National Symposium	2011
26	Dr. S. N. Pradhan	Nirma Institute of Technology	State Level IT "Techno Astrum"	2011
27.	Dr.HemantPurohit	NEERI, Nagpur	National Seminar	2010
28	Prof. Ravi Verma	IIT, Chennai	National Symposium	2010
29	Prof.PrashantPhale	IIT, Mumbai	National Symposium	2010
30	Prof.Shekhawat	University of Udaipur	National Symposium	2010
31	Prof. B.C. Tripathy, Vice chancellor	Ravenshaw University, Orissa	National Seminar	2009
32	Dr.Surendra Ghaskadbi, Sci. 'E'	Agharkar Research Institute, Pune	National Seminar	2009
33	Prof.UtpalTatu, Professor	Indian Institute of Sciences, Bangalore	National Seminar	2009
34	Dr. Sanjay Nene	NCL, Pune	National Symposium	2009
35	Dr. S. P. Govindwar	Shivaji University, Kolhapur	National Seminar	2009
36	Prof. K. G. Akamanchi	Dept. of Pharma. Sci.& Tech., Mumbai	National seminar	2009
37	Prof. R. V. Upadhyay	P. D. Patel Institute of Applied Sciences	National seminar	2009
38	Prof. (Dr.) Shridhar R. Gadre	Prof. of Chemistry, Pune University	National seminar	2009

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated –

a) Curriculum development/enrichment: The linkages and collaborative activities have developed few topics in the curriculum of Process development in industrial biotechnology, Micobiology, for gaining better practical and field knowledge industrial visit, research lab visit etc. are arranged for the students.

b) Training: Students as a part of their curriculum and otherwise undergo summer training programme in industries like AMUL, SUMUL, In Pathology Labs and other

industries. However, three major MoU were formally signed between the college and Regional Training center (BSNL), Ahmedabad. Secondly with B& B Institute of Technology (BBIT) Vallabh Vidyanagar and third with ISRO, Ahmedabad..

The MoU with BBIT will help in the overall development of the village Dehmi in the arena of education, social upliftment awareness in Agricultural and Environmental issues..

c) Research: The collaborations have helped the faculties to widen their research area. The new area of research with collaborations has developed the research in Green Chemistry by the dept. of Microbiology. So also M.Sc. students from ARIBAS were deputed for four months in Microbiology research lab for the dissertation.

d) Consultancy: The faculty have been giving honorary consultancy to few organizations in the field of agriculture (organic farming) as such no monetary profits are made. From time to time water and soil testing is carried out for the farmers. Some industries like meteror life sciences approached for the consultancy with animal feed protein estimation.

e) Extension: The NSS unit of our college is responsible for the extension activity along with certain other staff members. Regular annual camps are organized. The college has adopted two villages Alarsa (2008-2012) and Dahemi (2013-2018) The College will look up in the matter of education computer training and overall health and hygiene.

f) Publication: Faculties involved in research contribute regularly to national and international journal of repute with the collaborators.

g) Student Placement: The College does organize certain campus interviews for the students however, the students are more interested in pursuing their master's programme. Placement for the Alumni was also organized by the institute.

h) Introduction of new courses: A five year M.Sc. integrated information technology course has been started by the college two years back.

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations.

The institute is always interested to make the systemic efforts in planning, establishing and implementing the initiatives of the linkages/collaborations. The college in collaboration with GSBTM functions a nodal center as a capacity building cell for the training of undergraduate students of central Gujarat (especially Anand, Nadiad, Vadodara) for the various competitive examination. Sixty students are selected after an entrance examination.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 PHYSICAL FACILITIES

4.1.1 What is the policy of the Institution for creation and enhancement of Infrastructure that facilitate effective teaching and learning?

In order to create and enhance Infrastructure facilities for effective teaching and learning, a policy is chalked out according to the need of the subject and strength of students by college Principal and management authorities. The authorities take into account the feedback received from staff and students with regard to adequacy of existing infrastructure and need of new development or renovation. The management is always supportive about proposals meant for upliftment of the infrastructure and takes the necessary action according to priority and approval in annual budget. Management shoulders the complete task of infrastructure development.

4.1.2 Detail the facilities available for

a) Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.

Curricular activities:

- **Classrooms:** The infrastructure of the institute has been envisaged to carry out effective teaching and learning process. The institution has 21 classrooms for theory purposes which are sufficient to meet the academic requirement of the institute. All the class rooms are spacious with comfortable seating arrangement for students. The large class rooms have capacity of about 120 students and small class rooms have capacity of about 60 students the classrooms are well labelled and are also equipped with Large Black or Green board for teaching purpose, sufficient number of tube lights and fans. Each room has provision for proper ventilation.
- **Technology enabled learning spaces:** Keeping in mind the advent of technology, the institution takes initiative to update gadgets to make teaching-learning more modern and sophisticated. Six classrooms are equipped with audio-visual aids/LCD system.

Moreover, to have better audibility in big classrooms, each department is allotted Microphone which is utilized as and when required by the teachers. Inter-departmental sharing of such facilities is also possible. Each department has been provided with Laptops and LCD projector.

- **Seminar Halls:** College has A/c Auditorium with 150 seating capacity on which is used for conducting seminar/symposia/workshops. Classroom 316 with seating capacity of 150 at the third floor of the college building is used for conducting seminars for all departments of the college.

- **Tutorial spaces:** Some of the class rooms are allocated as tutorial classes and the classroom numbers are mentioned in Time-Table.
- **Laboratories:** There are total 27 laboratories including research labs for conducting practical work of various courses offered. All the laboratories meant for practical work are well ventilated and have comfortable working area for students as per requirement of different subjects. The laboratories are equipped with necessary instruments/ chemicals/ specimens etc. for practical purpose. First aid kit, Fire extinguishers, Gas supply, Light and continuous water supply are provided in all the wet labs.
- **English Lab:** Two new English labs have been prepared for Functional English as per the requirement of changing curriculum implemented in year 2010. English lab is furnished with smart board in order to provide technology driven teaching.
- **Computer Lab:** There are four air-conditioned labs with enough number of terminals. A new computer lab has also been added to the college infrastructure in the year 2013 exclusively for M.Sc.-IT course.
- **Library:** There is a separate library building with spacious reading area and harbouring large number of books which is easily accessible to the students. Library is kept open for extra hours during examination.
- **Botanical Garden:** Botanical Garden is developed with number of medicinally and economically important plant species. There are more than 50 valuable species with scientific and vernacular names. Botanical Garden is an asset to Students of Biological science.
- **Animal House:** Animal House was maintained earlier, but now as dissections are discontinued as per UGC guide lines, its use has been stopped.

Specialized facilities and equipment for teaching, learning and research:

- **Wi-Fi Campus:** The whole campus is made Wi Fi campus where students and staff are able to access net connectivity.
- **Computerized Library:** The students are benefited with rich resources of books, journals and reference books housed at college Library.
- **Computers:** All departments are provided with computer facility for doing teaching work effectively. Those who are engaged in research can also get benefit from these facilities.
- **Research Labs:** Special research laboratories are provided for subjects in which Ph D students are working. Five research lab have been developed separately in various departments like Biotechnology, Microbiology, Environmental Science, Chemistry and all are well equipped, which are used by research scholars.

Co-curricular activities

- **Auditorium:** A spacious and air conditioned auditorium with a sitting capacity of approximately 150 people has been constructed above library building which is used for conducting reader's club activities, meetings, seminars, guest lectures and cultural activities.
- **Conference Room:** There is an air-conditioned round table Conference room located in college premises which is used for conducting meetings, on campus interviews, presentations etc.
- For various cultural activities and Annual Day Celebration, a huge stage is constructed in **college quadrangle** ground with lawn for open air programs.
- The college has sound system and **Karaoke system** for cultural functions.
- A class room no. 316 has been developed as a **multipurpose class room** fulfilling the need of smart class room. It is used for some special lectures or programs and also for activities like poster display and Rangoli competition.
- A **recreational room** has been set up on first floor of Library building for indoor games like table tennis as well as for hosting intra & inter college competitions.

b) Extra-curricular activities – Sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

- **Outdoor physical and sports activities**
Outdoor physical and sports activities are conducted in ShastriMaidan, a playground adjacent to the college having an area of 5222.16 square meters which is owned by CVM (college management). Sports activities like Football, Volley Ball, Cricket, Hockey, Kabbadi, Kho Kho, Marathon run and other athletic events are conducted at ShastriMaidan. Badminton Hall and Lawn Tennis court are situated just adjacent to the Shastrimaidan which are also being used for college game competitions.
- **Indoor games**
Facilities for indoor activities like Table tennis and Gymnasium are also available at ShastriMaidan. Indoor games such as chess, carom, and Table tennis are played at recreational room located on first floor of library building.
- **Cultural activities**
For cultural activities, the college has a central stage with huge lawn for sitting arrangement. The additional assets such as auditorium, recreational room and multipurpose room (Room No.316) are utilized for such activities.

➤ **Communication skills**

The college has two air conditioned Functional English labs with audio and video facilities. The college also conducts Carrier Development Classes and Personality Development Program for all the students every year.

➤ **Health and Hygiene**

Facilities for purified drinking water and hygienic sanitary conditions are provided for staff and students. College also avails the University health centre facility just half kilometer away from college. The Karamsad medical hospital is just 3 km away provides health related services for students and staff.

➤ **NSS and NCC**

College is actively engaged in both NSS and NCC activities. It is mandatory for all First year students to enroll their name either in NSS, NCC or Physical Education. Through these activities, students develop a sense of responsibility towards nation and society. NSS regularly organizes activities like Annual camp in nearby villages, free health checkup camp, blood donation camp etc. NCC unit of our college sends students to participate in annual camp/national camp organized by NCC Headquarter– Anand. NCC unit organizes weekly parade in the college campus.

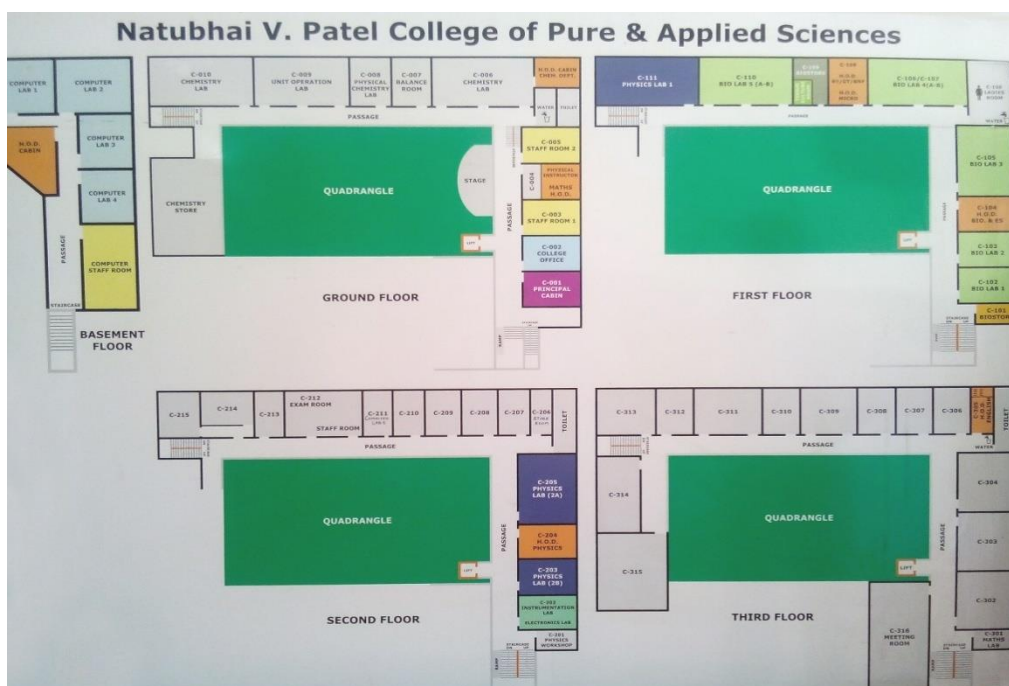
4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution/ campus and indicate the existing physical infrastructure and the future planned expansions if any).

The infrastructure available at the institution is sufficient to meet the academic growth and has all the facilities that are required for smooth running of an academic institution. Time-Table and working schedule of the institute is planned in such a way that all the available infrastructure is optimally utilized.

(A) Master Plan And Existing infrastructure:

- The college has a well-planned four- storey building and a basement to be utilized for academic activities.
- The basement houses a HOD cabin, four computer Laboratories and a computer store room.
- The ground floor has Principal's office, college office, staffroom I and II, cabins of HOD (Mathematics) and Physical Instructor. It also has four chemistry laboratories, chemistry research lab, chemistry preparation room, chemistry store, HOD cabin of Chemical Sciences department and staff toilet.
- The first floor consists of five wet laboratories of Biological and Environment sciences, BT/GT/BNF and Microbiology departments. It also houses one Bio store, one tissue culture lab, four research labs, one Physical laboratory and HOD cabins of the three above mentioned departments. The same floor house Ladies Common Room.

- The second floor has four laboratories of Physical Sciences, physics maintenance room, HOD cabin (Physics), Computer lab for M.Sc.IT, Examination Hall/Staff room along with seven class rooms , a store room and a boys toilet.
- The third floor has fourteen class rooms, HOD cabin (English), NSS office, and one laboratory of Mathematics department and a boys toilet.
- Each floor is equipped with Notice Boards, Urinals and Purified Drinking water facility with water coolers.



- The college as an extension of main building has the conference room and additional storage room.
- Just across the road is separate Library building with recreational room, Auditorium, and two English labs.
- Elevator facility is available at college building as well as at library building.

(B) Following additions have been made in the infrastructure in the last five years:

- Two air-conditioned English laboratories added during the year 2009.
- A spacious and air-conditioned Auditorium with a sitting capacity of 150 persons has been added during the year 2010.
- A computer lab for M.Sc - IT during the year 2013.
- A new elevator system in the library building during the year 2014.
- Two fuming hoods in chemistry lab during the year 2014.

(C) Following new resources have been added:

Sr. No.	Description	Year	ApproxCost (Rs.)
1.	WiFi facility at college campus as well as library building.	2009	1,22,354.00
2.	Bio matrix system	2010	11,246.00
3.	Karaoke system for cultural activities.	2011	12,000.00
4.	N-List accessibility for e-journals	2014	1,000.00
5.	Microphone system has been provided to all departments which can be used by teachers in classrooms.(5 nos.)	2013	23,250.00
6.	Photocopy machine with printer in library.	2013	48,000.00
7.	A new computer lab was setup with 40 latest PCs exclusively for M.Sc-IT students.	2013	10,20,642.00
8.	9 new LCD projectors were purchased.	2014	2,56,500.00
9.	2 Fuming hoods for chemical sciences laboratory.	2014	Donation
10.	12 CCTV Camera	2015	74,485.00

Sr. No.	Subject	Name of the instruments	Year
1.	Micro-biology	Laminar air Flow, Refrigerated centrifuge (Kubota), Jiotech Shaker, Remi Temp. controlled shaker (2), Sonicator, UV- Visible spectrophotometer (Shimadzu and Elico), Remi centrifuge C-24,RO system, Multi Scan GO, Lyophilizer, Microscope, PCR, Rotaevaporator, Electrophoresis unit horizontal and vertical, Peltier machine for temperature based enzyme kinetics, Brookfield's Viscometer, Humidity chamber, Refrigerators	2008-2014
2.	Chemistry	Heating mental-1000 ml, Multipurpose stirrer RQ-122D Digital conductivity meter with cell 304, Digital Nephelo/turbidity meter 132, Kinematic viscometer RAP 118, Scale tee make Preciston balance SAB 203, Magnetic stirrer with hot plate 5 MLH, Spectrophotometer ALI-21, Digital tablet friability test apparatus, Tablet dissolution test apparatus, Tablet hardness tester, Digital pen pH meter, Autoclave big size SS, Scale-Tec Precision Balance Model SAB-203	2009-2013
3.	Biological & Env. Sci.	Rotatory Shaker, Incubator, Distillery, High Volume Air Sampler, High Precision Balance, Hot plate, Spectrophotometer, Kjeldhaldistillation unit.	2010-2014
4.	Bio technology	Refrigerated centrifuge, pH meter-1, Electrophoresis apparatus with power pack-2, Microscope-1, distillation unit-1,spectrophotometer-1, balance-1	2011-2013

Other equipments department wise

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

Institution ensures that the infrastructure facilities meet requirement for physical disabled students so that they can approach their classrooms and labs with comfort. For Physically disabled students, lift is provided to reach first, second and third floor of the college. Lift facility is also available at library building to reach first floor, Auditorium and English Lab. Special sitting arrangement during examination is made on request for physically unfit students for their comfort.

4.1.5 Give details on the residential facility and various provisions available within them:

➤ Hostel Facility– Accomodation available

College provides the hostel facilities for both girls and boys students. They are housed separately with facilities of bed, cupboard, chair-table, light, fan, toilets, water cooler, solar water system, etc.

Boys Hostel:	<ol style="list-style-type: none">1. Boys hostel named C.U. Hostel (managed by CVM) with total seats of 144 where the students are allotted room on sharing basis (per room 3 students).The hostel is just half kilometer away from college.2. Bhaikaka Hostel managed by CVM with total seats of 33 where the students are allotted room on sharing basis (per room 3 students).
Girls Hostel:	<p>The girl students are accommodated in two girls hostel of CVM.</p> <ol style="list-style-type: none">1) Ranak Hostel with allotted seats of 92 girls and2) Square hostel with allotted seats of 100 girls. <p>These are located just ¼ km away from institution</p>

➤ Recreational facilities, gymnasium, yoga center, etc.

An open space/ Hall is provided for Recreational, sports and cultural activities.

Common T. V. room in girls hostel.

The central facility of gymnasium is available for boys attached to ShastriGround.

List of available kits at Boys hostel are as follows:

Indoor Games	:- Chess.
Outdoor Games	:- Cricket, Badminton, Volley Ball, Foot Ball, Basket ball.

➤ Computer facility including access to internet in hostel

The computer facility with internet is available in college campus itself for all students.

➤ **Facilities for medical emergencies**

- In case of primary medical treatment First-Aid kit is available in all departments with basic needs.
- All types of medical facility are available at University health center (500 meter away) and Pramukh Swami Medical Hospital, Karamsad (3 km away) at very nominal rate.
- 108 service available round the clock.
- Counselors and hostel wardens take care in case of emergencies.

➤ **Library facility in the hostels**

No, Library facility is not available in the hostel.

➤ **Internet and Wi-Fi facility**

The college is at walkable distance from the hostel so students can avail the wi-fi facility of college 24 × 7. Moreover, the college is providing the broad band internet facility for its students up to 5:30 pm.

➤ **Recreational facility-common room with audio-visual equipments:**

T.V facility is available in girl's hostel.

➤ **Available residential facility for the staff and occupancy, constant supply of safe drinking water.**

Staff quarters are provided by the management with all the basic facilities as per availability of quarters and designation of the staff. Twenty four hours constant water supply is provided at staff quarters.

➤ **Security**

Both boys and girls hostel are provided with 24 × 7 security guards provided by management at college and hostels (both boys and girls).

Surveillance camera are installed at Square Girls Hostel.

4.1.6 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The students and staff of NVPAS can avail the facility of University health center which is at walking distance, where R.M.O and Visiting Doctors provide their services at very nominal rate. At a distance of four kilometers CVM also has established an Ayurvedic Medical College and hospital and it is free for college students and staff of CVM institutes.

4.1.7 Give details of the Common Facilities available on the campus .Spaces for special units like IQAC, Grievance Redressal unit, Women’s Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

Sr. No.	Parameter	Common facilities Available
1	IQAC (Internal Quality Assurance Cell)	Currently IQAC Coordinator is the Head of Biological & Env Science Department and she operates from her cabin only.
2	Grievance Redressal unit	College has suggestion box placed in common passage near Principal office which is periodically cleared out. The necessary steps are taken by Principal in consultation of HODs and office.
3	Collegiate Women Development Cell (CWDC)	CWDC is located at staff room 1 coordinated by Dr Shveta Joshi. The coordinator calls meeting of members twice in year. The girls students are allowed to interact with the coordinator or meet the members and discuss their problems.
4	Counseling and Career Guidance	The college is having a very strong counseling system. Regular Counseling meeting between Principal & Coordinator are conducted in Principal’s office, meetings between Coordinator & Respective counselors are conducted in staff room II and conference room. The meetings between counselor and its respective batch are conducted at regular intervals in allotted time by concerned counselor in classrooms or laboratory after completion of theory classes or lab work.
5	Placement Unit	Currently Dr. Archana Shah is the coordinator of Placement cell. She operates from staff room no. 1. The college is having the placement unit which conducts on-campus interviews every year.
6	Health Center	College utilizes the facility of University health centre which is just 500 meters away from college. In case of Emergency the first aid kit is available in each department. In case of severe emergency student is accompanied by counselor for treatment at Karamsad Medical hospital which is 4 km away.
7	Canteen	The college has its own small canteen for students and faculties.
8	Recreational spaces for staff and students	Library building first floor, college quadrangle, shastrimaidan are used for recreational purposes.
9	Drinking Water	Floor wise filtered and cool drinking water facilities are available.
10	Auditorium	A well equipped and well furnished air conditioned auditorium with a sitting capacity of 150 persons is situated at the second floor of the college library building.
11	Conference Room	A conference room is available in college premises used for conducting on campus interviews, meetings and other academic activities.

4.2 LIBRARY AS A LEARNING RESOURCE

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

Yes, the library has an advisory committee. The committee is selected by Principal and comprises of the faculty from each department. Committee members are as follows:

1. Dr.AkshayaGupte (Coordinator) (Microbiology)
2. Dr.Madhumati Bora (BT/GT/BNF)
3. Dr. Ami Patel (Bioscience)
4. Mr.Bhailal Patel (Mathematics)
5. Dr.Himanshu Trivedi (Physics)
6. Dr.Bhavin Patel (Chemistry)
7. Mr.Rakesh Patel (English)
8. Ms.Dharti Patel (Librarian)
9. Dr.Tejas Thakkar (Computer)

Main Functions/roles of Library committee are:

- Finalizing the purchase of required books/periodicals of each department.
- Framing and implementing general rules of library.
- Deciding the duration and number of library materials issued to the library users.
- Providing suggestions for improvement of library facilities.

Significant Initiatives taken by the committee

- Availability of WI-FI facility in the library premises.
- User friendly accession of books through bar code.
- SOUL – OPAC system for users to check the availability of required book(s).
- Reprographic facility within the library.
- Subscription of journals/magazines related to various subjects, general knowledge, competitive exam, job oriented periodicals etc.
- Seven daily newspapers.
- Time duration of returning the issued books for students are two weeks and for faculties are for a semester.
- Extended reading hours and availability of concernedsubjectteacher in the library during examination period.

4.2.2 Provide details of the following:

Total area of the library (in Sq. Mts.)	8927.41
Total seating capacity	102

Working hours:

➤ On working days :

Monday (Unit Test)	:	8.00 a.m. to 5.30 p.m.
Tuesday to Friday	:	10.00 a.m. to 5.30 p.m.
Saturday	:	8.00 a.m. to 1.30 p.m.

➤ **Before and During Examination days :**

Monday to Friday	:	8.00 a.m. to 10.00 p.m.
Saturday	:	8.00 a.m. to 5.00 p.m.
Sundays and Holidays	:	10.00 a.m. to 5.00 p.m.

➤ **During vacation :**

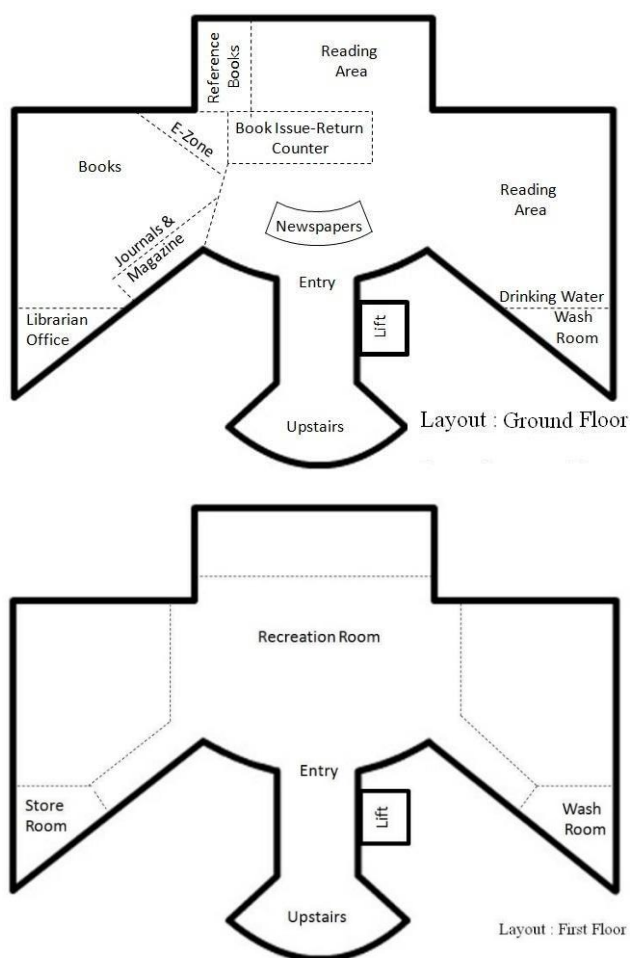
Monday to Friday	:	10.30 a.m. to 5.30 p.m.
Saturday	:	8.00 a.m. to 1.30 p.m.

Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)

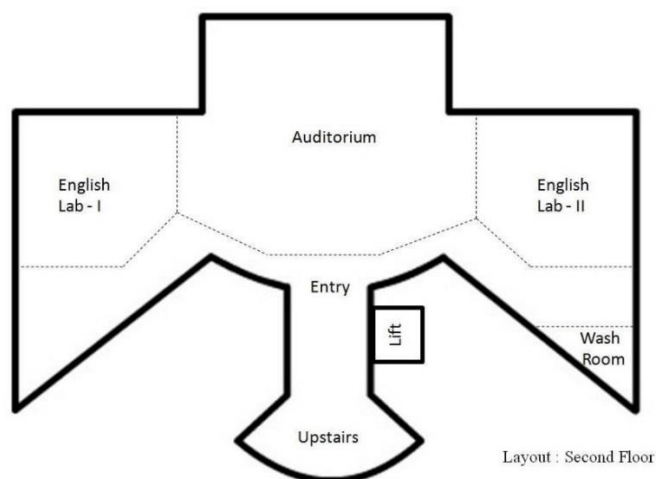
The college library is a separate building. Within the library, there is a reading area which has seating capacity of 102 students. Near the entrance there is a separate area where three newspaper stand are kept for referring daily newspapers. There is reference area where students can refer reference books. An open access stack area is near the issue-return counter from where the students/users can check the availability of books. For accessing e-resources, library has e-zone with three computers. There is separate stack for Magazine/Journals.

There is a separate cabin in library in which SOUL-Server and photocopier/printer machines are kept and the processing of new arrivals is also done here in this cabin.

Library Building



Library Building



4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

At the commencement of the new academic term, a format consisting of books requisition is sent to all the departmental heads by the librarian. The Heads in turn submit the departmental requirements for purchase of new books in the prescribed format to librarian. The librarian compiles the data and prepares a list of requisition. The librarian places the list before the library committee for the approval. Then the approved proposal is sent to the management for the approval and purchase is made.

After the execution of the order, the librarian verifies all the books in consultation with the respective HODs and then accession of the books is made. A copy of the each new arrival is displayed on the notice board. Journals or magazines are kept on the separate magazine racks. For proper use or circulation of books, date of return is mentioned at the end of the every book at the time of issue. In case of delay in returning of books by the users, the library staff communicate with that individual personally or through telephone if needed. A fine is charged from the person submitting the book after the date of submission.

The college library follows the open access system and classified arrangement of the books is done which helps the users to locate the books easily. The user can refer to any of the books placed in stack area easily. Each student gets two books and staff gets ten books from the library through bar coded identity card.

Library Holdings	2010-2011		2011-2012		2012-2013		2013-2014		2014-15	
	No.	Cost (Rs.)	No.	Cost (Rs.)	No.	Cost (Rs.)	No.	Cost (Rs.)	No.	Cost (Rs.)
Text Books	154	30069.00	99	23136.00	73	19085.00	39	10564.00	89	22782.00
Reference Books	10	27424.00	15	34252.00	19	14182.00	1	1600.00	2	1690.00

EEPC Books	145	52664.00	46	13943.00	15	5021.00	22	12993.00	-	-
Total Cost Rs.	309	110157.00	160	71331.00	107	38288.00	62	25157.00	91	24472.00
Journals/ Periodicals	52	35181.00	52	36143.00	49	33148.00	59	40274.00	59	43515.00
e-Resources	55	-	43	-	33	-	19 28	2500.00 -	36	-
News Papers	6	5407.00	6	5629.00	6	580.00	7	6548.00	7	7089.00

Library utilization/ Purchase

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

➤ **OPAC**

Library has SOUL software with in built OPAC feature. Students can get information about availability of the books through a separate computer.

➤ **Electronic Resource Management package for e-journals**

Library has N-list consortium for e-journals by INFLIBNET. The user can access to around 3800+ electronic journals, bibliographic databases and 80000+ e-books.

➤ **Federated searching tools to search articles in multiple databases**

The N-List facility by INFLIBNET is used for searching articles.

➤ **Library Webpage**

The college library information is provided at the college website. A separate webpage furnishing the college library information is included in the college website.

➤ **In-house/remote access to e-publications**

Remote access to e-publications are accessed through N-List software.

➤ **Library automation**

The library is fully automated and utilizes UGC-SOUL software, which is useful for various library services. Books are circulated with bar coded system. All students and staff members have been issued bar coded identity card for the smooth issue and returns of books in the library.

➤ **Total numbers of computers for public access**

Library has total three computers with internet facility and ONE computer installed with SOUL program for students to search availability of the books.

➤ **Total numbers of printers for public access**

The library has one printer/photocopier for public accessing.

➤ **Internet band width / speed -2mbps -10 mbps -1 gb(GB)**

The library has 2mbps internet band width subscribed from Elecon Information Technology Ltd.

➤ **Institutional Repository**

Some of the departmental library maintain repository which consist of faculty publications and student project reports.

➤ **Content management system for e-learning**

At present there is no content management system for e-learning.

➤ **Participation in Resource sharing networks / consortia (like INFLEBNET)**

Yes, the College has subscribed to INFLEBNET (N-List) for its faculties and students.

4.2.5 Provide details on the following items

➤ **Average number of walk-ins**

100

Average 100 students/ day access the library resources.

Average 13 Faculty / day access the library resources.

➤ **Average number of books issued / returned books/day**

50

➤ **Ratio of library books to students enrolled**

15:1

➤ **Average number of books added during last three years**

110

➤ **Average number of login to opac (OPAC)**

10/day

➤ **Average number of login to e-resources**

9/day

➤ **Average number of e-resources downloaded/printed**

4/day

➤ **Number of information literacy training organized**

The librarian conducts batch wise training specially to newly enrolled students. The students are oriented to different aspects of library such as bar coded i-card, issue-return, different sections of racks, rules and regulations etc.

➤ **Details of “weeding out” of books and other materials**

No. of weeding out books are as follows:

	2011-12	2012-13	2013-14	2014-15
Mathematics	15	NIL	31	1
Bioscience	36	21	40	NIL
Physics	NIL	1	11	NIL
Chemistry	NIL	8	2	NIL
TOTAL	51	30	84	1

4.2.6 Give details of the specialized services provided by the library

➤ **Manuscript** **No**

➤ **Reference** **Yes**

The library has a rich collection of more than 600 reference books which can be accessed within library only.

➤ **Reprography** **Yes**

The college library is having reprographic machine, the users can get photocopy easily.

➤ **ILL (Inter Library Loan)** **Yes**

Inter Library Loan can be availed by faculty/student of other college upon approval from the Principal.

➤ **Information deployment and notification** **Yes**

Newly arrived books are displayed on the notice board in the reading room and magazines / journals are showcased on the racks. Moreover, informative articles are displayed on the notice board.

➤ **Download** **Yes**

The library has three computers for students to download and access contents from internet.

➤ **Printing** **Yes**

The library is equipped with photocopier cum Printer machine.

➤ **Reading list / Bibliography compilation** **Yes**

One can access to bibliography through SOUL software.

➤ **In-house / remote access to e-resources** **Yes**

Three computers are kept in the library for access to e-resources and internet. Library has a collection of 500+ CDs/DVDs. The access of CD/DVD is restricted to library only.

➤ **User Orientation and awareness** **Yes**

At the time of issuing identity card to the new students, librarian provides information about collection, arrangement of collection, code and conducts of the library and all other necessary information.

➤ **Assistance in searching Databases** **Yes**

➤ **INFLIBNET/IUC facilities** **Yes**

Users can access online journals and e-books through N-List consortium, INFLIBNET.

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

The college library has a full time permanent librarian and three peons. They are always available to assist the users whenever they need help in the library. Besides all functions of the library, the librarian also performs following functions.

- Maintenance of the mini library of Entrance Examination Preparation Cell (EEPC) and circulation of EEPC books among students of the EEPC
- Assisting personally the faculty and students in locating the reading materials required.
- Borrowing books from public library, if any student or staff approaches the librarian for literature or classics (which is normally not available in college library)
- Collecting news, press clippings about college events and sending them to the person concerned

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

The location and place of library itself directly helps to the physically challenged users. For physically challenged person, the information about the availability of the books is conveyed through a computer browsing system at the counter and is served personally by library staff.

4.2.9 Does the library get the feedback from its users? If yes, how is it analysed and used for improving the library services. (What strategies are deployed by the Library to collect feedback from users? How is the feedback analysed and used for further improvement of the library services?) General feedback systems and the suggestion box take care of library feedback as well. In the general student feedback form, there is a question about the library facilities

Yes, any student of college can suggest about improvement of library services through suggestion box kept in the library. The Principal through the grievance cell, collects suggestions from suggestion box at regular intervals. Student can directly approach to the Principal for any grievance.

An effective feedback analysis is carried out with the tool of feedback forms. Forms are later analyzed and necessary decisions are taken. Accordingly, changes are implemented for improving the existing system/facilities, e.g. Lighting facilities in the stack area has been improved. The library reading hours are extended specially during examination time.

4.3IT INFRASTRUCTURE

4.3.1 Give details on the computing facility available (hardware and software) at the institution.

- **Number of computers with Configuration (provide actual number with exact configuration of each available system)**

Total Number of Computer: 198

Details of computer configuration:

Sr. No.	Specification and details	Qty.
1	XEON 7973 I2S, 1 GB RAM, 250 GB HDD, CD drive (IBM Server)	01
2	Intel i3, 4 GB RAM, 500 GB HDD	40
3	Core 2 Duo, 2 GB RAM, 160 GB HDD	70
4	Core 2 Duo, 1 GB RAM, 80 GB HDD	38
5	Dual Core 3 Ghz, 512 MB RAM, 80 GB HDD, CD Drive	15
6	AMD Athlon 64 bit, 512 MB RAM, 80 GB HDD, CD Drive, 1.44 FDD	30
7	P IV , 256 MB RAM, 80 GB HDD	1
8	P-III Computers, 128 MB RAM , 8/10/20 GB HDD	3
9	Laptops - Core 2 Duo, 2 GB RAM, 160 GB HDD	8
10	Laptops	13

- **Computer-student ratio** -1: 8
- **Stand alone facility** - Yes
- **LAN facility** -Yes, the college has LAN setup at All the Five Computer Labs, administrative office, Principal office and Library
- **Wi-Fi facility** -Yes, since 2009 the college provides the WiFi facility on its campus and at library building.
- **Licensed software**

Sr. No	Software Name
1	Novell 5
2	Windows NT Server
3	Windows NT Option Pack
4	Windows NT Service Pack
5	Win NT Workstation
6	Win NT Service Pack 4
7	Win 98

8	Office 2000 standard
9	Visual Studio 6
10	Visual Studio 6 Service pack 3
11	Visual Studio 6 plus pack
12	MSDN Library
13	Oracle 8i Server
14	Developer Suite
16	Microtutor (Education)
17	Borland C++
18	Quick Heal Internet Security

Sr. No	Software Name
1	MS Office 2003 Professional
2	MS XP Professional
3.	MS Internet security and acceleration server 2004 standard (Proxy server)
4.	MS Win 2003 server Standard Edition
5.	MS Win 2003 server Enterprise Edition
6.	MS Exchange mail server enterprise edition 2003
7.	MS Win 2003 server Standard Edition
8.	MS Visual Studio .NET pro. Win32 edition
9.	Additional Softwares (win 2000 advser , exchange 2000 ser.)
10.	MS SQL Server 2000 Standard Edition
11.	MS Win 2000 professional
12.	MS virtual PC(for Apple MAC PC)
13.	Dot Net 2008
14.	Dot Net 2010
15.	Windows 7
16.	Windows 8
17.	Microsoft Office 2007,2010,2013
18.	Oracle 9i

- **Number of nodes/ computers with Internet facility :** Total 82 pcs are connected with internet. (Lab3 – 33 pcs + Lab4 – 33 pcs + Office – 5 pcs + BSNL broad band connection – 8 pcs + Lib – 3 pcs)

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

Yes, the college is providing the internet facility to its faculty and students.

For the students:

- The students can use the internet facilities through Wi-Fi throughout the college campus as well as the library building. The students are given their individual login and password for using the college Wi-Fi.
- At computer Lab no. 3 and 4, total 66 number of PCs are connected with internet which the students can use during the college hours.

For faculties:

The faculties access the internet through college Wi-Fi facility. They are given their individual login and password for accessing the college Wi-Fi. The Heads of Departments are given the additional BSNL net connectivity to their desktops.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

Wi-Fi facility: Wi-Fi has been installed in the campus to enable easy internet access. Time to time computer laboratories are upgraded as per the requirement of the syllabus. Recently new computer laboratory with 40 computers having latest configuration i.e., Intel i3 processor, 4 GB RAM, 500 GB HDD configuration has been setup.

Decisions regarding the updating of systems are generally finalized in consultation with management. Budget provision is also approved by management.

Moodle software implementation : Computer Science Department has implemented Moodle (Modular Object Oriented Dynamic Learning Environment) software which is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning, any time, anywhere. This system will be used by parents and students through the link available in college website which can be accessed from anywhere to view monthly attendance, marks of various tests conducted by the college and uploaded assignments, material and events information uploaded by the faculty members.

College Website: <http://www.nvpas.edu.in> is the URL address of the college website developed by the college faculty members which has information related to college, courses, faculty members, student activities, exams schedules etc.

Alumni Website: <http://www.nvpasaa.co.in> is the URL address of the alumni website developed by the college faculty members. The Website is used by alumni to register online for NVPAS Alumni Association and communicate with Alumni.

NSS Website: <http://www.nssnvpas.co.in> is the URL address of the NSS website developed by the college faculty members. The Website gives information about the various activities conducted by the NSS unit of the college.

E-Smart Class: College has E-Smart class at the English Lab.

LCD Projectors: 9 classrooms are equipped with LCD Projectors for effective teaching through the use of ICT.

4.3.4 Provide details on the provision made in the annual budget for procurement, up-gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

Year	2010-11	2011-12	2012-13	2013-14	2014-15
Provision for purchase of computers/maintenance (in Rs)	13,733.00	26,688.00	10,77,174.00	1,11,306.00	37,046.00

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

The following facilities help the teachers to use LCD and internet sites in their teaching and preparing Lesson materials:

- Orientation regarding use of computers is given to all staff members.
- Teachers are trained to prepare, word document, excel spread sheet, power point presentation and access the internet.
- Centralized computer laboratory has been established.
- Each department has laptop, computer, LCD projector and internet facility.
- LCD Projectors are installed in 9 classrooms for Audio –Visual purpose.
- The college building is Wi-Fi connected.
- Majority of faculty use LCD Projector/OHP.
- Based on topics of subjects, teachers download video and show it to students.
- Film club of the Madhyastha Samiti shows documentary films based on informative message.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources, independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

ICT enabled classrooms: 9 class rooms are equipped with LCD projectors, so the teacher can teach with power point presentations, educational videos, animation etc.

Independent learning: The teacher assigns topics to the students and the students prepares assignments, presentation and projects based on given topics. The students are allowed to use LCD projector in class room for seminar presentation.

Learning spaces: Besides the well-equipped classrooms and laboratories, a huge Reading Hall in library for students is available.

English Lab: English Lab is used by students for Listening and speaking English and learning pronunciation.

LCD Projector : Faculty members utilize the LCD Projector for teaching through Power Point Presentation and showing them video clippings for better understanding.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

Yes, The Gujarat Govt. has also given 10 Broadband connections to the college which have been distributed to Principal, Heads of the departments and library to avail National Knowledge Connectivity through INFLIBNET.

Faculty members of our college have developed an e-content under the scheme of NPTEL which is one of the part of National Knowledge Network.

4.4 MAINTENANCE OF CAMPUS FACILITIES:

4.4.1. How does the institution ensure optimal allocation & utilization of the available financial resources for maintenance & upkeep of the following facilities? (Substantiate your statements by providing details of budget allocated during last 4 years)

Sr. No.	Facilities	2010-11 (Approx cost in Rs)	2011-12 (Approx cost in Rs)	2012-13 (Approx cost in Rs)	2013-14 (Approx cost in Rs)	2014-15 (Approx cost in Rs)
1.	Building	2,83,538.00	1,50,118.00	1,90,210.00	1,10,943.00	1,64,712.00
	Furniture					
	Equipments					
2.	Computers	13,733.00	26,688.00	10,77,174.00	1,11,306.00	37,046.00
3.	Vehicles	14,956.00	17,896.00	25,823.00	9,485.00	34,218.00
4.	Any other					
	a) WiFi				2,000.00	
	b) Bio-matrix system	11,246.00				
	c) Xerox					45,275.00

4.4.2. What are the institutional mechanisms for maintenance and upkeep of the infrastructure facilities & equipment's of the college?

For the maintenance and upkeep of infrastructure facilities and equipment of the college, the following are the mechanisms:

- 1) The management (CVM) has an estate department which looks after the maintenance of building, furniture, sanitary, plumbing, garden and electrical related works. Whenever there is a need of maintenance in such areas where the estate department can do the maintenance, the Principal writes an application to the management, who directs the estate department for the maintenance.
- 2) Regarding the maintenance of equipments of various departments, the HOD writes an application to the Principal, who gets the approval from the management and directs the appropriate person for the same.
- 3) For software related maintenance, the programmer/technical staff takes care of it. Hardware related problems are outsourced with the approval from Principal/Management.
- 4) For day-to-day maintenance, upkeep and cleanliness sufficient staffs are employed.

4.4.3. How & with what frequency does the institute take up calibration & other precision measures for the equipment/ instruments?

The instruments which are required to be calibrated are calibrated by the technical staff of the respective department of the college. Usually the calibrations are done at the beginning of the semester and also prior to the examinations. The process of calibration varies from instrument to instrument.

For example:

- 1) Weighing balance is calibrated using standard weight at different levels.
- 2) In Spectrophotometer, the base line is adjusted once in a month as per the standard prescribed by the company manual.
- 3) In pH meter, standard solution is prepared using pH tablets for different levels and using this standard solution calibration is done at that level.

4.4.4. What are the major steps taken for location upkeep & maintenance of sensitive equipment (Voltage fluctuation, constant water supply of water etc?)

The college electricity wiring is fitted with MCBs. All the sensitive equipments are attached with UPS or voltage stabilizers. In computer lab, the IBM server and switches and routers are attached with UPS. Labs have fire extinguishers. As such there is no frequent power cut in our region therefore voltage fluctuation problem is minimum.

The college provides 24 hrs water supply. A centralized huge water tank is the source of water supply for our college through which the college overhead water tank is maintained. This water is utilized for drinking, laboratories purpose, washroom and garden purposes.

Apart from this, all the science laboratories are provided with constant gas supply.

Any other relevant information regarding Infrastructure and Learning Resources which the college would like to include.

- The college is having a centralized two way broad casting system. All the classrooms, laboratories, staff room, office, HOD cabins are connected with this broad casting system.
- A portable microphone facility is given to each department for efficient lecture delivery in large class room with more number of students.
- The college infrastructure is also used for conducting university exams, railway exams, talati exams, bank exams.
- The college is having BISAG DTH System. This is SANDHAN (All Gujarat Integrated Classroom); an initiative by OCHE (Office of Commissioner Higher Education) and KCG (Knowledge Consortium of Gujarat) Department of Education-Government of Gujarat.



Criterion

V

Student
Support
&
Progression



CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 STUDENT MENTORING AND SUPPORT

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes, the institution publishes its updated prospectus annually and is distributed along with the admission form. The prospectus is also available on the website. The information provided in the prospectus includes the details of administrative and the management body, college emblem, vision and mission of the college. The prospectus also includes details of the department and faculties, various programmes offered, Rules for admission, issue of certificates, general rules and regulations, college activities, results of university and college, quality improvement programmes, details of tutorial system, remedial classes, college library, details of the facilities, internal evaluation system, various associations, details of various clubs, co-curricular activities, gold medals, prizes and scholarships. The institution ensures its commitment, accountability to its stakeholders and proper management system. Periodically the advisory council evaluates the various college activities and provides the orientation for the smooth functioning of the college. The vision of the college is put into practice with the help of all the staff members.

5.1.2 Specify the type, number and amount of institutional scholarships / free ships given to the students during the last four years and whether the financial aid was available and disbursed on time?

The college announces the availability of various scholarships and schemes as per the notifications of the concerned authority. Teacher-in-charge and the college office assist the eligible students to apply for it in time. The scholarship amount is either deposited in their respective bank account directly or is given through cheque. In the academic year 2013-14 a test called SARAT (Scholastic Awareness, Reasoning and Aptitude Test) was conducted and students were given the scholarship money.

Following scholarships were given to students:

1. Post metric
2. Minority
3. SC/ST/OBC
4. Single girl child
5. Research scholarship
6. CVM
7. N.V.Charity Trust.

The total amount given to the students as a scholarship during last five academic years is as below:

Year	Type of Scholarship	No. of Scholarship	Amount (Rs.)
2009-10	Management	16	3,13,566/-
2010-11	Management	15	2,23,031/-
2011-12	Management, State Gov., Central Gov.	8+11+2=21	3,13,495/-
2012-13	Management, State Gov., Central Gov.	12+9+9=30	7,04,980/-
2013-14	Management, State Gov., Central Gov.	6+62+35=103	28,06,380/-
2014-15	Management, State Gov., Central Gov.	3+29+68=100	45,58,520/-

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

The college caters to the need of the students belonging to the minority community and economically weaker section of society. The college provides financial assistance to these students. This funding is received from the central government, state government and other private agencies. Nearly 6 % to 8 % students of the college benefit from these scholarships.

Type of Scholarship	2010-11		2011-12		2012-13		2013-14		2014-15	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
State Govt.	-	-	-	2	-	9	-	35	-	29
Central Govt.	-	-	4	2	3	6	27	35	34	34
Institutional	11	4	5	3	6	6	1	5	-	3
Any other	-	-	1	4	-	-	-	-	-	-
% Benifi.	1.49	0.6	1.70	2.60	1.36	5.08	3.75	14.59	3.85	9.98

5.1.4 What are the specific support services/facilities available for

➤ Students from SC/ST/OBC and economically weaker sections

College provides a number of support services to the students from SC/ST/OBC and economically weaker sections. The financial support is mainly through State/central Government schemes.

➤ Students with physical disabilities

The college has provision for physically disabled students if admitted. He/she admitted with any physical disability or has any medical problem, the elevator facility already exists for the same and can be used. During the examination if any of such case requires any assistance is provided with scribes as per the university rules. In addition the college library is located at the ground floor and the auditorium can also be accessed using the elevator.

➤ **Overseas students**

The institution with its policy of equal opportunity to all can admit any student irrespective of their country of origin. College extends its services to overseas aspirants too. Admission is given to them as per the university guidelines and security clearance. College is approved by UGC to admit foreign students.

YEAR	STUDENT'S NAME	COURSE
2009-2010	MISS CHANDANI PATEL	S Y BCA
2009-2010	MISS SHIVANI SHAH	T Y BSc BT
2010-2011	MISS CHANDANI PATEL	S Y BCA

➤ **Students to participate in various competitions/National and International**

All the students are encouraged to participate in various competitions at local level, state level and national level. Good number of students participate in various competitions like Youth festival, other intercollegiate competitions, Volcano (Anand Rotary Club), Khel Mahakumbh; State level sports competitions, etc. Students taking part in sports competitions are given TA and DA.

Students take part in various competitions like Science Excellence (Gujarat University), Science Manthan (CHARUSAT University), etc. They are provided guidance by able faculties for the same. Travel arrangements are also made for their to and fro transport with insurance facility.

Students taking part in sports events are escorted by teachers whenever events are held outstation. Students are escorted by faculty member even when they take part in youth festival activities at local level and state level.

Students taking part in various competitions are exempted for attending the classes on the days of competition. Compliance system is in place to ensure that they are at par with the rest of the students in academics in case they have to remain absent from regular classes on account of extra training.

Students taking part in any of these competitions are given the chance to appear for arrear exams if they miss out any of the regular exams. They are given 10% extra marks in internal exams as an encouragement.

➤ **Medical assistance to students: health centre, health insurance, etc.**

- 1. Health centre-** The management of our college is genuinely concerned about the health of our students. The University Health Center is very near from our college which registers cases at nominal charge of one rupee and provides basic health care free of charge.
- 2. Medical camp-** The NSS unit of our college on regular basis conducts free Thalassemia check up camp. Blood donation camp is also a part of general checkup for the students.

3. **First Aid-** The college extends First Aid kits to all the departments with basic facilities. Stretcher (folding) is also available in case of emergency.
4. **Health awareness-** The college organizes health awareness programs on cancer, AIDS, Life style diseases, Dengue, etc.
5. **KrupaArogya Suraksha-** The students of the college are encouraged to join voluntarily for KrupaArogya Suraksha Scheme of Shri Krishna Medical Hospital, Karamsad. As a part of this scheme the students can undergo free medical checkup by doctors from the Departments of Ophthalmology, ENT, Gynecology& OBS, Dental and Medicine. Under this scheme students are entitled to receive free in patient treatment up to Rs. 5000/-. This scheme offers free consultation and subsidized outpatient services to all its members.

➤ **Organizing coaching classes for competitive exams**

The college has always been asserting the students for higher studies at national institutes and to achieve this goal, the college has initiated a cell known as Entrance Examination Preparatory Cell. The mission of the cell is to prepare the students to clear entrance examination for various post graduate programmes. However, since 2005-06 with achievements, GSBTM, Government of Gujarat, has been assisting this programme and has declared it as a CBC-Nodal Centre for central Gujarat. The coaching classes have helped the students and brought laurels to the institute by getting selected in institutes like JNU, BHU, IIT, IISc, TIFR, etc. The EEPC arranges workshops on a regular basis wherein reputed resource persons are invited to deliver lectures and interact with students.

Students of the final year are encouraged to join this cell. Some percentage of seats is also reserved for SYBSc students. Students for this coaching are selected on the basis of entrance examination.

➤ **Skill development (Spoken English, Computer literacy, etc.)**

The college has a positive attitude towards enhancing various skills among students and in support of this various programmes are organized:

1. The college has a programme to develop soft skill and spoken English efficiency amongst the students.
2. Organizing Personality Development Programme (PDP) for improvement in communication skills. This programme is conducted with the help of our sister institute CDC.
3. For the final year students CDC organizes the training programme for Resume writing and mock interview. These sessions train and develop the students in communication skill and prepare them for group discussion and interview after graduation.

The department of English organized a short-term course titled “LANGUAGE THROUGH LITERATURE” for the First year students of B.Sc., BCA and M.Sc.- (IT). The course comprised of eight hours of teaching and learning that was equally distributed over a span of four weeks (from 16.09.13 to 12.10.13). The course aimed mainly at improving the linguistic competence of the students. The objectives of the course were:

- To improve oral and written communication skills,
- To develop the grammatical competence,
- To develop presentation skills,
- To remove the stage fear,
- To enhance the knowledge of sentence structures,
- To develop reading skills,
- To improve the pronunciation.

Students are made computer literate by various workshops and programmes.

1. A programme on Dot Net software was conducted in the years 2010-2011 and 2011-2012. Through this programme interested students from T.Y.BCA were enrolled for three days for learning the software.
2. Android Technology Workshop was also conducted for four days in 2011-2012 wherein 49 students from TYBCA were enrolled. After successful completion of the workshops students were given certificates. Knowledge about computers can be the asset for the students in their studies and for their future endeavors.
3. Another programme conducted by Computer Science Department was CONOSCENZA in 2010-2011, meant for knowledge sharing. Totally 34 students were enrolled and 12 sessions of the programme were conducted.

Girl students were imparted training for self defence through practical sessions dealing with Yoga and Karate.

In addition to this every branch encourages student for giving oral presentations. This is carried out during their regular practical classes in the form of seminars where students choose the topic of their interest and prepare it thoroughly with the help of the faculty members concerned and present it orally in front of the entire class. This is to enable the student to develop presentation skills and develop confidence.

➤ **Support for “slow learners”**

Additional support classes are conducted for slow learners and late admission seekers.

- a. Bridge, Remedial and Revision classes
- b. Tutorial classes for all the students
- c. Crash course and Mock test
- d. Special assignments
- e. Counselling and mentoring system

➤ **Exposures of students to other institution of higher learning/corporate/business house, etc.**

Students of various departments are regularly taken out for industrial visits.

Name of the Department	Place Visited	Date	Programme
Chemical Science	Berger PaintsAgro Tech Pvt Ltd.	09-03-2015	T.Y.B.Sc.(IC)
	Swiss Glass CoatPloycoat Ltd.	09-03-2015	S.Y.B.Sc.(IC)
BT, GT& BNF	A.A.U. Anand	24-02-2015	S.Y.B.Sc. (GT)
Computer Science	Bhaskaracharya Institute For Space Applications and Geo-Informatics, Gandhinagar	04-03-2015	Industrial Visit FY/SYBCA & MSCIT (Sem-1)
	Regional Telecom Training Center (BSNL), Ahmedabad.	23-09-2013	Industrial Visit TYBCA & MScIT (Sem-4)
Computer Science & Physics Science	Regional Telecom Training Center (BSNL), Ahmedabad.	04-09-2014	Industrial Visit BCA, MScIT, BSc (Ins) (Sem-3 & 5)
Environmental Science	BEIL(HazardousWaste Landfill Site), AEPS (Tissue Culture Lab), NCTL(Effluent Treatment Plant) and GLENMARK, Bharuch	27/08/2013 & 28/08/2013	T. Y. B.Sc., Industrial Visit
Environmental Science	Arya Agro Biotech and Research Centre, Santokpuraand Baroda Dairy, Baroda	14/08/2013	S. Y. B. Sc.
Physical Science	J K Cement Company, Rajasthan	28/01/2014 – 01/02/2014	S. Y. &T. Y. B. Sc.
Environmental Science	NCTL(Effluent Treatment Plant) and GLENMARK, Ankleshwar	07/10/2012	T. Y. B. Sc.
Chemical Science	Anchor IND., Bhuj, ParleIND., Bhuj, TranspekIND. And TML IND., Ekalbara, Vadodara	11/09/2012 TO 14/09/2012	T. Y. B. Sc.
Environmental Science	Amul Dairy Wastewater Treatment Plant	10/09/2011	S.Y. B. Sc.
Environmental Science	Meteorological Department Of AAU, Anand	30/09/2011	S.Y. B. Sc.
Mathematical Science	Suzlon Energy, Daman	25/01/2012	S. Y. &T. Y. B. Sc.
Physical Science	Rotex Automation IND. PVT. LTD., Baroda;	08/09/2010	S. Y. &T. Y. B. Sc.
	Sensewell Automation PVT. LTD, Norris Pharmaceuticals LTD., Wockhardt Pharma, LYCA Lab. Ankleshwar, FSL, Gandhinagar	04/01/2011	

Chemical Science	Swiss Glasscoats, ChemfiltIND. And Aum Techno Ceramics LTD., VUNagar. TranspekIND. and TML IND. Ekalbara. FSL, Gandhinagar. UPL, Aarti Dyes, Centre of Excellence, Solid Waste Mgt.& Common Effluent Treatment Plant, Vapi.	08/09/2010 22/01/2011 05/01/2011	S. Y. &T. Y. B. Sc.
Microbiology	Gandhinagar And Science City	28/12/2010-02/01/2011	S. Y. &T. Y. B. Sc.
Physical Science	Atul Industries, Atul, VALSAD,	05/09/2010	S. Y. &T. Y. B. Sc.
Chemical Science	Swiss Glasscoats, ChemfiltIND. And Aum Techno Ceramics LTD., VUNAGAR. Ravikiran Ceramics LTD. Kanjari. TranspekIND. And TML IND. Ekalbara. Jackson IND., Ankleshwar Research And Analytical Infrastructure LTD., BEIL LTD., Syngenta Formulation Unit Ankleshwar. FSL, Gandhinagar	07/01/2010 05/01/2010 19/12/2009 05/01/2011	S. Y. &T. Y. B. Sc.
Environmental Science	Meteorological Department OF AAU, Anand	22/12/ 2009	S Y BSc
Physical Science	Rotex Automation IND. PVT. LTD., Baroda And VV Nagar Sensewell Automation PVT. LTD, Baroda Rotex Automation IND. PVT. LTD., Vvnagar Norris Pharmaceuticals LTD., Wockhardt Pharma, LYCA Lab. Ankleshwar FSL, Gandhinagar	2009-2010	S. Y. &T. Y. B. Sc.
BT, GT& BNF	FSL, Gandhinagar	31/12/2009	T. Y. B. Sc. GT

➤ Every year students visit Institutions of higher learning like Forensic Science Lab, ARIBAS, ISTAR, SICART, AAU, ISRO, PRL, etc.

➤ Amul Dairy, Adani (23/06/2013 & 24/06/2013) and other such business house and corporates are also visited by our students.

➤ **Publication of student magazines**

To save paper and support our environment college takes out an e-magazine. The students of the College very enthusiastically contribute their articles for the magazine. The magazine has students and staff on its editorial board.

COLLEGE NEWSLETTER

College takes out e-newsletter which is of 3-4 pages on a quarterly basis. The newsletter reports about the college activities along with photographs and is linked with our college website.

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

The college facilitates its students to be entrepreneur and create jobs. It makes efforts to facilitate entrepreneurial skills among the students by organizing seminar and workshops, conducting mock interviews. College also encourages the students to sell their products made during the various competitions held in college thereby helping them to know the intricacies of entrepreneurship and translate their classroom knowledge into action.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

- * Additional academic support, flexibility in examinations
- * Special dietary requirements, sports uniform and material
- * Any other

The institution is committed to nurturing students of sound body and mind. It thus encourages students in participating in various extracurricular activities. The members of Madhyasthasamiti and other staff members of college encourage students for their participation.

Students who take part in co curricular activities and miss classes are given the required guidance such as study material by the concerned teachers. Those students are representing the college at University/ State/ National level competition are benefited by bonus marks in internal exam.

The college has a facility of huge ground for sports activities. The college provides all sports equipments, uniforms for sports events and financial assistance for dietary requirements. The sports day is organized to conduct sports events and interclass tournaments. The Physical education instructor assists them in preparing them for sports competitions. Students are provided with a choreographer to help train them to be competitive. The college vehicle is provided with faculty member to escort the students for participating any sports/ extracurricular/ co-curricular activities. Students are encouraged by providing cash prizes for extra ordinary achievements, blazer for sports activities.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

The Entrance Examination Preparation Cell and Placement & Carrier guidance cell provide the guidance, training and support for enhancement of the carrier opportunities to the students. As the college is a UG college, main focus of EEPC is to

train the students to excel in competitive examination for the admission to M.Sc. program in the subjects of life sciences. Dept. of Mathematics has also started the preparation for IIT, JAM. The Dept. of Biotech/GT/BNF has initiated a capacity building programme under the umbrella of GSBTM, Dept. of ST Govt. of Gujarat. The college is a nodal center of Biotechnology for central Gujarat.

Session	Intake Total	SY	TY	Students Selected for PG courses	% selection
2009-10	65*	15	50	40/50	80
2010-11	73*	13	60	47/60	78.3
2011-12	34	0	34	26/34	76.4
2012-13	58	0	58	46/58	79
2013-14	68	12	56	36/56	65
2014-15	122	75	47	-	-

5.1.8. What type of counseling services are made available to the students (academic, personal, career, psycho social etc.)

The faculty participates in personal and academic counseling of the students.

- 1. Academic:** The Heads of the department and faculty members through out the term extend their valuable suggestion/ advice to the students for various subjects and their scope. When the first year student is about to complete and has to enter the second year with selection of subject for degree program, a special program called **Orientation programme** is organized every year, where all the 11 degree program are explained to them with power point presentation by subject faculty members. Parents who are willing to attend this program are allowed with students. Any query for choosing the subject is convincingly solved by the faculty.
- 2. Career Counseling:** Career Counselling is provided to the final year students under the program 'Career Quantum' towards the end of sixth term. Every year expert faculty of Post Graduate Program are invited to brief up the final year students about the scope, job prospects, no of seats, procedure for admission etc about various Master degree program available in various subjects. They invited faculties are from the esteemed institutions like ISTAR, ARIBAS, PG Institutions of SARDAR PATEL UNIVERSITY, SEMCOM etc. They guide the students in the field of their interest.
The college also has its own Career and Placement Cell, which looks after industrial visits, training and placement of the students at different reputed industries. Thus, our college students are provided with sound platform to build their career and future.
- 3. Personal, Psycho Social Counseling:** The appointed counsellors take care of their students group. They regularly conduct meetings with them. Counsellors provide all support and help the students to solve/overcome any problem.

Through PDP (Personality Development Programme) students are exposed to mock interview, resume preparation, group discussion etc. which are the important requirements for getting jobs in corporate world.

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If ‘yes’, detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

Yes, the institution has a structured mechanism for career guidance. Career guidance is provided to the final year students under the program ‘Career Quantum’ towards the end of sixth term. Every year expert faculty of Post Graduate Program are invited to brief up the final year students about the scope, job prospects, no of seats, procedure for admission etc. for various Master degree programs available in various subjects. The experts are invited from the esteemed institutions like ISTAR, ARIBAS, PG Institutions of SARDAR PATEL UNIVERSITY, SEMCOM etc. They guide the students in the field of their interest.

The college also has its own Career and Placement Cell, which looks after industrial visits, training and placement of the students at different reputed industries. Thus, our college students are provided with sound platform to build their career and future.

The college has a Placement Cell headed by a senior faculty. This cell organizes campus interviews for students. It has been found that majority of students opt for higher studies and are less interested for jobs at UG level from year 2009 to 2014. The following students have got placements.

Year	Name of the Company	No. of Students Selected
2009-10	WIPRO, BPO Ltd.	6
	QAQC, Surat	2
	M.B.PatelSci.Coll	1
	Torrent Pharma,Ahmedabad	1
	Claris.Ltd,Ahmedabad	1
	App.BioSci.H’Bad-01	1
	AgribiotechPvt.Ltd	1
	IGBT,New Delhi	1
	SunPharma,Vadodara	1
	Charusat,Changa	1
	INTAS Ltd., Ahmedabad	1
	DFSL,Gandhinagar	1
	Corporation Bank	1
2010-11	WIPRO Ltd.	1
	GururajInd,Baroda	2
	RubaminInd, Halol	4
2011-12	WIPRO Ltd.	3
2012-13	ICICI Bank	6
2013-14	Life Cell International Pvt. Ltd.	5
2014-15	TCS Ltd.	2

5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes, the institution has a Student Grievance Redressal Cell. The cell has put a suggestion box located at near administrative office, Library and near LR Room. Collection of the complain/ grievances submitted in the grievance/ suggestion boxes is done at an interval of 15 days the Principal & the Grievance Cell Coordinator will go through the all grievances (if any). Action is taken to redress grievances after consultation with Principal.

Following major grievances were reported and redressed during the last four years.

Category	Grievance	Redressal
Student	Library Time Extension	Library time extended till 6:00 pm. Daily(10:00 am -6:00 pm) and during Exam(8:00 am – 8:00 pm)
	Photocopy Facility	It has been made available in library.
	Wi-Fi Facility	Facility made available within the campus and Library Building 24 x 7.
	Tutorial Classes	Tutorial classes have been introduced for Chemistry, Physics, Biology, Maths, BCA and M.Sc.-IT. Tutorial classes were being conducted earlier also.
	Separate area for mobile usage	Talk Zone – Separate area for Mobile usage.
	Seating arrangement in Talk zone	Chairs have been provided
	Repairing of Toilet Block	Toilet Block has been Repaired.

5.1.11 What are the institutional provisions for resolving issue pertaining to sexual harassment?

The educational hub VallabhVidyanagar is region where issue concerning sexual harassment are very rare. The college campus is again a very safe place for girl students and female staff. College has 24 hours on duty security guard. There is no threat of any kind of sexual harassment to girl students in campus.

With a view to motivate and empower girls to handle any kind of situation in outer world, “**Collegiate Women Development Cell**” (CWDC) has been introduced since April 2008. It ensures that the college remains highly safe place for the study and for women staff members. Approach of CWDC is proactive and preventive.

The Coordinator & cell members monitor and help to resolve the harassment if any. Though we are having more than 50% of the girls students, but still no such case of sexual harassment is noticed till date.

The CWDC organizes various events on the campus like seminar, workshops, guest lecture, self defense training, poster making, and poetry writing competition to aware the girl students and women staff members about their role in the society.

Documentary or screening creating awareness about such issue are shown. The Ladies representatives of various classes are the members of cell. The cell believes in gender equity.

5.1.12 Is there an anti ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Yes, there is an anti ragging committee constituted by the college. The committee consists of Principal as its Chairman and a senior faculty member as a Co-ordinator with other members. No instance of ragging has been reported in the college and hostel campus.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

- Scholarship/Free ship for reserved category students as per Government Policy.
- Deserving students are provided CVM scholarship
- Subsidized Eye Check up, Thalessemia and General Medical Camp.
- EEPC coaching
- Primary Health Centre
- Doctor on call is also made available.

5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for institutional, academic and infrastructure development?

The Institution does not have a registered Alumni Association cell. However, the College has an Alumni Association cell and it is managed by committee, with the objective of promoting and inspiring a feeling of fraternity among the past students, the present students and the Faculty. The Alumni association has a website (www.nvpasaa.co.in). The addresses and telephone contacts of the Alumni are maintained. Every year the College organizes an Alumni meet for which the alumni are invited through invitation card/ phone call. The alumni are invited to participate College functions. They contribute delivering lectures and also as a judge in various competitions. The institution rests on the rich history of the student's success and glory. The alumni also help the institution by influencing industries and other agencies in getting placements for the institution. The alumni have expanded and strengthened it with new enrolments.

The alumni also provide sponsorship for the prizes and motivate the students for their active participation in events organized by the institution. Alumni have contributed books to the library in 2013-14 to start a book bank for the students. They provided the necessary suggestion during the framing the syllabus and also support sports activities by giving coaching for various sports activities.

5.2 STUDENT PROGRESSION

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlights the trends observed.

A large number of graduates opt for post graduation degree and diploma programs after their graduation. Very less percentage take up employment. Some students work and study at the same time.

Student Progression	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
UG to PG (%)	80-85	80-85	90-95	85-90	85-90
Employed (%)					
-Campus Selection	15-20	15-20	05-10	10-15	10-15
-Other					

5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (cohort wise/batch wise as stipulated by the university)? Furnish programme-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the city/district.

The comparison between the pass percentage for the courses offered in the Institution and the university average is tabulated below:

	B.Sc.		BCA	
Year	University	College	University	College
2014	50.09	91.19	70.15	95.28
2013	85.33	93.43	90.81	96.91
2012	67.09	90.41	63.05	81.55
2011	82.64	90.83	88.21	94.81

Coursewise Result:

Final year	2011	2012	2013	2014
MATHS	100	94.11	86.67	81.25
CS	100	100	50	100
IT	100	93.33	100	87.5
INS	100	95.83	100	100
CHE	90	66.66	89.36	73.33
IC	99	100	92.31	94.74
BT	100	96.61	100	100
GT	100	100	100	100
BNF	99.71	100	100	-----
MI	76.71	72.22	66.67	92.86
ES	100	100	100	100
BCA	94.81	74.75	96.91	95.28

5.2.3 How does the institution facilitate student progression to higher level of education and /or towards employment?

The institution is constantly engaged to motivate students for progression to higher level of education. A large proportion of the students pursue higher studies in their chosen stream. Faculty members and Career Guidance & Placement Cell encourage the students to appear for various competitive examinations. To fulfil the same, EEPC of the institute prepares the students to achieve their goal. The placement cell of the college in collaboration with CDC prepares the students in Resume Writing, Mock interview, and Group Discussion. As and when required, the students and the Alumni are provided the letter of recommendation for their further studies. The advertisements of various institute of higher learning are also displayed on the major notice boards.

5.2.4. Enumerate the special support provided to the students who are at risk of failure and dropout?

The college puts its best efforts to minimize the dropouts and failure. For the slow learners and at the risk of failure students the college has 1. Tutorial Classes, 2. Remedial Classes, and 3. Crash Course:

1. TUTORIAL CLASS:

These classes are for the first year students and are included in regular time table. The students are given practice of the subject topics which seems to be hard in understanding, so that in the exam they can perform well.

At the time of examination, the subject teachers are available in the library for the extended hours. During the time, the students can solve their queries and this helps in enhancing the level of confidence for the exam.

The students are provided reading material, Question bank for the practice, assignments to understand the examination pattern prior the exam. Along with these, the students who have failed in any particular subject, then personal guidance is provided.

2. REMEDIAL CLASS:

In these classes, the students are taught each subject in the form of revision with proper justification. The timing for this is scheduled before / after the teaching hours, so that interested students can join and can learn. The timetable is displayed on college notice board for all subject of first year B. Sc. And B. C. A.

3. CRASH COURSE:

A well defined special coaching for one week prior to university exam is organized. The academically weak students are asked to attend these classes compulsarily. This is a final preparation for university exams with solving of most important questions with answers.

5.3 Student Participation and Activities

5.3.1. List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

The college provides an ample scope and unique opportunity to the students to realize their potential in various activities, like sports, cultural, co curricular etc. Our students participate in district, state and national level in various events.

The College has physical Instructor to guide and train the students for various sports, indoor games (Badminton, Table tennis, Chess), outdoor games (Volleyball, Handball, Cricket, Badminton, Football, Tennis, Kabbadi, Kho-Khoetc.), athletics tournaments at various levels. Colleges also organizes the Annual Athletic meet, Inter class Cricket, Volley Ball, Basket Ball tournaments every year.

The cultural event like folk dance, talent evening, classical singing, group song, theatrical items are regularly organized and winners are given opportunity for the participation in university inter college youth festival.

The extracurricular activity like singing, quiz, elocution, debate, poster making, cartoon making, clay modeling are also framed to provide platform to the youth of the college to mold their personality according to their area of interest.

5.3.2 Furnish the details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

The College encourages the students to develop their sports potential. The following students won prizes in cultural and extracurricular competitions at various levels:

SPORTS EVENTS

YEAR	No. of Games	Number Of Students Participated At Various Levels			Number Of Winners
		inter-college	Inter-university (Zonal Level)	National	
2014-15	15	153	08	01	28
2013-14	14	152	03	00	34
2012-13	16	148	06	00	47
2011-12	19	167	10	01	30
2010-11	18	172	10	00	44
2009-10	17	165	17	00	46

NSS EVENTS

Year	No. Of Students Enrolled	No. Of Students Participated (winners) at Various Events
2014-15	600	50
2013-14	300	20
2012-13	600	35
2011-12	300	00
2010-11	250	03

NCC EVENTS (GIRLS)

Year	No. Students Enrolled	No. Events	No. Of Winners	No Of Students Cleared 'B' Cert.	No Of Students Cleared 'C' Cert.
2014-15	44	04	06	12	01
2013-14	31	03	13	00	06
2012-13	28	03	10	12	08
2011-12	21	03	15	13	08

NCC EVENTS (BOYS)

Year	No. Students Enrolled	No. Of Winners
2014-15	30	08
2013-14	28	---

Essay writing/ debate/ Elocution/ Quiz/ Seminar at inter-college/ state level competitions:

Year	Number of winners
2010-11	39
2011-12	18
2012-13	12
2013-14	32
2014-15	48

Cultural events at youth festivals at S P Uni:

Year	Number of winners
2010-11	24
2011-12	01
2012-13	04
2013-14	05
2014-15	74

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

The college collects the feedback from the graduates annually. On the basis of which assessment of their satisfaction is made to improve the quality of imparting education. As a part of the process, collections of feedback from parents are also collected on the day of open house. The students are asked to provide their feedback on various subjects such as curricular aspects, infrastructure and other facilities in specially designed formats. Similarly parents' feedback is obtained in written formats during open house. They provide oral feedback as and when they visit counsellors. Such feedbacks are analysed by Principal and HODs and necessary action plans are prepared to improve the performance and quality of institutional provisions.

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

The college involves and encourages the students to publish their literary skills. It has a wall magazine called CREATIVE EMISSION which is managed by students regularly. Students are asked to submit their articles, poems, drawings, information etc. to the wall magazine committee round the year. These creative pieces are displayed on wall magazine for everyone to see. The college also encourages the students to write for college magazine which is published annually. In addition, various departments have their own news corners where students also contribute in sharing their views and write up. Some students also participate in paper writing and publish research papers based on project work. In addition to this, with the aim of encouraging creativity of students using ICT facilities, the staff and students are encouraged to share educational videos, photos and creative ideas.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Yes, the institute has Student Council (MadhyasthaSamiti) which aims at the overall development of students' personality thereby inculcating into them the values of our Indian culture and the true sportsmanship. Its aims to achieve the growth of an individual by creating an environment conducive for healthy competition in the college and the society at large.

The student's council is constituted as per the directions of institution, management and the university. The student council body or MadhyasthaSamiti of our college involves maximum student representation in committee. The students serve on different positions like Class Representatives, Ladies Representatives and as Secretaries of various portfolios. Some students are also nominated as Active members to encourage more representation of student on council body. General Secretary of this committee is a Third Year student with good merit. General Secretary in consultation with President, Vice President and other members plans out various extra curricular and co-curricular activities for the year. This student body plays significant role for carrying out any academic activity in the campus. The various student representatives help in better administration of any event. For current

year, the MadhyasthaSamiti has 21 CRs, 07 LRs, 26 Student secretaries for 11 portfolios, and 30 active members with General Secretary. All together **84** student members work in this student central body. In women development cell there are 06 girl students as members.

Student Council (MadhyasthaSamiti) (2014-15)

President: Dr. Basudeb Bakshi (Principal)

Vice President: Dr. Himanshu Trivedi (HOD Physics Department)

General Secretary: Mr. Jaspreetsingh Pabla

All the co-cirricular, extra-cirricular, cultural and sports events are organised under the banner of Madhyastha Samiti which include the following portfolios.

Sr. No.	Portfolio	Major Activities
1	Faculty of Music, Dance & Theatre	Arranges various cultural events in the college like Folk Dance, Musical Evening, Mime, Mimicry, Janmashtami Celebration, Independence Day Celebration, Kite Festival etc. Based on the best performances in such events, students are encouraged to participate in university youth festival and then to zone and national level youth festivals.
2	Faculty of Creative Expressions	This portfolio invites various articles, paintings, posters, collage, graffiti, poems, gazals, short stories, cartoons etc. followed by evaluation, and display on the separate Wall Magazine Board. Wall magazine portfolio of our MadhyasthaSamiti takes care of publication of student material either in Annual issue or on the special Display Board of Wall Magazine.
3	Faculty of Arts	Major events under the portfolios are Mehendi Competition, ArtiThali Decoration Competition, Rakhi Making Competition, Friendship Band Making Competition, Cartoon Making Competition etc. The events are judged and winners are announced to encourage the activities. Exhibition of various sketches, paintings, various currency coins, Nobel laureates of chemistry.
4	Faculty of Knowledge	Arranges Science fair in the college and motivates the science students to participate in science quiz. Also arranges guest lectures to aware the students about latest advancements in the science and technology.
5	Nature Club	Arranges various programs related to environment and makes the students aware about how to save nature and earth.
6	Excursion	Arranges trips to various places of the state and out of the state.
7	Faculty of Sports	Arranges sports day every year and provides training for participating the students at inter-collegiate, state, zone-level, national level events. Every year good number of university championship, runners up positions are occupied by our college team. At zone and national level also students participate and win trophies.
8	Faculty of Social Service	Through students and faculties reaching to needy people of the society with various activities

9	Film club	To make students aware of social issues/stigma prevailing in society
10	Extension Unit	The extension unit adopted Dahemi village, Ta: Borsad, Dist: Anand. This cell assured the villagers to help them in the field of education, environment and social upliftment
11	Knowledge Sharing forum	Providing students a platform to share their knowledge or information

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

The student council body or MadhyasthaSamiti of our college involves maximum student representation in committee. The students serve on different positions like Class Representatives, Ladies Representatives and as Secretaries of various portfolios. Some students are also nominated as Active members to encourage more representation of student on council body. General Secretary of this committee is a Third Year student with good merit. General Secretary is consultation with President, Vice President and other members plan out various extracurricular and co-curricular activities for the year. Apart from Madhyastha Samiti, girl's students are representatives of college women development cell, anti-ragging committee and anti-tobacco cell. Three to four students have been assigned Boys Hostel in charge.

Following are various academic and administrative bodies that have student's representation.

CR/LR and Secretary and Active members:

Sr. No.	Name of the Post	Class	Division	Name of the Student
1	Class Representative	First Year B. Sc. SEM - I	A	Shreya Maheshbhai Rakholia (FYBSc DIV : A – Roll No. 37)
			B	Kanishka Ajay Thakur (FYBSc DIV : B - Roll No. 06)
			C	Pooja Rakeshbhai Mistry (FYBSc DIV : C - Roll No. 01)
			D	Mitesh Rameshbhai Dodiya (FYBSc DIV : D - Roll No. 19)
			E	Mohit K. Dhanvani (FYBSc DIV : E - Roll No. 31)
			F	Diwan Mubinsha Sajidhusen (FYBSc DIV : F - Roll No. 15)
2	Ladies Representative	First Year B. Sc. SEM - I	Biology Group (DIV – A, B, C, D)	Shikha H. Sharma (FYBSc DIV : A – Roll No. 101)
			Maths Group (DIV – E, F)	Tanvi Sharma (FYBSc DIV : F - Roll No. 16)

3	Class Representative	First Year BCA/M Sc(IT) SEM - I	FYBCA	Ali Asgar Kutubuddin Bagichawala(FYBCA G-23)
			MSc(IT)	Patel Mohit Vinodbhai (MSc IT – 15)
4	Class Representative	Second Year BSc/BC A/MSc(I T) Sem – III	BT	Parth R. Thakur (SYBT-53)
			GT/BNF	Garima Sunil Bhatia (SYGT-445)
			ES	Sumer D. Pankaj (SYES-196)
			MI	Akshitha T. Krishnan (SYMI-93)
			CHEM	Patel Shivam B. (SYCHEM-371)
			IC	Mangukiya Nikesh H. (SYIC-253)
			MATHS/IN ST	Mili Nileshbhai Vaishnav (SYMATHS-523)
5	Class Representative	Third Year Sem – V BSc/BC A/MSc(I T)	BCA/CS/IT/ MSc(IT)	Thakkar Jaykrishna H. (SYMScIT-613)
			BT/GT/BN F	Priteshkumar Patel (TYBNF-363)
			MI/ES	Akanksha Dixit (TYES-141)
			CHEM / IC	Malek Mohammad Abrar H. (TYIC-221)
			MATHS/IN ST	Bambhroliya Nehal Jesukhbhai (TYMATHS-389)
6	Ladies Representative	First Year Sem – I BCA/M Sc(IT)	BCA/CS/IT/ MSc(IT)	Chandni Pankajkumar Thakkar (TYMScIT-508)
			FYBCA/MS c(IT)	Devanshi Jayrajbhai Shah (FYBCA- G-17)
7	Ladies Representative	Second Year Sem – III BSc/BC A/MSc(I T)	BT/GT/BN F/ES/MI	Nishita Patel (SYGT-454)
			CHEM/IC/ MATHS/ INST/BCA/ CS/IT/ MSc(IT)	Shivangi S. Chaniyara (SYIC-271)
8	Ladies Representative	Third Year Sem – V BSc/BC A/MSc(I T)	BT/GT/BN F/ES/MI	Jani Bansi Maheshbhai (TYES-148)
			CHEM/IC/ MATHS/ INST/BCA/ CS/IT/ MSc(IT)	Patel Krishna Mukeshbhai (TYMATHS-385)

Sr. No.	FACULTY	SECRETARY	ACTIVE MEMBER
1	Faculty of Music,Dance & Theatre	Varun Bhalodwala (SY BT – 84) Nidhi Shah (TY CHEM – 313) Jay K. Desai (TY BNF – 364)	Ronik Ratneshwar (SY GT – 457) Vedant Patni (SY CHEM – 400) Ms. Chandni Thakkar(MSc(IT))
2	Faculty of Arts	Moxa Patel (TY BT – 73) Naimesh Patel (TYBCA – 444)	Shivani Shah (SY BNF – 497) Aarti Patel (MSc IT – SEM V)
3	Faculty of Sports	Abhishek V. Patel (TYBCA – 411) Kavita U. Tandel (SY CHEM – 339)	Mahendra Pagi (SY CHEM – 276) Urvish K. Patel (SY BCA – 595)
4	Faculty of Creative Expression	Aashka P. Bhatt (TY GT – 331) Meera Patel (TY BT – 336)	Aparna Ajith (TY ES – 146) Parth Thakor (SY BT – 53) Jigar Bambhroliya (SY CHEM – 335) B. Krishna Preeti (SY BT – 35)
5	Faculty of Knowledge	Binal J. Naik (MSc IT – SEM V)	Revathy K. Sudheer (SY BT)
6	Faculty of Social Services	Yashaswi Dixit (TYBCA – 469) Romit Damanwala (TY MSc IT – 520)	Garima Sunil Bhatia (SY GT – 445) Twinkle C. Sindha (SYBSc – 540) Abhishek Vaja (SY BNF – 491)
7	Excursion	Roman Sheikh (TY MSc IT – 519) Ronak Patel (TY BT – 81)	Riddhi Patel (SY MATHS – 530) Bhavik Rudani (SY CHEM – 302)
8	Nature Club	Janki Korde (SY BT – 41) Hemal Shah (SY MI – 110)	Konika Poonia (SY BT – 45) Avani Patel (SY GT – 435) Bhargavi Sonvane (SY GT) Shraddha Prabhakar (SY MI – 147)
9	National Service Scheme	Divyang Patel (TY IC – 210) Nidhi Shah (TY CHEM – 313) Pritesh Patel (TY BNF – 363)	Mili Vaishnav (SY MATHS – 523) Yash Patel (SY CHEM – 409) Prachi Patel (SY MATHS – 528)

10	Knowledge Sharing Forum	Yash Shah (TY MSc IT – 527) Manish Baraiya (TY BT – 69)	Anjali Kaimal (SY BT – 34) Vikram Chauhan(SY CHEM – 402)
11	Film Club	Aishwarya Chauhan	Keya B. Joshi (SY MI – 118) Shreeya M. Shah (SY BT – 56)
12	Anti-Tobacco Cell	Ashish D. Patel (TYBCA – 415) Jatin Dharsandiya (TY Maths – 384)	Jaykrishna Thakkar (SY MSc IT – 613)
13	Extension Unit	Hardik H. Patel (TY MSc IT – 513) Parth S. Barot (TYBCA – 451)	Saurabh S. Patel (SY CHEM – 385)

	Name of Students
Anti Raging Cell	All Ladies Representative are members

5.3.7 How does the institution network and collaborate with the Alumni and former Faculty of the Institution.

Institute has sound network with Alumni through website: www.nvpasaa.co.in.

Alumni and former faculty members are invited for workshops, lectures to motivate the students, as judges for various events for talks and to share their experience.

The institute networks with the Alumni and former Faculty of the Institution by following.

- Alumni meet – Which is regularly held every year.
- Invited talk – Some alumni serve as invited speakers.
- Social ceremony – An invitation is sent to take part in college programme.
- Training programme, Industrial visits, Workshop, Seminar – Alumni play significant supporting role for arranging such activities.
- Extension activities – Some alumni members facilitates out the extension activities in near by areas / vilages.



Criterion

VI

Governance Leadership & Management



CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 INSTITUTIONAL VISION AND LEADERSHIP

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?

The Natubhai V. Patel College of Pure and Applied Sciences (NVPAS) was established in 1996 with the following vision and mission.

- **Vision-** We are determined to constantly strive towards excellence in science education and research by promoting academic freedom, experimentation with new paradigms and creativity in complete alignment with the principles of human well being and social welfare.
- **Mission-** The College has an aim to impart quality education and cultivate a community of enlightened minds with insatiable thirst for knowledge who acquire and apply scientific knowledge within the compass of ethical, ecological and economic values for the sustained and inclusive growth of society and nation.

The Mission and Vision statements of the College very clearly mentions the institute's commitment for bringing out the societal and human upliftment by creating and applying scientific knowledge thereby imparting value based education in Science and Research for cultivating an enlightened fraternity of citizens for the years to come. The NVPAS is a unique institution focused on imparting Basic and Applied science education. It covers a vast spectrum of different factions of society starting from the deprived class to the elite class of the society, the academically poor students to the full bright students, the students from all race, religions, cast and sub castes without any discrimination.

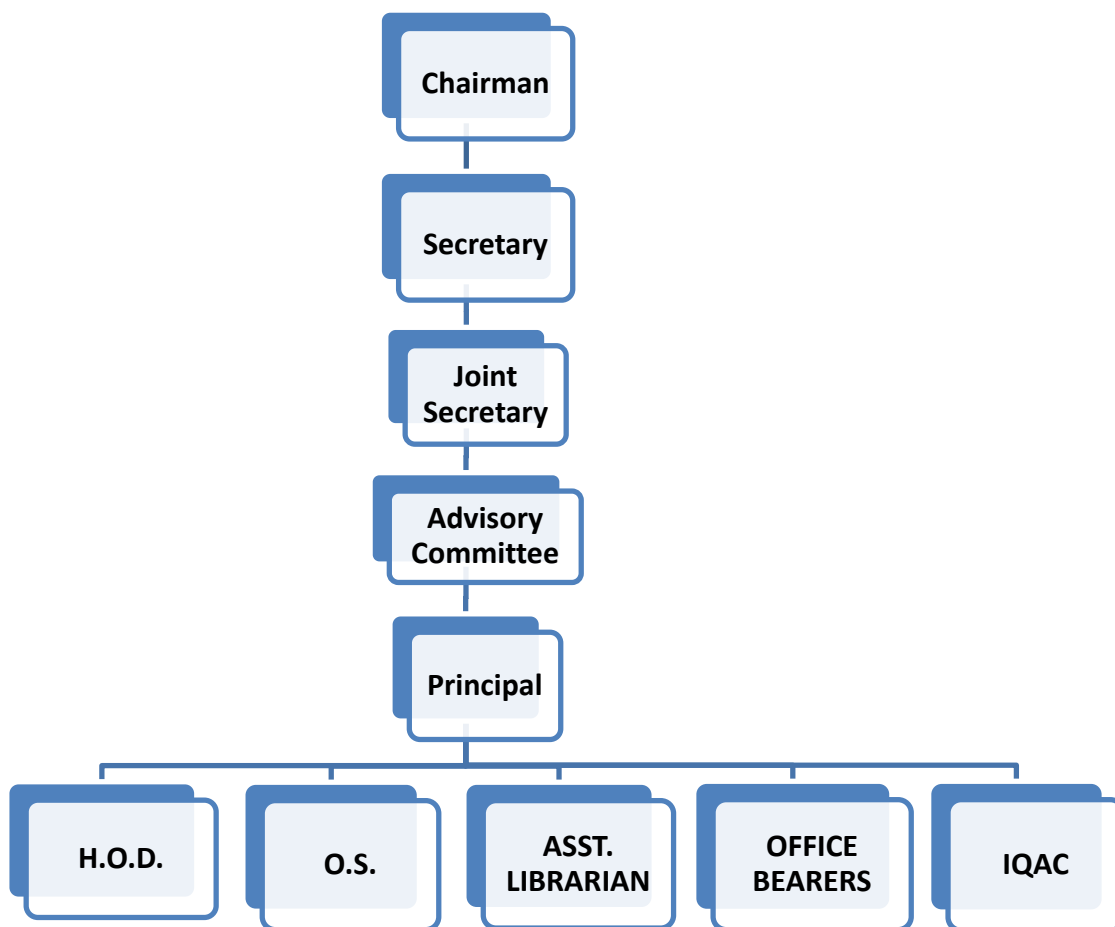
The College with the dedicated support and inspiration from its mentor ManagementCharutarVidyamandal, continuously strive for providing quality education in science with its state-of-the-art infrastructural and intellectual resources. It promotes academic freedom by making available to the students a variety of courses in the emerging occupational areas time to time. With its peculiar initiatives, it challenges the advanced learners and instills into them the thirst for the knowledge and ignites in to them the keen desire for the application of the gained knowledge for the societal and human benefit. With a gamut of extra-curricular and co-curricular activities it instills in to the students the true spirit of healthy competition and the desire to achieve the desired goals by bringing out their dormant talents in an ethical and sustainable way. The Extension activities of the college makes the students aware of the societal, ecological and economical challenges and their remedies with its distinctive and directed efforts in terms of adoption of village and other such socially relevant and useful activities conducted round the year.

Also the mission statement of our college is in tune with the objectives of the National Policy on Education (NPE) which states that “a human being is a positive asset and a precious national resource, which needs to be cherished, nurtured and developed with tenderness and care, coupled with dynamism. Each individual’s growth presents a different range of problems and requirements at every stage. The catalytic action of Education in this complex and dynamic growth process needs to be planned meticulously and executed with great sensitivity. In sum, Education is a unique investment in the present and the future. This cardinal principle is the key to the National Policy Education.” The college achieves the overall development of the young knowledge seekers through a host of activities in a wide range covering the curricular, co-curricular, extra-curricular, and extension activities; to name a few, the Unit(weekly) Tests, Remedial and Tutorial Classes, MadhyasthaSamiti activities, Extension Cell activities, Entrance Exam Preparation Cell, Women Development Cell, Anti-Tobacco Cell, Student Counseling Cell, Crash Course, organizing Seminars and Workshops, Research activities, and hands-on training, etc.

6.1.2 What is the role of top Management, Principal and Faculty in design and implementation of its quality policy and plans?

The Management of the College the CharutarVidyamandal (CVM) was established in 1945 in the heart of the Charotar region, in this educational township of VallabhVidyanagar with the noble aim of upliftment of rural education. Since then it has made a spectacular progress having been responsive to the changing socio-economic environment by venturing into various emerging disciplines of subjects. CVM has established 48 institutions in VallabhVidyanagar and the New VallabhVidyanagar which cater to the demands of the rapidly transforming scenario of education. The CVM is committed to provide value-added and globally relevant education with an emphasis on techno-Management domain, to ensure that our scholars fruitfully exercise their knowledge, skills and values in the global economy. The NVPAS is one of those 48 institutions falling under the umbrella of CVM. It was established in June 1996 by CVM to impart the quality education in the emerging areas of Pure and Applied Sciences.

At NVPAS the Management is the apex governing body which is headed by the Chairman, CVM. It follows a multi-stage governance method where the hierarchy goes from the top to bottom level in a step-wise fashion. The hierarchy diagram for the policy framing and execution of the same is depicted here.



The CVM is headed by the Chairman. The Secretaries and Joint Secretaries assist him in the smooth functioning of different institutions. The Chairman frames the institutional policy to fulfill the mission and vision as well as the academic, societal, ecological and economic objectives of the institution. He then conveys the same to the Secretary and Joint Secretary for further deliberations about the execution of the same. The policy decisions are then conveyed to the Advisory Committee which is headed by the Chairman. The Advisory Committee comprises of Chairman, Secretary, Joint Secretary, Principal, renowned educationists and philanthropists from the society. The policy decisions are put in the Advisory Committee which makes deliberations and finally suggests the plan of action for the proper implementation of the same.

The College Administration is headed by the Principal who appoints the various Heads of the Departments for different subjects/courses to carry out the academic activities. The Heads of the departments are assisted by the Faculty members, Lab. Assistants and Peons to carry out the activities. The Principal appoints the Office Superintendent for the smooth functioning of the college office who takes care of the Administrative activities of the college. He is assisted by senior and junior clerks, accountant and peons. The Principal appoints Assistant Librarian for the smooth functioning of the College Library. He is also assisted by the peons.

The Principal conveys the resolutions and concerns of the Advisory Committee to the Heads of the Department(HOD), Office Superintendent(OS), Faculty Members, and

Librarian through the meetings and seeks their opinion and suggestions in the execution of the action plans. The HODs execute the plan of execution with the help of Faculty members, Lab Assistants and Administrative Staff. The Principal also appoints office bearers for various committees like Student Counseling Cell, Madhyasthasamiti, Examination Cell, NSS, NCC, Extension Activity Cell, Women Development Cell, etc. The office bearers plan the various activities in such a way that the purpose of the activity is best served and the overall objectives of the institution as scripted in the vision and mission statements and its quality policy are achieved.

6.1.3 What is the involvement of the leadership in ensuring?

➤ **The policy statements and action plans for fulfillment of the stated mission**

In order to materialize the objectives and aims and to fulfill the Vision and Mission of the institution the leadership plays a crucial role at all levels. The Management continuously monitors and evaluates the academic and administrative processes of the College through the Principal and always emphasize for efficient and effective use of the infrastructural and intellectual resources.

The Principal frames the action plans to fulfill the goals identified by the Management and executes them through the College IQAC, Exam Coordinator, HODs, and office bearers of various committees. He also ensures that the plans and policies of the Management are exercised properly with true spirit and in true sense. He makes necessary suggestions and takes other corrective measures wherever required.

➤ **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**

The HoDs, the Conveners and Coordinators of various committees, and their team of faculty members and non-teaching staff, General Secretary, CR, LR, Student Secretaries, under the guidance from the Principal, frame the strategies for the effective execution of the policies. The Principal ensures that the proper formulation of the action plans and their proper execution is carried out at every stage in accordance with the objectives to be fulfilled.

➤ **Interaction with stakeholders**

The interaction with the stakeholders especially the students and the parents is one of the major thrust areas of the college. An intensive interaction and feedback mechanism exists at all the levels of leadership in the college. Open house is the program arranged by the college twice in an academic year wherein an intensive interaction with the parents and students takes place and they are shown the answer books of the weekly tests of their wards and the further steps of improvements are suggested by the concerned teachers and counselors. The Principal also interacts with the parents and students for any improvement in academics and other worth while activities. The annual alumni meet is organised by the Alumni Association of the College in which the Principal interacts with alumni and asks for scope of overall improvement in the college.

➤ **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders**

The information gathered from various stake holders are discussed by the Principal in the College IQAC meeting and an action plan is framed after deliberations. This action plan is then conveyed to the Faculty members and the non-teaching staff members thorough the HoDs, OS and the conveners and coordinators of various committees for its proper execution.

➤ **Reinforcing the culture of excellence**

The college is committed to impart quality education to nurture the excellence in education through inculcation of thirst for knowledge in its stake holders and the society at large. The Management, Principal and faculty members help the students to achieve excellence in the curricular and co-curricular activities by challenging the advanced learners and nurturing their special talents and skill through various initiatives like Remedial Classes, Tutorial Classes, Crash Course, Entrance Exam Preparation Cell, Crash workshops by NBTCCB, organizing seminars, various MadhyasthaSamiti activities, extension activities etc.

The faculty members are also encouraged to achieve excellence in teaching by strengthening their knowledge through participation in seminars, symposia, workshops, refresher courses, orientation courses, etc. Motivational speech and talks are arranged frequently to enhance the capacity of faculty members. They are also encouraged to carry out research work and to avail research projects from the various funding agencies. Also the non-teaching and technical staff members (Lab. Assistants) are encouraged to undergo training in terms of the workshops inside and outside the college. The college decided to go for the Centre with Potential for Excellence.

➤ **Champion organizational change**

The strong and intensive interaction with its stake holders facilitates the Management leadership to clearly and swiftly identify the challenges and the strengths of the College and helps them to modify the academic and administrative processes in the organizational set up. The progress of the students, faculty members and the institution as a whole is continuously monitored by the leadership at regular intervals and the necessary suggestions or steps are taken accordingly. The Management ensures constant evaluation and makes administrative changes to improve quality and move towards excellence. The college has installed the Biometric System to monitor the attendance of the staff members. The practice tests are changed to unit tests for effective implementation of exam system, and student performance.

6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

The college has always remained a front runner in the field of imparting quality higher education with its novel initiatives and trends in the monitoring and evaluation of its plans and policies. The procedures adopted by the institution in this regard are as follows :

- Different feedback mechanisms at different levels.
- The effective monitoring and evaluation by Principal, HoDs and IQAC
- The Academic Audit of faculty members
- The effective monitoring of student through counselling cell
- Continuous Attendance monitoring through musters and in case of absentia a leave sanction procedure is made mandatory for the students.
- Staff leaves are also monitored by the Principal.

6.1.5 Give details of the academic leadership provided to the faculty by the top Management?

The top Management of the college encourages and insists upon the capacity building of the faculty members and students. The faculty members are encouraged to enhance their knowledge through participation in International, National and State level Seminars, Refresher and Orientation Courses and symposia, by encouraging them to pursue higher studies and to carry out research project in their area of interest by providing them infrastructural facilities for carrying out the project work, by promoting and sponsoring the seminars and symposia organized in the college, by giving awards for their significant research work, by promoting them to deliver invited lectures, by providing them the academic autonomy for planning the curriculum, etc. the college also grooms the newly appointed faculty through various training organized by Sardar Patel University and other agencies.

6.1.6 How does the college groom leadership at various levels?

The college grooms the leadership at various levels by making committees at different levels starting from the students to the Principal level. The Principal of the College represents the college at UGC, University, Government and other National Agencies. The students are encouraged for the leadership through the various posts of Madhyastha Samiti like, General Secretary, CR, LR, Secretaries and Active members. The faculty members are also encouraged to come forward and take leadership in different committees and also by involving them in organizing various events like seminars, extra-curricular activities, extension activities, and other academic and extra-curricular activities.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments /units of the institution and work towards decentralized governance system?

Freedom of thoughts and freedom to act in tune with the institutional objectives, mission and vision is the key to successful functioning and the materialization of the

institutional goals. Because only a free mind can think constructively and positively to bring out its best to the institution and the society at large. The College Management adheres to this ideology and therefore has given optimum autonomy to its departments, cells and committees through the decentralization model of governance. Everyone from top to the bottom, from Principal to Student, is equipped with some autonomy commensurate with their position and responsibilities. The departmental heads are given the full autonomy with respect to the allocation of responsibilities among its teaching and non-teaching staff members to carry out the day to day tasks in a manner so as to achieve the best utilization of infrastructural and intellectual resources. The faculty members are also equipped with freedom to carry out the teaching work in terms of preparing and executing the lesson plans and also the evaluation of the same. However the HoDs see to it that the autonomy is exercised in a manner such that the overall aims, objectives, mission and vision of the institution are materialized.

The various Cells and Committee Coordinators and Conveners have autonomy with respect to the working to certain level. The office bearers of the various committees like, Extension Activity Cell, EEPC cell, the NSS and NCC units of the College, the Student Counselling Cell, the MadhyasthaSamiti, Anti-Tobacco Cell, etc. are also equipped with the autonomy in regard to the selection of their team members as well as planning and execution of their activities.

The Office Superintendent is also equipped with autonomy with respect to the efficient utilization of the human and infrastructural resources by assigning responsibilities to the members of the non-teaching staff. However, the Principal monitors and evaluates the use of the autonomy at all levels and ensure that the autonomy is exercised in a way so as the objectives are fulfilled.

6.1.8 Does the college promote a culture of participative Management? If ‘yes’, indicate the levels of participative Management.

Yes, the multi-stage model of governance as adopted by the Top Management reflects their strong conviction towards the inclusion of each individual in the process of imparting quality education to achieve the broader goals of the institute. The decentralization of the governance and Management through the departments and committees ensure the percolation of the autonomy to the student level and hence brings out the best constructive ideas which help in bringing out the best results for the institute. The departmental heads and committee coordinators and conveners involve faculty members and non-teaching staff in the process of planning and execution of the activities. They frequently conduct meetings with the team members and discuss the work plan for the academic and extra-curricular activities and thus make them an integral part by involving them in the Management and governance of the institution. Thus the Management promotes the concept of participative Management at all levels.

6.2 STRATEGY DEVELOPMENT AND DEPLOYMENT

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes the Institution has a formally stated quality policy. It is as under:

Quality Policy

The college has an aim to impart quality education and instill into our youth insatiable thirst for knowledge and spirit of inquiry by offering an encouraging academic ethos and promoting excellence. We reaffirm our commitment for rendering quality education and fulfilling the aim through:

- Ensuring excellent academic environment.
- Understanding and fulfilling the academic requirements of the students.
- Recruiting and retaining qualified, self-motivated and disciplined faculty and supporting staff.
- Continuous interaction to build up a contact bridge between parent/guardian and college administration.
- Committed and innovative approach for enhancing learning capacity of students irrespective of their past academic record and medium of instruction.
- Implementation of international quality management system.

This quality policy has been framed keeping in mind the Mission and Vision of the College. It is driven, deployed and reviewed in following ways.

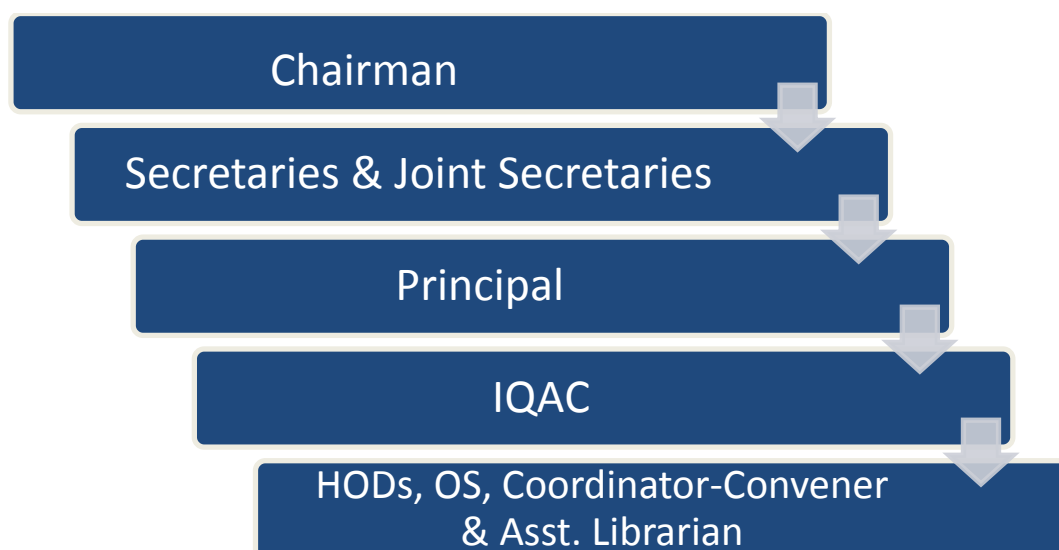
1. Time to time introducing new courses.
2. Regular revision of syllabi/courses as per feed back/ need and demand of the society.
3. Regularly organizing National/State/Regional Seminars in various fields of science.
4. Encouraging active participation of faculty in seminar/symposium for presentation of research work.
5. Encouraging active participation of students at various academic/ co-curricular/cultural events/competitions.
6. Providing healthy environment and ICT facility for enhanced teaching and learning.
7. Add-on courses like Personality Development Program (PDP), Entrance Exam Preparation Cell (EEPC) and Network for Biotechnology Capacity Building Cell (NBTCBC) for overall development of the students.
8. Regular monitoring and assessment of institutional mechanisms and working by internal as well as external mechanisms.
9. Accepting and assessing the feedback regularly from various stake holders to know and improve upon the areas to achieve excellence.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

Yes the Institute has a perspective plan for development. For developing prospective institutional plan, Principal, after discussion with HOD, faculty and /or students, decides the development strategies for institution. This strategy includes introduction of new, Certificate/Degree/Diploma courses, planning for arranging international seminars, online examinations, and offering more elective courses in various subjects academic collaboration with different universities, intitution and agency of state and national level, and the encouragment of its faculty members to uplift their academic qualifications in terms of pursuing M. Phil or Doctorate degrees.

6.2.3 Describe the internal organizational structure and decision making processes.

Organizational structure is topped by the Chairman, CharutarVidyamandal followed by Secretary and Joint Secretaries at Management level. At the institutional level the Principal is the highest authority of followed by the IQAC, various Heads of the departments (HODs) Office Superintendent as well as the Assistant Librarian. Principal convenes meetings with HoDs on every 2nd and 4th Saturday of the month and discusses the issues and takes the feedback about the academic activities. The HODs ensure smooth functioning of academic activities with the support of faculty members, and laboratory staff. Whereas administrative activities are supervised by Office Superintendent (OS) with the support of Senior/Junior clerks, accountants and peons. The library activities are monitored by Assistant Librarian with the support of library staff. Principal convenes meetings with HoDs and other Conveners/Coordinators of different committees and involve them in the decision making process. The decisions regarding the extra-curricular activities are taken by the Principal who is the Ex-officio President of the MadhyasthaSamiti of the college, which carries out all the extra-curricular activities in the college through out the year. One of the HoDs is selected as the Vice-President of the Samiti in the beginning of every year by the Principal. The inputs and feedbacks from IQAC, HoDs, OS, and other conveners and coordinators of various committees are then put to the management(secretaries and joint secretaries) and wherever found necessary, the guidance from the Chairman is also sought.



The college has various academic and administrative bodies such as Advisory Committee, Internal Quality Assurance Cell (IQAC), Examination Committee, Students Counseling Cell, MadhyashaSamiti, Admission Committee, Women's Development Cell, Extension Committee and Grievance Redressal Cell, etc.

6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

A.Teaching & Learning

- Individualized websites of the teachers for providing information for web resources, reference books and other worthwhile information.
- Introduction of new Certificate and Add on courses.
- Organizing national and state level seminar, workshop ,conference on different discipline.
- Organizing “Hands on training” in various subjects.
- Faculty Development Programme by external agencies.
- Weekly tests (Unit Test) College conducts weekly tests on every Monday from 10.30 am to 11.30 am for all the students
- Remedial and tutorial classes for first year students are conducted during morning and evening sessions to help the students in solving their academic difficulties.
- EEPC and NBTCBC- College has established entrance examination preparation cell(EEPC) and NBTCBC(Network of biotechnology for capacity building cell) by GSBTM as nodal centre for Anand-Varodra region to train the students to clear national level entrance examinations to get admissions to various PG courses.

B.Research & Development

Though the institution being an under graduate college, is actively involved in research activities since the inception of the college. The faculty members of the college have completed **12 research projects** till date successfully. The institution faculty have research projects **worth Rs. 1.41crores** from various funding agencies like DBT, Govt. of India, Govt. of India, UGC, New Delhi, FES, DST, ISRO, MHRD etc. Twenty six major and minor research projects are going on in the institution. Presently seven faculty members have been recognized as Ph.D. guide by Sardar Patel University.

C. Community engagement

The college has established the Extension Activity Cell which looks after all the community related extension activities of the college in collaboration with the faculty of social services of MadhyasthaSamiti. The College adopted the village Alarsa and Dahemi where various activities related to Education, Health and Hygiene, Environment and Society are carried out. The cell also collaborates with many NGOs like Lion's Club, Red Cross Society, Rotary Club, Anand Agricultural University, Veterinary College, Karamsad Medical Hospital, Shankara Eye Hospital and Dahemi Gram Panchayat. The list of various activities conducted by the Cell is as follows :

- Blood donation camp.
- Health Check-up camp.
- Eye Check-up camp.
- Awareness programme on AIDS Prevention, Addiction Eradication, Blind Faith Eradication, etc.
- Seminar on Health and Hygiene, Dental Care, Save Water campaign.
- Interaction with the school students of the village.
- Lecture on women empowerment.
- Seminar on plastic pollution.
- Various activities like Mehndi and Rangoli making competitions for village girls.
- Awareness campaign on female foeticide.
- Survey on the life style of villagers.

D. Human resource Management

CVM reviews administrative policies, procedures and practices with a view to adopting best administrative practices, increasing effectiveness and efficiency, in turn ensuring transparency & accountability. Some good administrative practices are:

1. Decentralization of administration.
2. Selection and retention of highly qualified & motivating faculty members and staff.
3. Implementation of UGC sixth pay to all the staff members from November 2007.
4. Management/Institute regularly conducts meeting of advisory committee.
5. Promote and encourage active participation of faculty members in various seminars/conferences.
6. Provide access to internet and LAN facility to the department & Library resources.
7. Financial support for organizing workshop, conference, consultancies and extension services both on and off the campus.

E. Industry interaction

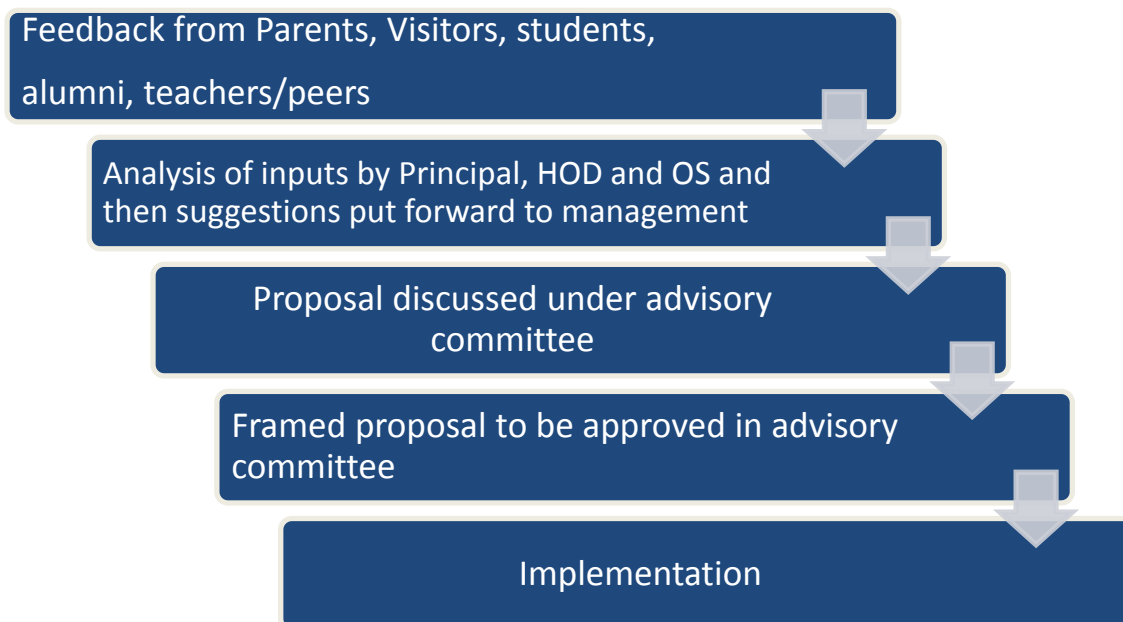
NVPAS has large Industry interaction for placement and research activities for student and teachers.

Industrial visits are planned especially for final year students. Students are also sent for industrial training during summer / winter vacations. Some of such industries are listed here:

- 1 United Phosphorus Ltd. Ankleshwar
- 2 Indian Petrochemicals Bornsation Ltd.
- 3 Alembic industries, Baroda
- 4 Aquire Environment Consultant, baroda
- 5 GSFC, Baroda
- 6 Colour Tax Industry, Surat
- 7 Dhara Oil Co. Palanpur

- 8 Enviro Control Assoc. Pvt. Ltd, Surat
- 9 IPCL, Baroda
- 10 Gujarat Institute of desert Ecology, Bhuj
- 11 Tata Chemicals Ltd. Mithapur
- 12 Life cell Baroda etc.

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top Management and the stakeholders, to review the activities of the institution?



CVM reviews administrative policies, procedures and practices with a view to adopting best practices, increasing effectiveness, efficiency and ensuring transparency and accountability in the process of education. The Principal gathers the information regarding academic and non-academic progress of the institution through Heads of the Departments and coordinators of various committees. The information of the institutional progress is conveyed to the Management by Principal through regular meetings with Management. The Advisory Board of the institution consisting of Management members and other representative also serve as means of transferring the information and recommendation to the Management. The institutional information mainly includes the following:

- (a) Result analysis (Unit tests, Preliminary and External Examinations).
- (b) MadhyasthaSamiti (Students' Central Committee) Activities.
- (c) Intercollegiate/ university events.
- (d) Academic upliftment of the faculties.
- (e) Infrastructure requirement and upgradation.

Principal distributes some of the academic and administrative responsibilities to various Heads of the Departments/ Faculty members which help in smooth functioning of the institution. There are eight departments and the Heads of various departments administrate following activities:

- Deciding and distributing the theory and practical time table.
- Allotting work load to faculties/ lab assistants/ peons.
- Preparing budget estimate for departmental requirements.
- Monitoring of the theory classes and practical labs.
- Monitoring of the timely coverage of the courses.
- Leave sanctions of faculties/ lab assistants/ peons.
- Organizing various faculty development programs/ student related activities/events/seminars.

Some of the education-related processes like counseling cell, remedial classes, EEPC cell, NBTBCB, Placement and training cell, MadhyastaSamiti etc. are also administered by various faculties as office bearers and their team members. The administration work related to office is supervised by Office Superintendent (OS) and the office staff

- Financial transactions such as students fee collection, staff salary, maintenance of expenditure reports, accounting and auditing.
- Maintenance of students database.
- Maintain leave reports.
- Circulation and display of all the relevant notices to the various departments

The various departments collaborate to improve the quality of the education provision in terms of interdepartmental research activities (research projects) and educational programs (Science quiz/competition).

6.2.6 How does the Management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

In order to promote the effectiveness & efficiency of the institutional process, the Management encourages the staff in following ways:

- Encouraging the staff members to pursue higher education (M. Phil./Ph.D./Post Doc.).
- Supporting to organize various state & national level seminars as it believes that “individual growth results in institutional growth”,
- Announcement of Best Counselor Award and Award for Research Project for teaching staff.
- Salary structure as per UGC/State Govt. norms.
- Provision of certain financial assistance for attending and conducting seminars, conferences and workshop.
- Institute has fixed the policy to partial TA/DA and Duty Leave to a faculty who participates and presents a paper in Seminar/Conference/Workshop.
- For a staff development programme required or proposed budget is allotted/sanctioned.
- Faculty pursuing Ph.D. Degree is allowed to have flexibility in regular time table.
- Faculty with excellent performance in teaching and research is encouraged by providing certificate of appreciation.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The management has resolved the following decisions and successfully implemented :

1. Fees structure – divided into two parts for payment
2. Scholarship – new scholarship introduced and implemented
3. Hostel Admission – seats for the college are reserved for boys and girls in the management hostel.
4. Upliftment of hostel facilities is carried out by the management
5. Lift facility is installed in library building
6. Audio visual aides for teaching and learning are introduced in the class rooms.
7. The College Auditorium was constructed with complete audio-visual facilities.
8. The Language Lab was developed to carry out the English Practicals teaching.

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If ‘yes’, what are the efforts made by the institution in obtaining autonomy?

Yes. The college has planned to apply for the autonomy in consultation with the management.

6.2.9 How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder relationship?

The Principal is open to consider any problems faced by faculty and student. For this college has effective Grievance redressal cell, Women Cell, and suggestion box. Any matter related to infrastructure, financial discipline, academics and other issues is forwarded to the Principal who in turn takes the necessary measures.

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute ? Provide details on the issues and decisions of the courts on these?

Yes, three cases have been filed against the institute. The management takes care of all the legal issues of the college by itself and the college has no role to play in such cases.

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If ‘yes’, what was the outcome and response of the institution to such an effort?

Yes, the Principal takes feedback from the students mainly through Suggestion Box. The Principal gathers the feedback regarding academic and non-academic activities in the college through this suggestion box. The grievances of the students are then discussed with the concerned teacher or the staff member and the necessary actions are taken by the Principal. For example, the Library Reading Room timings were

extended upto 10 pm during the examination. Also the students provide feedback about the teachers through a feedback form which are then analysed by the Principal and corrective actions are taken. The suggestions regarding the infrastructural facilities are also discussed in the Advisory committee meeting.

6.3 FACULTY EMPOWERMENT STRATEGIES

6.3.1 What are the efforts made by the institute to enhance the professional development of its teaching and non teaching staff?

➤ Professional development of teaching staff:

In order to encourage and sustain professional development of faculty, the institute provides following amenities:.

1. Institute encouraged faculty by providing Duty Leave who presents oral presentation/paper/ poster in Seminar/Conference/Workshop.

Number of Beneficiaries	Year
19	2009-2010
16	2010-2011
25	2011-2012
14	2012-2013
34	2013-2014
38	2014-2015

2. The events/activities like arranging National and State level seminar, conferences, trainings and workshops etc. are supported by the management.
3. Encouraging the staff members to pursue higher education (M. Phil./Ph.D./Post Doc.)
4. Faculty pursuing Ph.D. or higher degree are endorsed to have flexibility in regular time table.
5. Faculties with excellent performance in research are encouraged by providing certificate of appreciation.
6. Faculties are encouraged to attend orientation courses and refresher courses in their respective subjects.
7. Organize a monthly seminar (every second Saturday) by the faculty and for faculty to render their talent in the college in Reader's club.
8. Every year faculties are appreciated for their effort in counselling a group of students with best counselling award.
9. Principal and Heads of different departments are encouraged to attend seminars and workshops concerning leadership and management skills.
10. Faculty members are encouraged to apply for minor/major research projects under various government schemes.
11. Guest lectures in different fields are arranged to motivate faculties.
12. Senior faculties are encouraged for PhD guide ship even being a undergraduate college. Till now seven faculties have been recognised as the Ph. D. by the Sardar Patel University.

➤ **Professional development of non-teaching staff:**

1. Non-Teaching staffs are encouraged to attend seminars concerned to their subject and occupation.
2. Arranging training for handling computer and using different softwares associated to their work specially for library and office staff.
3. College office staff has under taken training to use tally software.
4. The college librarian is skilled with the uses of SOUL software for maintaining all records of books/magazines properly.
5. The administrative and supporting staff is trained to use new machines and equipments like Photocopier, Printer, Scanner etc.
6. Trainings are organized to update all laboratory assistant regarding new instruments and new practical course curriculum.

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employee for the role and responsibility they perform.

The college believes that the faculty of the institute plays a very vital role in imparting education and achieving the goals of the college and thus plays a pivotal role in the process of teaching and learning. So the college puts all efforts to promote and motivate the teachers to enhance their professional skills and knowledge through interactions at state, national and international level by training and research. For this the college either organizes such programs or allows the staff to participate in workshops, seminars or training. Some of them are as follows :

1. Guidance for the handling of teaching aids to newly recruited staff members e.g. LCD projector, OHP.
2. Workshop conducted on proper usage, maintenance and repairing of Optical and Analytical Lab instrument at ARIBAS. (7-11 oct 2013)
3. Practical laboratory training for new faculty.
4. Workshop conducted on GC-MS, HPLC, NMR & electron microscopy at SICART every year.
5. Training for MS Office and ICT to all faculty by Computer Department.
6. Communication Skill Development programme organized in collaboration with CDC.
7. Every departmental HOD's and faculty members are provided computers, Laptops and internet and printing facilities.
8. Staff club promotes different activities for the recreation of all the staff in the college like lunch get together, movie entertainment and sports activity etc.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

Faculty performance evaluation is designed by three ways in order to incarcerate their performance and talent based on their teaching skills and continuous comprehensive evaluation; Co-curricular /Extracurricular activities; Extension activities and research contribution.

- (1) **Self Appraisal Method:** The faculty members are provided with Teachers' Diary(a day to day record book of faculty's activities) and self appraisal format (also called as Academic Audit) or Annual Performance Index (API) which is duly filled and submitted by all faculty members regularly. It reflects the individual proficiency in academic, scholastic and research contribution. Self appraisal forms are analyzed by Head of the institution and if required conveyed to the management.
- (2) **Feedback from Peer Review:** This is a random practice oversees by the Principal by planning a surprise visit to the faculties theory/practical hours. He evaluates faculties for their teaching proficiency, efficiency, regularity and communication skills based on the prescribed format.
- (3) **Evaluation by Students:** Review of faculty is also accomplished by student feedback where students are legitimate to provide their feedback in the prescribed format regarding the faculty concerned to their subjects. Depending upon the feedback Head of the institution award different grades as A, B, C; A stands for Excellent, B is good and C needs some improvement.

Principal gathers information from all the above three criteria's, which include academics, co-curricular and extracurricular activities. This information is analysed and essential steps are taken for up gradation.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

The performance appraisal report of the staff is examined and scrutinize by the Principal on behalf of the Management. This information is stored as a documentation record with the principal. In case of dissatisfaction, Principal shows the feedback to the faculty members, discuss with him/her about the report to encourages faculty for improved or suggests areas for expansion and caution, if needed. Besides this, Management also encourage faculties by organising workshop based on Faculty Development Programme.

6.3.5 What are the welfare schemes available for teaching and non teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

Following are the welfare measures are offered by institution:

- Management provides residential facilities to the needed staffs.
- University also has a staff welfare fund.
- Sick leave(SL) and Special CL during emergency.
- Provision for thalasemia checking programme on subsidized rates.
- Maternity leaves for all the female and paternity leave for the male staff as per the U.G.C norms.
- The welfare schemes provided by the university are the University Health Centre where the faculty can avail services of consultant by paying a minimum charge of Rs.10/-

- Providing group insurance facility to all the staff. During the last five years the college provided the group insurance facility to the staff members as per the following table :

Academic Year	Group Insurance Amount (Rs)
2009-10	88,000/-
2010-11	140,000/-
2011-12	124,500/-
2012-13	126,00/-
2013-14	110,500/-
2014-15	99,000/-

6.3.6 What are the measures taken by the institution for attracting and retaining eminent faculty?

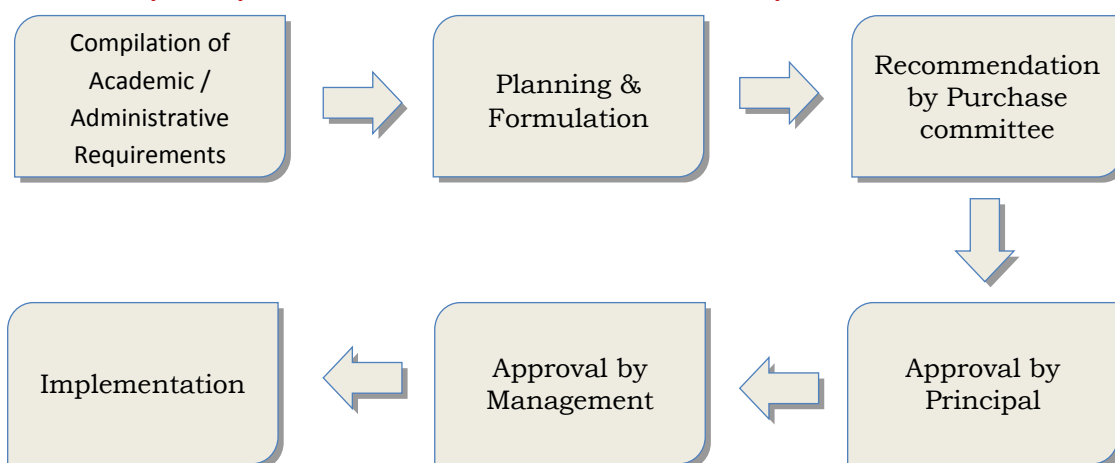
NVPAS believes in providing healthy and progressive work culture full of emancipation, admiration, appreciation, unbiased and freedom of expressions. These are some of the trademarks of NVPAS which work as a magnet to the NVPAS family to remain devotee in spite of getting very lucrative pecuniary offers from outside.

Time to time faculties are supported and encouraged for faculty improvement programme. They are also provided with special facility for research, training concerned to their subjects and interaction with the industries and other research institutes. They are given special leave facility for oral presentations in seminars. Special appraisals are given in the Annual Report during Annual day celebration. Besides this, institute also formulates policies and resources time to time which are helpful in conducting outstanding and remarkable teaching & research environment.

6.4 FINANCIALMANAGEMENT AND RESOURCE MOBILIZATION

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

For any organization to work effectively and efficiently it must have enough resource to run its day to day activities and mobilize resource in timely and efficient manner.



The college being a self-financed institution, generates its financial resources from fees as well as the other grants received from Management, endowment fund, donors

from the society, and other funding agencies like UGC, MOEF, ISRO, GSBTM, GUJCOST etc.

The institute has adopted a multi-layer mechanism to monitor the financial processes for the effective and efficient use of the available financial resources.

In the beginning of academic session the HOD's frame out budget for academic requirements of departments & submit to the Principal. The Principal makes a summative report & puts it to the Management. The Management reviews the budget & allocates the financial resources.

The administrative budgetary provisions are reviewed by the Principal in consultation with O.S. and HOD's and are presented before the Management. In order to ensure the effective and efficient use of financial resources the college has several bodies which periodically review the use of financial resources.

The college has separate department wise committees for making purchase. It is headed by the HOD and includes senior faculty members of the department.

The college advisory committee which is headed by the Chairman, not only reviews the budgetary requirements, but also monitors the use of them as well as makes necessary provisions for the future requirements and allocations.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

The Management (CVM) carries out the internal audit and is done every three months in a year and external audit is done through the recognized chartered accountant firm M/s Apaji Amin & Co. and Mr. Kiranbhai F. Patel Company, Ahmedabad. Separate audit report of the college is maintained through the Management.

Last audit date (External): 31st March 2014

Major Objections: There were no objections raised by the auditor.

6.4.3 What are the major sources of institutional receipts / funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund / corpus available with institutions, if any.

The college is self-sufficient in terms of the financial resources required to fulfill the institute mission. NVPAS is a self-financed college so financial support is obtained in form of fees. The Fee Structure is decided by Principal and Management and is approved by Sardar Patel University. However, the additional financial assistance for the infrastructure & other developments is provided by the Management whenever required, in case of deficit. The detailed account of the audited income & the total expenditure towards the various activities in the last 4 years are shown in the balance sheets. (Refer Annexure 4)

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any)

However, in addition to this the college also mobilizes the financial support from various funding agencies, and the other elements from society. Being recognized under UGC section 2(f) and 12(B) of UGC Act, 1956, the college receives financial assistance for add-on courses, as well as the research projects from UGC, MOEF, ISRO, GSBTM, GUJCOST and other agencies.

6.5 INTERNAL QUALITY ASSURANCE SYSTEM (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

- a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?**

Yes, the institute has established an Internal Quality Assurance Cell (IQAC) in 2009. The coordinator of IQAC is invited to attend the Head's meeting for making strategies and plan for institutional development. The senior members of various departments are also member of IQAC. The following cells are working with IQAC.

- Counseling Cell
- Training and Placement Cell
- Entrance Exam Preparation Cell (EEPC)
- Women's Development Cell
- Extension Unit (NSS and NCC)
- MadhyasthaSamiti (Extra-Curricular Activities)
- Open House Program
- Orientation Program
- Educational Fairs
- Research Committee
- Library Committee
- Departmental Purchase Committee
- Examination Committee
- Anti Tobacco Cell
- Alumni Association
- College Discipline Committee
- Seminar and Workshop Organized by various departments

- b. How many decisions of the IQAC have been approved by the Management/ authorities for implementation and how many of them were actually implemented?**

The IQAC has formulated many suggestions to Management. The suggestions were:

- Academic Audit of faculties.
- Teaching and Non-teaching faculty training programs.
- Peer review of faculties by HOD and senior faculty members.
- Proposal for instruments grants such as Projectors etc.
- Proposal for infrastructure such as such as upgradation of computer lab, establishment of new computer lab, lift at library building, auditorium.

- Setup Wi-Fi campus.
- To apply for college with Potential for Excellence (CPE)

Above all the suggestions given by IQAC are successfully implemented by the Management. Institute had applied for CPE but it could not get because of self finance institute.

c. Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

Yes, The IQAC does have external members from the various factions of society including academics, industries, Alumni etc. The academic veterans guide the institution in planning and materializing its academic goals thereby providing valuable suggestions and discussions. The representatives from the industries help the institution in visualizing the future need of the society and in the matters pertaining to the induction of new courses in the college. They also help the institution in arranging the industrial visits of the students as well as for the placement of students. The representatives from the society in the committee help the institution in visualizing its societal goals and objectives and the social viability of the courses run in the college. The alumni of the college on the committee also help the college by giving their valuable inputs about the courses and help the training and placement cell of the college for the placement of students. The external members help in planning and execution of the strategies by giving their valuable suggestions for materializing its aims and objectives and to maintain its social relevance. The college IQAC committee is comprised of the following members :

Sr. No.	Name	Position	Designation
01.	Dr.BasudebBakshi	Chairperson	Principal
02.	Dr. Rita N. Kumar	Coordinator	HOD, Bio & ES
03.	Dr. J.D. Patel	Member Management	Hon. I/c Secretary, CharutarVidyamandal, VVN
04.	Dr. B.G. Patel	Member of Academic Admin.	Provost, CHARUSAT University, Changa
05.	Dr. V.S. Patel	Member of Academic Admin.	Director-SICART & Ex-Vice Chancellor, S.P. Uni.
06	Dr.Bhavesb Patel	Member Management	Principal, V.P. & RPTP Sci. College, VV Nagar
07.	Dr.Subhash Bhatt	Nominee from parents community	Hon. Advisory, Centre for Interdisciplinary studies in Sci. & Technology
08.	Mr.Sharad Amin	External Expert on Quality Management Industry	HI Power Turbo Ltd., GIDC, VitthalUdyognagar
09.	Ms.AnkitaDesani	Nominee from Alumni	Student Secretary , Alumni Association, NVPASAA
10.	Mr.RushirajZala	Nominee from Alumni	Alumni Member
11	Mr.JaspreetPabla	Nominee from students	General Secretary
12.	Ms.Aakanksha Dixit	Nominee from students	L.R.

13.	Ms.BansiJani	Nominee from students	C.R.
	Representative of Depts. (Senior Faculty Members)		
14.	Dr.Smita Srivastava	Member	HOD, Chemistry
15.	Dr.Shweta Trivedi	Member	Sr. Faculty
16.	Dr.Himanshu Trivedi	Member	HOD, Physics
17.	Dr.Mehul Dave	Member	Sr. Faculty
18.	Dr. Ami Patel	Member	Bio &Env. Science Dept.
19.	Ms. Shreya Bhavsar	Member	HOD, Comp. Science
20.	Dr.Tejas Thakkar	Member	Sr. Faculty
21.	Dr.AkshayaGupte	Member	HOD, Microbiology
22.	Dr.UrvishChhaya	Member	Sr. Faculty
23.	Dr.Madhumati Bora	Member	HOD, BT/GT/BNF
24.	Dr.YachanaJha	Member	Biotechnology Dept.
25.	Mr.KartikJagtap	Member	English Department
26.	Mr.Bhailal Patel	Member	HOD, Maths
27.	Mr.NirajBabariya	Member	Maths Department
28.	Ms.DhruvaShelat	Member Admin.	Office

d. How do students and alumni contribute to the effective functioning of the IQAC?

Some faculty members are alumni of this institution. Directly Students are not members of IQAC Committee, but indirectly they hold positions in the College Central Committee wherein they carry out activities and contribute in IQAC. Incorporating students from each class to IQAC has helped in effective functioning. The General Secretary (GS), Class Representative (CR) and Ladies Representative (LR) meets the student body time to time or as and when required. We invite suggestions from our esteemed alumni and current students through meeting and try to implement them. The feedbacks we receive from them are valuable and go a long way in improving the quality of teaching-learning, facilities for students and teachers and beautification of campus. During college functions and any activities, they are helping hand to maintain discipline, attendance and other worth while activities.

The contribution of students and alumni are as follow:

Student's contribution:

The GS, CR, LR and active members of various committee of madhyasthasamititi are helping the execution of different extracurricular activities of college and also large no. of student participation in various activities.

Alumni's contribution:

- Helping in various extra curricularactivities of MadhyasthaSamiti
- Contributing books in book club
- Expert lecture delivered by alumni(Mr. Ashish Dubey, Manager, Sun Pharma, and Mr.Jigar Patel, Instrument Analyst at USA, delivered lectures)
- Campus interview are conducted through alumni(WIPRO Company)
- Regularly Attend alumni meetings and give suggestions.
- Contribute for creating facilities for institute.

e. How does the IQAC communicate and engage staff from different constituents of the institution?

The IQAC of institute communicates and engages the staff by holding meeting and assigning responsibilities to different faculty members for different activities. The list of activities is as follow:

- NAAC sponsored seminar organized by the institute
- Counselling
- Open house
- Examination
- Training and Placement Cell
- College madhyasthasamiti activities
- Educational fares
- Anti tobacco cell
- Alumni association
- Remedial and tutorial classes
- Crash course
- Personality Development Program (PDP) activity

The staff is also engaged for preparation of documents for NAAC re-accreditation.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalisation.

Yes, Management committee frequently meeting with Principal of the institute and communicates the policy and strategies. Principal holds meeting with HOD's or concerned office superintendent (OS)/convener/coordinators of different cells/committees. The coordinators call the meeting with his committee members and communicate the action plan and all faculties with committee members execute the action plan. The list of various academic and administrative activities carried out in the college is as follow:

- Merit based admission to specialized courses.
- Preparation of academic calendar prior to academic session.
- Detail information about rules and regulation of the college and different courses offered by the institute are available in the college prospectus as well as college website.
- Use of projector facilities in class rooms.
- Internal audit by senior faculty members
- Under the counseling cell each faculty is allotted approximately 30 students for counseling to solve academic and overall other issues of the students.
- Remedial classes and tutorial classes are organized for first year students, a specially having week academic performance.
- Books are issued for a full semester through library facility. Beside books, reading materials are provided by the concern teachers for all subjects.
- Well computerized library by using equipment with SOUL software.
- Internet time slot is allotted for every student in the Internet lab.
- Personality Development Programme [PDP] and Communication skill classes through external Career Development Center [CDC]
- All Exam results are analyzed regularly.

- The accounts are computerized through tally software programme.
- Computer facility with internet is provided to the college office staff.
- Specific duties are allocated to the administrative and supported staff.
- The office staff is trained time to time for upgradation of computer skills.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.

Yes, the institute encourages the staff members to undergo professional training about the Quality Assurance procedures in and outside the institute. The staff members are deputed to attend the seminars and meetings organized by the Knowledge Consortium of Gujarat(KCG), Gandhinagar, meetings held by the government and University about the successful implementation of CBCS system of education etc. Also, the staff members are deputed to attend national seminars organized by NAAC and UGC. Institute also provides Leaves to the staff members for attending, participating or presenting papers in different seminars, workshops, symposia, training programs, orientation programs, refresher courses etc, outside the institute. It has impact on:

- College results
- Research activities
- Research funding

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

Yes, the institute has several internal and external academic audit mechanisms such as:

- Peer review of faculties by HOD and senior faculty members
- Academic audit by the Management
- Review by the advisory committee
- IQAC audit

The outcomes of these academic audits have been used to improve the institutional activities in the following ways:

- Teacher's diary has been introduced
- More emphasis on research has led to the increase research funding in various departments of the institute
- Extensive use of ICT has become possible due to the purchase of new projectors. More classrooms are equipped with ICT facilities.
- The tutorial classes for Physics, Chemistry and Computer subjects in the first year and as well as the crash course have led to increased results at the university exams.

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

The IQAC of the institute keeps itself abreast of the NAAC guidelines continuously

by remaining in touch through communication, website and as and when new guidelines are notified, it makes the necessary suggestions in the IQAC meetings and device the mechanism for implementation.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The College has adopted the method of continuous evaluation of students through different types of assessments. The Examination committee plans and executes the different evaluation mechanisms. The exam committee comprises of the faculty members from each department. The committee members in consultation with HODs, takes care about the timely display of syllabus on the notice boards, setting of question papers, and the display of the marksheets on the notice boards. The teaching learning process is continuously reviewed and evaluated by the HOD's of various departments and the Principal of the college.

- The college follows the academic schedule given by the Sardar Patel University. The college prepare academic calendar based on the schedule given by the university.
- The college Principal conducts meeting with new comer's students in the beginning of the academic year to familiarize them with the academic schedule and the methods of evaluation adopted by the college.
- The HOD assigns the theory and practical classes to the concern faculties as per the time table provided by the college.
- The HOD's in consultation with faculty reviews the course completion and the other aspects of class room teaching and send the course completion reports to the Principal periodically (4 times per semester). The Principal of the college discuss the various aspects in HOD's meeting and make necessary suggestions for further action.
- The student attendance is monitored and reviewed by the respective counselors and those with inadequate attendance are specially identified and the parents are informed by the post and telephone for information and control majors.
- The suggestions from the students obtain through suggestion box are reviewed time to time by the Principal and the academic problems are addressed by taking necessary actions.
- The HOD's makes result analysis in consultation with faculty for reach exam and sends the reports to Principal, who gives necessary suggestions for further improvements in the teaching learning strategies.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

The institution has device several mechanism by which it communicates its quality assurance policies, mechanism and outcomes to the different stakeholders effectively. These mechanisms are as follow:

- The Principal frequently meets the Management to appraise the development of the college.

- The Principal holds meeting with HOD's to convey Management policy and action plan.
- Principal also meets with the students in the beginning of academic year to make them aware about the various academic and administrative activities of the college.
- The broucher and leaflets are provided to the students and parents at the time of admission which clearly states the rules and regulation of the college.
- The institution separately and jointly organizes educational fairs at different places across and outside the state.
- The exam coordinator communicates examination guidelines to the students through notice board and counselors.
- The college policies are also placed on the college website which includes e-magazine, e-newsletter, etc.
- The important achievements and events of students and faculty members are published in the local leading news paper.
- The college communicates to the parents through postal letters to convey the performance of students.
- An open house program is arranged twice a year in the college where in the answer book of different examination are shown and progress of the students is discussed for further action.
- The college also communicates its quality policy through the coordinators of different cells and committees.
- The Managements has a strong representation in the Academic council, Senate, Syndicate, board of the studies (BOS) in various departments and other committees of the Sardar Patel University.
- The college publishes the annual report of its activities at the end of the academic year.
- The parents are invited to attend annual day celebration.
- Alumni meet is organized every year to interact and take feedback from alumni.

Any other relevant information regarding Governance, Leadership, and Management which the college would like to include.

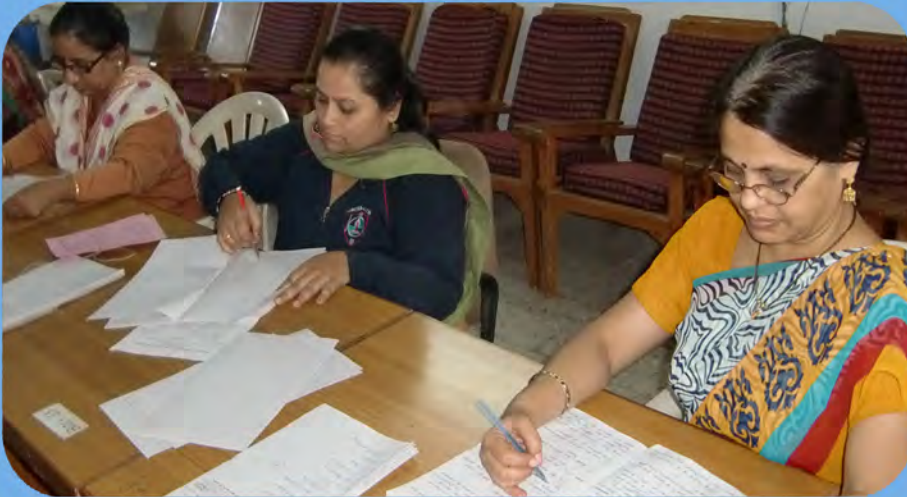
- The college is planning to introduce e-governance from the next academic year.
- The Principal of the college promotes team work to maintain and improve the quality of education.
- The Principal of the college supports all the HOD's of various departments and provides freedom to conduct seminars, workshops, symposium, etc.
- The Principal of the college gives freedom to all HOD's for conducting industrial visits to various companies.
- The Management updates the infrastructure facilities time to time to meet the new requirements arising due to the updating of syllabi or the introduction of new courses.
- Arranging interview for placement of students in various companies and industries.
- Development of Interactive website on social media.



Criterion

VII

Innovations & Best Practices



CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 ENVIRONMENT CONSCIOUSNESS

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

Yes, even though we do not conduct a formal green audit, the institution has worked out its own mechanism of green audit. This temple of knowledge has always been instrumental in propagating environmental consciousness and its activities are directed towards developing the awareness for conservation of energy and biodiversity. The institute takes care to adopt the eco-friendly approach in all its activities. Most of the activities are organized to make the students aware of the significant of protecting the environment. The institute has been working meticulously to maintain the green environment on the campus.

➤ Waste control

In order to reduce and control the waste on the campus, the college has set number of dust bins in college building and campus. The college is planning to initiate vermi composting in order to utilize the waste. The institution does not encourage the use of plastic bags and plastic containers on campus.

➤ Water Check :

- 1) The regular qualitative and quantitative analysis of water is made for drinking water supply.
- 2) The points with leakage and overflow of water in various laboratories are identified and appropriate measures are taken to prevent wastage of water.
- 3) The college has a huge underground water tank with the storage capacity of 40,000 litres which stores rainwater through the rain water harvesting system. This water is being utilized in various laboratories

➤ Energy Consumption :

The staff and the students are committed to save energy. The students and staff are trained for wise use of electricity. The fans and lights in class rooms are switched off during the recess and soon after the classes in evening by the class representative or students.

➤ Biodiversity :

The college maintains diverse flora on campus. A botanical garden has been developed which harbours number of medicinally and economically important plant species. Neither pesticides nor herbicides are used in the college garden.

➤ Plants found in the College quadrangle:

Herbs : Barmasi, Duranta – Forming a hedge, Lily plants, Mogra, Tulsi, Euphobia
Shrubs :Ratrani, Lalpatti, Nerium, Ixora, Cycas, Tagar, Lemon

Trees :Mango, Galtaro, Asopalav, Palm, Casuarina, Neem, Kamini, Eulalyptus, Imli.

➤ **Plants found in Library premises:**

Herbs :Wild tulsi, Rauwolfia, Tulsi, Tylophora, Aloe vera, mogra, Adusi.

Shrubs :Thuja, Nerium, Hibiscus, Ixora, Nagchampa, Custard apple, Tagar, Euphobia, Musa.

Trees :Palm, Lemon, Dalbergia, Peepal, Pomegranate.

➤ **Plants found in Front courtyard of the college:**

Herbs : Sansevera, Mamelia, Duranta - forming a hedge, Colocasia, Vetiver, Lily, Karipatta, Barmasi,

Trees :Casuarina, Asopalav, Galtaro, Billipatta, Flame of the forest, Sapota, Guava, Palm

There are more than 40 types of plants of medicinal value planted in front courtyard

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

Mentioned below are the initiatives taken by the college to make the campus eco-friendly

On Energy Conservation:

- The staff and the students are committed to save energy. Various measures for energy conservations have been taken up by the institute.
- Eco-friendly structure of our building facilitates the minimal use of tube lights. The class rooms are spacious with ample number of windows letting in sufficient light and facilitates air circulation.
- Faculty and students are instructed to make a proper use of electricity and to switch off the lights and fans when not in use.
- Purchase of standard electrical equipment and appliances with power saving ratings.

Air conditioners:

- All the air conditioners have been purchased with star ratings and are generally operated at a temp of 24-26°C in order to save energy.

Water Harvesting:

- With a view to minimizing water shortage (and reusing and recycling) rainwater harvesting system has been set up in the college. There is an underground tank with the dimension 19.6×9.6×12 ft that can store up to 40,000 liters of rain water. This single stage distilled water has been used

round the year in Chemistry and Biology practical laboratories since the inception of the college.

Minimizing the use of paper:

- To minimize the paper waste, the number of pages in answer-sheet are reduced, office circular & all notices are sent through mails.
- In order to save wastage of paper, head and faculty of all the departments are sent notices through e-mail.
- Energy consumption in classrooms, labs, auditorium, corridors and quadrangle is closely monitored. Students are instructed to switch off the power immediately after the classes are over.
- In order to reduce electricity consumption the walls of classrooms and labs are painted with lighter shades.
- The student representatives ensure that the classrooms and campus are kept clean. Dust bins are kept at all places to maintain cleanliness.
- The Nature club of the college organizes various programmes to spread awareness about environment pollution and preventive measures among students and the society.
- Students and staff members are suggested to make the optimum use of public transportation system to reduce pollution level and promote conservation of natural resources.
- Instead of using woods or gas, solar panels are used to provide hot water in the boys and girls hostel.
- The 'Carbon Foot Print Club' has been established in the college. It is a joint venture of Dept of Biological and Environmental Sciences of the college and an industry -Hi-Speed Turbo, GIDC, VitthalUdyognagar. This club aims at spreading awareness among students and society regarding the emission of Carbon Dioxide, control measures and knowing their own carbon foot-print. Various activities are organized by this club to raise awareness regarding conservation of mother earth.

Activities organized by Carbon Foot-Print club

Sr. No.	Date	Activities
1	16-09-11	Presentation on ozone (Celebration of Ozone Day)
2	28-02-12	Slogan Writing/ Poem Writing/ Article Writing/ Cartoon Making/ Best Out of Waste
3	29-02-12	Intercollegiate Essay Writing Competition on 'Value of Science in Everyday Life' Intercollegiate Quiz based on General Science.
4	09-03-12	Distribution of Prize and Certificates for Members
5	25-06-12	Visit to Hi-Speed Turbo Industry
6	07-12-12	Presentation related to Carbon Foot-Print by Students
7	20-09-13	Presentation by Abhishek Patel on Carbon Foot-Print
8	20-09-13	Quiz Competition.

Hazardous waste management:

The college is cautious regarding the disposal of hazardous waste. The lab assistants are instructed to store the degradable and non-degradable wastage separately. The degradable waste is disposed in the compost pit whereas the non-degradable waste is disposed in the collection van of the municipality.

No harmful chemicals are used in Biological labs, whereas culture plates of microbes and contaminated tissue culture tubes are first decontaminated in autoclave and then disposed of to ensure complete safety.

In Computer science department e-waste is dumped in store.

In Chemical laboratory special hazards may be infrastructural hazards, fire or explosion hazards, mechanical hazards, electric hazards, chemical hazards and health hazards.

In order to control and minimize hazard, there is

- A separate chemical store room for storage and handling chemicals.
- Proper installation and wiring facilities for electrical equipments. To prevent electric hazards use of MCB switch and earthing to all electrical equipments.
- Exhaust fan facility for proper and satisfactory exit of gases and to provide proper circulation of air.
- An arrangement for emergency exit
- A fire extinguishers in all laboratories
- Use of hand gloves, spectacles by laboratory staff to prepare solutions.
- It is mandatory for the students to wear apron in the laboratory.
- Students are instructed and made aware about chemical hazards on very first day of laboratory practical.
- Hazardous experiments are carried out in fuming cupboard.
- As a part of safety precautions, some informative charts are also displayed in laboratories and chemical store explaining chemical hazards and remedies.
- A First Aid Box is always kept ready to cope with any minor medical help.
- The college provides vehicle for the transportation of the patient in case of any emergency.

Wealth from waste:

- The students from the college through their creative ideas used waste paper, tins, tiles etc. and prepared various art work like paper diary, purses, flower vase, paintings, wall hangings and other decorative show pieces. The exhibits prepared were sold during open houses, teacher's day and other cultural program. The amount collected was used for donation at an orphanage in Nadiad.

Use of Gas pipelines instead of Gas cylinder

- The old tradition of providing gas supply with LPG gas cylinders is replaced with natural gas pipelines. This ensures safety and least wastage of gas on the premises.

7.2 INNOVATIONS

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the college.

There are various faculties within the student's central council which take care of intellectual development of students. The innovations could be of an idea, method, a process used to enhance efficiency, productivity, quality and acceptance by the stake holders.

1. Tutorial classes:

Tutorial classes has proved to be a great boon for the students to strengthen their subject knowledge and gain confidence for the preparation of examination. It is a special coaching in a small batches of 25 to 30 students. Tutorial classes are conducted regularly for Biology since inception, whereas introduced in the subjects of Physics, Chemistry, BCA and 1st year of M.Sc. (IT) Integrated from last year.

Tutorial classes are mentioned in regular timetable and specific class rooms are allocated subject wise. Record of attendance is maintained for tutorial classes, separately.

2. Compliance system

The college has adopted compliance system as an academic reform. The regular attendance of 80 % is mandatory in theory and practical for all the students. Moreover, attending weekly internal test is also mandatory for every student as an eligibility criterion for appearing in university examination. However, if a student is not able to comply with the requisites due to medical or some other reasons, then s/he is required to meet the subject teacher and complete the assignment given to prove that s/he has learned the subject matter. This system has proved helpful to students in achieving the targets and in improving the student-teacher relationship.

3. Wi-Fi facility for teachers and students

College has been providing Wi-Fi facility free of charge to all the students as well as staff members since 2009. This Wi-Fi facility is also availed in our library building. Total four hours per day are allotted to students and faculty in college building and another four hours in library building.

4. Language through Literature

“Language through Literature” course for the First year students of B.Sc., BCA and M.Sc.-(IT) was organized by the department of English from 16.09.13 to 12.10.13. The course mainly aimed at improving the linguistic competence of the students. Six short stories were selected in this course. The students were made to read the short stories and the following points were discussed by the teachers:

- Lexical Items
- Idiomatic expressions
- Alternative Sentence Structures
- Use of Modals and Tenses
- Connectives and linkages
- The theme and structure of the text

The students were expected to note down each discussed point and they had to submit the same to the teacher concerned after the completion of the programme. The students were asked to share their understanding of the story by making a brief presentation during the last two hours of the course.

Almost all the students admitted that they were satisfied with the course content as well as the way it was handled. They opined that they would like to attend such programmes in future also.

5. Biometric system for attendance of faculty

One of the most prevalent biometric technologies is the fingerprint attendance system. To monitor the employee attendance details better, and to ease the problems of storing, monitoring and retrieving attendance record of the staff, our college has installed this system.

It also helps in tracking employee's attendance record pattern every month. This system eliminates the need for stationary materials and personnel for the keeping of records.

6. Faculty forum for interdisciplinary studies –“GyanGoshthi”.

The college has initiated a novel practice called “GyanGoshthi- A Faculty Forum for Interdisciplinary Studies which aims at providing the faculty a platform to share their subject / general knowledge on the recent learning among the peer group.

Under this program, the staff members are given an opportunity to present their topic in front of all faculty members using Audio visual aid. The topic presentation is followed by question-answer and discussion and is ended by Principal's remarks.

Mentioned below is the list of the sessions conducted till this date.

Date	Name of the faculty	Topic of lecture
09.09.11	Dr.AkshayaGupte	Medicine in sports
08.10.11	Dr. Amit Ballani	Role of a teacher
12.11.11	Dr.Archana Shah	Journey to space
10.12.11	Dr. Ami Patel	Mahabharata-Management perspective
23.01.12	Dr.Yogesh Patel	NSS activities
11.02.12	Dr.UrvishChhaya	How to design multiple choice test questions.
16.03.12	Dr.ArtiKhabia	Corruption in India
16.08.12	Dr.Kundan Kumar Mishra	Youth potential and challenge
14.09.12	Mr.Bhailalbhai Patel	LaTex
15.10.12	Ms.AmishaSurti	Proud to be an Indian
22.1.13	Dr. Bharat Patel	Learning content design software.
19.07.13	Dr.ChetanDudhagara	Statue of unity
29.08.13	Dr.Isha Desai	Genetic disorder- Autism
31.01.14	Mr. J. P. Karunakaran	Mathematical Jugglery

7. Film club

This activity was initiated in the year (2013-14) with the aim of making students aware of social taboos prevailing in society. Today's youth are the agents of change for tomorrow. The youth can be sensitized towards such taboos in order to prevent negative impact and create awareness in society. The documentaries are shown to students in Language Lab/ college auditorium. Students are informed about the topic of the documentary film through a notice. At the outset, a brief introduction of the topic is given. Then the student secretary summarizes the documentary. After students have watched the documentary, group discussion is organized wherein students express their own views on the topic of the documentary.

1. The first documentary 'The Untouched India' focused upon the caste discrimination still prevailing in almost every state of India, which is the hindrance to the uplift and progress of the country.
2. The second documentary 'Slow Poisoning of India' was based on harmful effects of pesticides on living organism which are widely used in farming. At the end of the session, it was decided that students would spread awareness among farmers about ill effects of pesticides. The college will also take the initiative through extension programme (run by NSS) for improving farming using biological or herbal fertilizers in place of pesticides.
3. In the third documentary 'You can Win' Shiv Khhera appeals the youngsters to do their best so that our country becomes the better place to live. It highlights the weakness of Indian policies after freedom which has led to downfall of the moral values in our day-to-day life.

8. National Library and Information Services Infrastructure for Scholarly Context (N-LIST)

N-LIST provides access to e-resources to students, researchers and faculty through the servers installed at INFLIBNET. N-LIST project enables to a user access selected electronic resources including e-journals, books and bibliographic databases. All the faculty members of the college are provided with their unique log-in ID and password through which they can access this service.

9. Modular Object Oriented Dynamic Learning Environment (MOODLE) :-

Computer Science Department has developed software named MOODLE which is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning any time anywhere. This system will be used by parents and students through the link available in college website which can be accessed from anywhere to view monthly attendance, marks of various tests conducted by the college and uploaded assignments, reading material and events information uploaded by the faculty members.

In addition to these, the college has initiated some more important Innovative Practices which have strengthened the vision and mission of the college and laid positive impact on the functioning of the college.

Innovative Practices:

Innovative Practice 1:

N-BT-CBC (Network of Biotechnology Capacity Building Cell of Gujarat State Biotechnology Mission)

Goal:

To prepare excellent man power in the field of Biotechnology and Life Sciences

- To introduce the students with prerequisites of entrance examinations
- To provide academic motivation for higher learning
- To make students aware of various Post graduate programs and preparation for those competitive entrance exams
- To prepare students to get selected for Post graduate programs in country's best institutes and universities

Context:

It is being envisaged that structured mentoring and provision of an institutional framework of Cells for Capacity Building shall help the budding biotechnologists to aim and hit high; at increasingly competitive examinations for professional careers in the field of Biotechnology. GSBTM has taken initiative towards development of an Institutional Network for Capacity Building Cells [N-BT-CBCs] in the field of Biotechnology. The State Government has strategized by formation of several Capacity Building Cells in Biotechnology [BT-CBCs] at various academic organizations of the state. The Capacity Building Cells [CBCs] support the activities of GSBTM in the interest of Capacity Building of Students. Each CBC endeavours in its own way towards Capacity Building of the students. However, each cell also conducts a structured CRASH WORKSHOP to train the future Biotech Graduates, as per the Guidelines /BLUE-PRINT developed by this office. NVPAS is one of the CBCs to conduct the above mentioned activities.

Numbers of institutions of higher learning conduct admission process through entrance examination. To make the tough and seemingly difficult target achievable, the CBC of NVPAS conducts many programs for students.

Any student getting admission in country's premier institute becomes the brand ambassador of the state and college and is exposed to higher academic environment and career growth opportunities.

Practice:

CBC invites applications from students studying in various colleges falling within their area. A transparent un-biased mechanism for selection of candidates for the Crash Workshop(s) is followed. Most often the selection of the candidates is on the basis of their merit at a State-wide Screening Test. Alternatively, the BT-CBC facing difficulties in executing the State-wide Screening Test may request nomination of

candidates from the Head of Departments/Coordinators/Sr. Faculty of the Biotech or related programmes in the colleges falling within their area.

The Trainees: Students in the penultimate and final year of graduation of any of the Biotech or allied subjects (like Microbiology, Biochemistry, Genetics, Bioinformatics, Environmental Sciences/technology, Molecular Biology, Human Genetics, etc.) apply for training at the CRASH WORKSHOP. A limited number of outstanding cases of non-fresher may also be entertained by each cell. Each cell is expected to train a prescribed number of candidates, with a good representation from all of the other colleges in the nearby area.

Glimpse of the training:

Organizing Crash workshop for entrance exam preparation for the selected students (12 days Per Year; 8:00 AM to 8:00 PM)

The Crash Workshop is an intensive period of training with some of the best available resource persons conducting more than 60 formal lecture sessions, with ample informal sessions, psychological orientation sessions, mock tests, etc. Aspirants should be ready for an intensive period of learning spanning more than 12 hours a day. Participation in these workshops is free of cost. However, to ensure that the enrolled aspirants maintain an attendance of over 90%, a refundable deposit from each aspirant has been decided.

Orientation programs for participating colleges about N-BT-CBC and careers in life sciences:

It was found that general students are not aware of the PG entrance examination and GSBTM initiatives of N-BT-CBC. So All the centre coordinators in consultation and permission with respective college of their regions, conduct an orientation session of SY and TY B.Sc. students of Life sciences about various national level competitive exams, important dates and their candidature for such exams. Coordinators also sensitize them about N-BT-CBC initiative and the entire process of selection and preparation thereafter. These orientation sessions have been found to be very effective and successful to spread awareness on these issues.

Valedictory and felicitation programs for the successful students:

In order to motivate students who excelled at National Competitive Examinations, GSBTM is organizing this valedictory cum felicitation programme where successful students are felicitated at a PublicFunction, at the time of convenience – i.e. not disturbing their academic calendar. At the same time it was also desirable that the prospective students witness the event of felicitation of the senior batch and get inspired to excel and bring laurels to the state. So students of all the centres benefit from the address of the very eminent academicians and get inspired by the proceedings of the event. Such programs are generally conducted at AMA, Ahmedabad or Science City etc. The successful students with in the rank of top 100 in JNU, CBEE are felicitated with Gold (plated) medal and memento, while the rest rankers are awarded with memento by eminent academician.

Evidence of Success:

A good number of students are getting selected in various Entrance examinations due to such programs. Almost 5-6 students every year are able to crack JNU, CBEE and other entrance exams. Additionally students are becoming more aware of career opportunities and other competitive exams such as NET & GATE. A good number of students are able to clear these exams due to awareness introduced at under-graduate level.

Problems encountered:

- a) Selection of students and finalization of dates for the conduction of program becomes an important issue since different colleges have different academic schedules.
- b) Lack of well trained resource persons for such specific domain of competitive exam preparation.

For more Information:

<http://btm.gujarat.gov.in/btm/network-biotech-capacity-building.htm#link1>

Innovative Practice 2:

Career Oriented Course in Process Development in Industrial Biotechnology

Goal:

- Enable the student to understand the complexity of an Industrial process and to translate the understanding into professional competence.
- Enabling the students to learn for planning, execution of the processes and helping the students for the selection of correct careers with industries.
- Enable the student to take Industrial Research Projects.

This is an add-on course where the undergraduate students can pursue:

- (a) Certificate Course in Process Development in Industrial Biotechnology (1 year)
- (b) Diploma in Process Development in Industrial Biotechnology (2year).

Industrial Microbiology / Biotechnology is an interdisciplinary which requires the knowledge of Biochemistry, Microbiology, Chemical Engineering, Computational and Mathematical modelling to develop an commercial industrial process. This cause gives the students extra credits and will have an additional advantage during the seeking of a job in an industry. Such a course provides a platform for an industry-academia interaction.

The programme introduces and outlines the necessity of an industry.

Practice:

Experienced and qualified teachers from the Dept. of Microbiology teach the curriculum of the course approved by the S.P.University. Guest lectures from industry

are arranged time to time. The students enrolled in the course carry out an in-house project with respect to production, Quality Control and other industrial parameters. The students have successfully completed this course earns an extra 40 credits along with the credit he/she during graduation.

Evidence of Success:

COC Course is restricted to 30 students. The students enrolled are trained and have taken the benefit of the extra credits to obtain admission to higher educational programmes abroad.

Problems Encountered:

As this is an add-on course. The students of the college studying in any of the three years can enrol themselves. The main challenge is to make arrangement of lecture and practical which are arranged after the college hours. So also the course co-ordinator and faculty has to ensure that the grades of the students do not fall in his graduate degree.

Innovative Practice 3: Pre admission and admission counselling

A. Pre admission counselling

Goal:

To reach out to the students well in advance and to sensitize the students regarding scope and opportunities in the subject of his/her interest

Context:

When students pass out from the higher secondary, they work out on limited number of options as their career; by and large all of them are willing to join professional courses. In order to generate awareness among the students regarding the degree courses in the pure and applied sciences as well as to make them aware regarding the upcoming trends in such fields, comparative analysis of such courses with the professional courses and rational explanation is very much required for the students to avail the best suitable career as per their level of competence.

Practice:

- (a) Education fair: Institute becomes a part of education fair organized by management in association with various agencies.
- (b) Visiting Schools: College prepares the list of various schools in the nearby vicinity and team of faculty members deliver power point presentation in English as well as in vernacular language to orient the students.

Evidence of Success:

- Advertisement given in the news papers.
- List of faculties participated in the fair.

- Register mentioning the number of student visited and nature of inquiry.
- List of schools visited.
- CD of power point presentation.
- Photographs.

Problems encountered:

- Pre occupied mind set of the students.
- More inclination towards the monetary gains.
- Lack of awareness.

B. Admission Counselling

Goal:

To facilitate the process of admission with minimum error rate and to help the students in minimizing hurdles which they encounter.

Context:

Students seeking admission at the institute come from different parts of state and the country, having diversity in terms of curriculum, mother tongue or vernacular language and patterns of admission process. Hence, auxiliary mechanism has been established by the institute called 'Admission Counselling Cell' which not only helps the students to resolve their queries in filling up the application form but also provides guidance related to the subject of their interest at the time of admission.

Practice:

- A. Principal and Heads of the departments appoint faculty members from different subject on the rotational basis for the admission counselling one week prior to the declaration of the results.
- B. Informative leaflets regarding the availability of application forms, list of subjects with their scope and other salient features of the college are displayed at various key locations.
 - a) Navigation sign boards are kept at various positions.
 - b) Student first enters in to the counselling room where faculty gives the answers of the queries of the student and explains him/her about the subject of their interest.
 - c) If student is satisfied and convinced then she/he collects application form and approaches the faculty if she/he has any difficulty in filling up the same.
 - d) As per the Gujarat government resolution from this year (2014-15) centralized admission through admission committee for professional courses has been started where our college was one of the help centres. Here, at the college any student can enroll himself/herself online on the ACPC website, get his/her documents verified, collect the verification receipt, participate in the choice filling rounds and mock rounds and secure admission. For the aforementioned process two faculty members along

with the exam coordinator and computer programmers were appointed for the counselling of the students.

Evidence of success:

- 1) Register maintained during the admission counselling.
- 2) Number of admission forms and prospectus sold out.
- 3) Number of students enrolled online through our college at ACPC.
- 4) Prospectus and handouts displayed at various positions.

Problem encountered:

- 1) Incomplete documentation
- 2) Gap between the studies
- 3) Medium of Instruction
- 4) Financial burden
- 5) Distance from their home town.

Innovative Practice 4: Student Research Project

Goals:

- To inculcate scientific zeal among the students
- To stimulate the spirit of research
- To enable students to understand scientific way of research work
- To help students to learn the review work
- To direct the young minds in experimental work
- To develop writing skills and preparing report

Context:

The students gain enough theoretical knowledge of scientific principles but do not have much idea about their application. They lack scientific aptitude and critical thinking. Hence, an idea about enhancing thirst for research was conceived by some departments such as Department of Biological and Environmental Science and Computer Science in the form of ‘Student Project Work’ for final year students. This practice makes them learn the scientific way of doing experimental work, obtaining the results and making data analysis.

Practice:

The topics for project work are finalized by Head in consultation with faculty members and interested faculty members are allotted small group of students (4-5 students) for research purpose. Thus, each group works under the guidance and supervision of allotted faculty. The Students spend extra time other than regular theory and practical hours to carry out assigned work. The work includes field work and lab work and learning new methodologies. They learn about precision and accuracy at each step. They learn about searching for references and collecting the published literature. The computerization and statistics application, preparation of tables/graphs/figures are part of report preparation. The scientific method of writing the project report is taught to them. The knowledge and understanding gained by students during project work is assessed during practical examination.

Evidence of Success:

- The students get upper hand in selection for any higher study programme of M.Sc./Ph.D in reputed universities on the basis of quality of their research work which shows their skill, interest and aptitude for research.. Our students have got admission in National Institutions like TERI university, New Delhi ; Dehradun University, Forest Research Institute, Symbiosis, Pune ; Geo informatics, Ranchi. M. S. University, Baroda etc. and some universities in US, Canada and Australia.
- The students with the project work have proved themselves as advanced learners compared to other students.

Problems encountered:

- The students have to put in extra efforts in terms of spending lot of time for project work which is sometimes not possible for students commuting daily.
- The students need to develop team spirit and work in coordination to complete the work. The observations reveal that all in group do not have same zeal and sincerity.
- The students sometimes do not get enough time for completion of experimental work and writing of report.

Innovative Practice 5: Student SeminarPresentation

This practice has been initiated for final year students by some departments. This process helps in learning the subject matter thoroughly and develops the presentation skills. This is a part of their curriculum and related to overall understanding of the subject.

Goals:

- To increase students' critical thinking skills
- To enhance the knowledge about subject matter
- To learn about reviewing of literature and understand the latest developments in subject
- To learn the power point preparation
- To develop the oral skills
- To develop overall personality of students by strengthening their soft skills.

Context:

Seminar presentation is an expression of teaching and communication skill of a student. It is a method of self learning and group teaching which usually enables the student to present the subject matter in best effective way in front of audience. Seminar presentation provides an opportunity to the students to discuss important concepts or new updates or practical applications of the same. They play an important role in any academic programme.

By introducing this practice an exposure is given to the students to come forward and cultivate the skill of public speaking.

Practice:

The seminar topics are given to the students and a time table with Roll No., seminar topic, date of presentation and the name of guide is displayed on notice board well in advance. The students in the mean time remain in regular contact of the concerned guide for preparation of seminar. The guide faculty takes care of the students individually and helps them prepare the topics given. The students are given facilities of free WI-FI to browse through internet for a better understanding of the topic and for collection of data. Students also have an access to departmental libraries to collect necessary information.

On weekly basis, as per the given timetable students assemble for seminar. The students are given 10 minutes for presentation of their topic followed by question answer session and then final remarks by faculty. A specific evaluation pattern is crafted wherein they are assessed on the basis of their presentation skills, content of the seminar, knowledge about the topic. The evaluation sheets are duly filled by all the faculty members present in seminar based on above criteria. The seminar sessions are made compulsory to attend by the students and the Departmental Head and teachers are called upon to be the jury members.

Evidence of Success:

- Comprehension of the topic becomes easier for the students.
- Communicating skills have been strengthened along with developed soft skills.
- Students have improved their listening capabilities to understand the topics delivered by their fellow classmates.
- Students have developed the critical thinking and have learned to ask questions.

Problems Encountered:

- Students from vernacular medium face problems to deliver speech in English language as communicating medium.
- Students who never got exposure to public speaking shows reluctance at the initial stage of individual presentation

Innovative Practice 6: Knowledge Sharing Forum

Goal:

This forum was formed by the NSS Unit of the college exclusively for its NSS volunteers in 2011-12. A large number of students get enrolled in the college every year who receive their school education in vernacular medium (either Gujarati or Hindi) whereas the medium of instruction is English at the college.

These students do not initiate in sharing their academic problems at the initial stage. Stage-fear may be one of the reasons. In addition to this, change in the medium of instruction makes the situation worse.

The aim of this forum is to provide such students a platform where they can learn how to express themselves. They are expected to have the ability to present things in a systematic way and thereby, get rid of the fear of public-speaking.

Practice:

The structure of the forum comprises of one Coordinator, three faculty members, five student volunteers and 75 member students from the First year B.Sc., BCA and M.Sc. – IT.

A screening test is held every year to select 75 students from various faculties. Students are notified about the date, time and venue of the screening test well in advance through a notice displayed on the notice board of KSF outside room no. 305.

The MCQ test conducted for selection of the students cover variety of fields such as sports, films, science, politics, history and cultural affairs. A list of more than 100 topics for presentation is displayed on the notice board along with the list of qualified students. Membership of these qualified students lasts till the end of that current year. At the end of the year, five students from them are selected as the volunteers for the next year.

Every year a renowned academician is invited on the campus to deliver a motivational address to the students at the inaugural function. Then, the students are oriented about the procedure of participation in the activities of this forum.

At the outset, a participant has to inform the coordinator about the topic of the presentation he/ she has selected from the given topics. However, the participant is permitted to select a topic on his/her own provided he/she has taken permission for the same.

After having consent from the coordinator he/she has to submit the presentation in hard copy and soft copy to the coordinator. The coordinator, in consultation with other in-charge faculty, evaluates the presentation, suggests required modifications and finally, a date is allotted to the participant. Students are informed about the presentation through a notice displayed on the notice board of KSF.

All the ICT facilities are provided by the college. The presentation is followed by feedback from the faculty and group discussion. Finally, the hard copy and soft copy of the presentation are submitted to the college library.

At the end of the year, all the member students are felicitated with a certificate.

Evidence of Success:

Academic Year	2011-12	2012-13	2013-14	2014-15
No. of students appeared in Screening Test	100	175	225	275
No. of Qualified Students	50	75	75	75

Total no. of Presentations	6	10	10	10
Academicians who inaugurated the Forum	Dr. S. G. Patel Hon. J/t Secretary, CVM	Dr. K. N. Joshipura Head, Dept of Physical Sciences, S. P. Uni	Dr.SulabhaNatraj Principal, Waymade College of Education	Dr.Ujjwal Trivedi Hon. Director, C. C. Patel Community Science Centre, S. P. Uni.

The enthusiasm is evident in the number of students appearing in the screening test every year as well as those aspiring to make presentations.

Problems encountered:

In the Choice Based Credit System time is the biggest constraint. It is difficult to provide opportunity to each and every student who approaches for the presentation.

7.3 BEST PRACTICES

7.3.1 Elaborate on any two best practices as per the annexed format (see page) which have contributed to the achievement of the institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

Best Practice: 1

1. Title of the Practice: Student Mentoring System

The Student Mentoring System is a process of self-discovery and growth for students through enhancement of self-confidence, problem-solving skills and achievement of educational goals. The college has this system since the inception of the college.

2. Goal:

The goal of this mentoring system at NVPAS is to make the students' learning process more efficient and smooth. Mentors are guided to deal with students' emotions in its many forms and thereby provide support and consultation to students who experience any difficulty and disruptive behaviour on the premises.

Objectives of the Practice:

- To give personal support in dealing with problems so that the students regain their ability to work effectively in the real-life situations.
- To make students and their parents familiar with the way of functioning of the college.
- To play the role of a local guardian
- To keep a close eye on students' punctuality

- To evaluate performance of students in terms of academics and the organic growth
- To create an amicable environment in the institute
- To form a platform whereon teachers and parents can have a fruitful discussion for the organic growth of the students
- To seek opinions from the parents regarding the college, the staff and way of functioning during open house and implementing the feasible practices keeping in view the administrative limitations
- To provide guidance to the Second Year students for selection of subjects through an Orientation program.
- To prepare and promote students for various competitive examinations
- To inculcate in students regard for high moral values and good moral character
- To help students in all feasible manner achieve their desired goal
- To ensure growth of students as well as the institute.

3. The Context:

NVPAS believes that to offer an optimistic and learner-centric environment a healthy relationship is required between a mentor and a learner. This calls for a medium whereby better solution of behavioral and academic problems faced by students can be easily resolved.

The awareness and understanding among the students regarding the educational system of the institute can be generated through this practice and the overall development of students can be encouraged by enhancing their participation in curricular, co-curricular and extracurricular activities.

4. The Practice:

Initially, a Mentoring system Coordinator is appointed by the Principal. In consultation with the Principal, this coordinator appoints mentors for various batches of all the semesters.

1. The Mentor is required to fill up the Mentoring Form of the student of his/her batch. Special care needs to be taken while taking down the cell phone number of the father / guardian that would facilitate active and healthy interface with parents/guardians.
 - If the counselee informs the mentor about the change in the phone number of the guardian / parent any time during mentoring interaction, the mentor should have the statement on this line from the guardian / parent in hard-copy duly signed by him with date underneath. In the absence of such a formal statement, the mentor should write an official letter to the guardian at his permanent address about the submission of such a request from the counselee.
2. The Mentoring Form should be signed by the Mentor as well as the student with date of signature underneath so as to ensure the accuracy and authenticity of the document.

3. The Mentor should meet the students of his / her batch at an interval of fifteen days in order to enquire about their problems, queries etc. and keep a record of the same in their mentoring files.
4. Mentors should mention the category (Open / OBC / SC / ST) of the student in the Mentoring Form for Office use. Besides, a special form is to be filled up by the students belonging to states other than Gujarat.
5. Mentors should fill up all the four formats regularly
 - (1) Student profile record
 - (2) Report of mentoring meetings
 - (3) Record of unit tests result
 - (4) Monthly Attendance report
6. Mentors should call to the parents frequently to keep in constant touch with the guardian / parent of the counselee. The mentor should send letters in the prescribed format to the guardian about his/her ward's Performance & Attendance in the practice test, monthly Attendance in addition to information on various events and activities organized by the College. The mentor has to maintain record of the aforementioned correspondence as well.
 - The soft copy of messages related to performance in practice test, attendance, detention and other discipline-related matters should be preserved by the mentor in both soft as well as hard format in their system and files respectively.
 - If a student fails to take two out of four unit tests in a month, the mentor should write an official letter to his/her guardian and record the outward no. of the letter in his file.
 - Similarly if a student fails to maintain an average of 55% attendance for two months consecutively, an official letter should be posted by the mentor.
7. On the other hand, a mentor should submit to office the names of the students who maintain 100% attendance in a given month. He, in turn, would get them written on college notice board in the form of felicitation message. Students who maintain 100% attendance for two months consecutively will be felicitated with an Appreciation letter duly signed by the Principal. The mentor should communicate the policy to the counselee in the very first meeting of the semester.
8. All the mentors are expected to update their files and submit the same for verification to the person-in-charge on the mentioned date.
9. Mentors are required to attend Mentoring meetings conducted by the Mentoring cell.
10. Mentors are required to analyze regularly the result of their batch students and enter incremental growth in the given attendance format.
11. Mentors should inform the Head of the Institution for problematic cases or under some serious Medical condition.

12. Mentors should brief their batch students regarding filling up of leave application. Mentor has to sign in the leave application letter clearly citing reasons for availing leave. In the absence of Mentor the student can get the leave format signed by the Mentoring Coordinator or by the Head of the Institution.
13. Mentors should provide all possible support to students falling sick in the campus and outside the campus.
14. Mentors should contact Parents over phone periodically to brief them about their ward's performance.

5. Evidence of Success:

- The mentor of a batch can only be that teacher who teaches a particular subject to that batch. As a result, it becomes feasible for a mentor to build a rapport with those students and s/he can without doubt get familiar with students' weaknesses and strength very well. This system provides students an easy opportunity to share their problems with their mentors, without bothering their parents. Since the mentor is well acquainted with the system, s/he can resolve most of the problems in no time. So far as psychological problems are concerned, senior teachers provide consultation to handle them efficiently with their long experience in this field.

Many of our students changed their idea of giving away their study either due to financial constraints or change in the medium of instruction. The credit goes to the efficacious mentoring system of our college. This system has always been helpful to average students to maintain their zeal and zest and to advanced learners in achieving their desired goal. This system has a lion share in maintaining the result of the college higher than the overall result of the university in the external exam. Thus, this system has proved to be a connecting link between a mentor and a learner which ultimately aims at organic growth.

6. Problems Encountered:

- Though the college has tried its level best, we have had some problems difficult to tackle. However, our learned mentors have dealt with all the problems skillfully.
- In some cases when the information provided by students in counselling form is found to be wrong, the correct information is obtained from his/her admission form or directly from parents.
- At times it is found that the parents or guardians do not contact the mentor at the earliest regarding their wards' academic or behavioural problems despite frequent reminders. In such cases parents or guardians are informed through a letter about the possible detention from either internal or university exam if they do not meet the Principal immediately.
- We had some exceptional cases wherein students approached the mentor with dummy parents. Our experienced mentor quickly identifies such dummy parents through a specific type of investigation. Real parents of such wards are immediately called to meet the Principal in this regard.

- The students found extremely irregular are tackled in a unique way. Their parents are immediately informed about their irregularity. Moreover, such students have to report their Mentor daily before and after the college hours and their attendance is marked in a separate diary.
- All the mentors regard this duty as a noble part of their humble profession. Utmost care is taken to ensure that the outcome of all the disciplinary actions should be constructive and positive. If a student finds this practice anti-student some day, we'll have to accept it as our failure. Of course, no student has ever approached any mentor or the Principal with such ill feeling.

Resources Required:

1. Teachers as the mentors
2. Counselling forms of the students
3. Different data-sheets record (attendance report, Unit test record, Leave record, Preliminary marks record)
4. Counselling meeting record
5. Letter/ Telephonic communication record
6. Direct interaction with parents during open house

7. Notes (Optional)

- The Student mentoring System is a concrete initiative taken by this college. In fact, it is this system that keeps the parents worriless even if the students stay far away from their home in the hostel. It is set a remarkable example of outstanding management to constantly observe, record and evaluate students' performance and growth on the campus. This outstanding system has earned the college fame in and set a benchmark throughout the nation which gets apparently reflected in the enrollment of the students from other states of the nation.

Best Practice: 2

1. Title of the Practice:

ENTRANCE EXAM PREPARATION CELL is an Initiative to make the students of NVPAS more competitive to clear entrance exams for the admission in various P.G. courses (e.g. M. Sc Biotechnology, Microbiology, Biochemistry, Bioinformatics, etc) at few of the India's most privileged and premier institutes like IIT, IISc Bangalore, TIFR, and some central Universities through JNU Combined Entrance Examination for M.Sc Biotechnology.

2. Goal:

1. Better Preparation for various Entrance level competitive exams
2. More Information about various courses being offered by various universities, colleges and their important dates in regard to exam dates, pattern of exam and related Information
3. Displaying various admission Notifications, Advertisements of various universities and colleges offering P.G courses

4. Regular practice test session in the same pattern as that of various Entrance exams of premier institutes
5. Collection of Books, CD's, Question banks and previous years Papers and related information in the library for greater access.
6. More and more students getting admission in reputed institutes and Universities for Higher Studies
7. Creating an atmosphere that generates feeling of healthy competition and awareness for the career avenues.

3. The Context:

EEPC is the result of combined efforts and conviction of Principal Dr.BasudebBakshi and Coordinators Dr. Amit Ballani and Dr.Kundan Kumar Mishra. EEPC strives to impart competitive edge to our students so that they can get admission in most premier institutes of the nation.

EEPC regularly conducts extra classes of various subjects and topics, which are of utmost importance from the competitive point of view. Classes are conducted before or after the regular college schedule generally from 9:00 to 10:00 AM or 6:00 to 7:00 PM.

The objective of EEPC is not just theoretical rote learning but also to provide them a practice of attempting question papers with multiple choice questions (MCQ) and negative marking.

EEPC has also arranged various MCQ Bank books and collection of previous years papers for the students in the library so that they can practice in a better manner

EEPC also acts as the platform where students can ask some of the important questions about various courses, universities, Scope and career in a particular field.

One of the major objectives Of EEPC is also to provide necessary information about institutes offering the P.G. courses in the relevant field and the important dates of application submission and Entrance exam etc.

Total 60-65* students are selected for the programme and are given lectures, books, question banks and related information for better preparation

Various staff members from college are participating in this effort to increase the competence and have contributed in terms of lectures, preparation of question papers for the test, exam duties, data entry and better planning.

The Active members who are contributing in various EEPC activities are:

Dr. Amit Ballani (Coordinator)
Dr.KundanMishra (Coordinator)
Dr.Madhumati Bora
Dr.UrvishChhaya
Dr.Hiamnshu Trivedi
Mr.KamleshParmar

4. The Practice:

1. Selection of hard working and meritorious students through a Screening test
2. Regular one hour Extra classes after the college schedule (on topics of utmost importance from competitive point of view & syllabus of those exams)
3. Conducting Regular tests on the topics taught in those extra classes and based on the same pattern as that of JNU, I ISc or TIFR etc.
4. Displaying the marks, Correct Answer key and giving the Answer sheets back to the students
5. Discussions about the questions being asked, right answers and further guidelines about the same topics.
6. Awarding the topper of each such Practice test with a book to motivate him/her for consistent better results and preparation.
7. Collection of approximately 50 plus question banks, previous years papers (last 4-7 years), and information Broucher of various universities, colleges offering P. G courses and related necessary information.
8. EEPC WEBSITE: EEPC has launched and maintains a website (www.eepcnvpas.com) from year 2009 for better preparation and rapid propagation of information throughout the year. The website is having information about various target universities, entrance exams, courses, syllabus, sample papers, activities, practice test papers and EEPC activities.

5. Evidence of Success:

The Success of EEPC can be measured in many ways. Few of them are quantifiable and few are not.

In terms of Admission in PG courses the result sheet of last nine years describes the success ratio.

Additionally, due to efforts of EEPC our students are getting admissions in premier institutes of the Nation like JNU, IIT, BHU, MSU etc. which was considered very difficult before the inception of EEPC.

A large fraction of our EEPC students clear CSIR-NET, GATE and Ph.D entrance examinations.

Students give due credit to the orientation and vision developed during EEPC activities for their success in various exams.

The college got selected as BIOTECHNOLOGY CAPACITY BUILDING CELL (BT-CBC) for Vallabhvidyanagar and Vadodara region by GSBTM, DST, and Govt. of Gujarat due to our consistent efforts and results in this domain.

Session	Intake Total	SY	TY	Students Selected for PG courses	% selection
2005-06	60	0	60	47/60	78.3
2006-07	63	11	52	46/52	88.4
2007-08	67*	13	54	47/54	87.03

2008-09	59*	12	47	42/47	89.3
2009-10	65*	15	50	40/50	80
2010-11	73*	13	60	47/60	78.3
2011-12	34	0	34	26/34	76.4
2012-13	58	0	58	46/58	79
2013-14	68	0	68	42/68	62
Result Awaited					

Table 1: The overall success of students in PG entrance examinations.



Figure1: Graphical representation of students getting admission for higher studies.

Problem Encountered and resources required:

The biggest problem for such preparations is encountered at psychological level. To motivate students and to maintain their regular study hours is a continuous challenge. Besides these resource persons for such competitive exams is also a challenge. College has been very supportive for various infrastructural facilities such as classroom, LCD, Laptop, books etc are provided to the EEPC. Interactive whiteboards and modern teaching aids would definitely empower the cell.

6. Notes (Optional)

The Entrance Exam Preparation Cell has proved to be an exemplary practice for many colleges in this region and throughout the nation also. The ultimate goal of this practice is clearly visible in the no. of students who got through many competitive exams and got enrolled in premier institutes of the country and abroad as well. They regard EEPC as a boon to the students of NVPAS.

Best Practice 3:

1. Title of the Practice: Continuous Evaluation System

2. Goal:

Examination is a continuous process, which evaluates the concerned learning completely. For evaluation, a student needs to be trained to think critically and process the information independently, so as to apply the knowledge acquired for the benefit of the society. Since the inception of the college in 1996, the trend of Unit test (earlier it was known as practice test) was initiated to ease the pressure on stakeholders. Ours is one of the few colleges across the state of Gujarat which has inculcated the concept of constant evaluation through practice test system on weekly basis. The objectives of this process are as below.

- To evaluate Students.
- To improve overall result of the college
- Quantitative expansion and quality improvement.
- Identification of weak and advanced learners.
- To understand the ability to use skills involved in understanding and problem solving.

3. Context:

As per Choice Based Credit System (CBCS), the evaluation pattern was 70:30(External: Internal); for the internal evaluation. The institute could productively design the evaluation methodologies in order to knock the potential and learning strategies of the students and accordingly design effective instructive methods based on the study. The college conducts two internal examinations; Unit test (30 marks) and Preliminary exam (30 marks). The marks of the better of these two exams are considered. Internal marks of each course are 40 (30 marks Unit test/ Prelim exam). These 40 Marks are translated into 30 marks and that is considered to be the final internal, which is to be sent to the University. External examination is as per the university examination system.

4. Practice:

- Quantitative expansion and quality improvement.
- Formation of examination committee: This committee, headed by the examination coordinator, includes one member from each department. The activity of the examination committee member is to collect syllabi, question papers, list of supervisors, mark sheets, etc. from respective departments in stipulated time.
- Preparation of examination timetable, block wise sitting arrangement, block wise answer books, block wise question papers.
- Circulation of all notices regarding examination.
- Allotment of junior and senior supervision duties.
- Instructions to the supervisors.
- Arrangement of teacher in library to solve the queries of students one day before the day of examination (During Prelim exam for FYBSc / BCA Students).

- Arrangement of duties of administrative staff and peons.
- Display the details of block number, examination numbers including cancelled numbers on the green board in each room.
- Writing examination numbers on benches in each block before the commencement of examination.
- Arrangement of spare supervisors with seating arrangement before 10 minutes of commencement of the examination to help the students to find out their seats.
- Instructions to the students at the time of examination.
- Awareness of timing by keeping warning bells for the students during the examination.
- Arrangement and supply of stationary and question papers during examination.
- Collection of records like absentees and students without Identity card.
- Special seating arrangement to be made for sick or handicap students at the time of examination.
- First aid is provided to sick students at the time of examination.
- Drinking water to be provided at the time of examination.
- Checking the total number of answer books by another junior supervisor followed by senior supervisor.
- Distribution of answer books to the examiners of the respective subject.

5. Practice Controls:

- Advance notices of examination timetable to be given to the students and teachers.

Preferable dates are as follows:

- Unit Test examination: at the beginning of each term.
- Preliminary examination: before one month.
- University examination: immediately after receiving the notice given by the university.
- Deadline of each aspect is given and monitored also.
- For unit test syllabus: before one week.
- For Preliminary exam syllabus: before twenty days.
- List of supervisors for unit test from each department at the beginning of each term.
- Collection of question papers from each department before two days of unit test and before two days of actual exam date of preliminary examination.
- Mark sheets of all college examinations: after one week of actual day of examination.
- Guidelines are provided to paper setters for internal examination.
- Record of students: absentees and without Identity card are in college exam is kept and maintained by administrative staff.
- Supervisors are given supervisors' report and are required to fill up all the details properly.
- Awareness of timing by keeping warning bells for the students during the examination.

- List of relevant instructions to be given to the supervisors and students for smooth conduction of examination.
- Verification of candidate by checking his/her identity card during internal examination and examination fee receipt and examination hall ticket during university examination.
- To restrict unfair means cases, minimum numbers of students are assigned to junior block supervisor.
- If a student is found copying / carrying unauthorized material / aiding and abetting unfair means in the college examination, the student is expelled from examination and he/she is marked zero in the paper and is asked to contact the principal. Also, the matter is reported to his/her parents.
- If a student is found copying, carrying unauthorized material, aiding and abetting unfair means in the university examination, it is reported to the university in written.
- Parents are informed about the results of examination by post.
- Taking attendance in each examination to regularize the students and make them sincere towards examination.
- Students having poor performance in internal examination and having less attendance in theory and practical classes are detained by the college from university examination.
- If any supervisor wants to remain absent, then she/he is required to fill up the duty exchange form.
- Examination committee manages entire examination process.
- All the examinations are conducted under the supervision of 'Department of Mathematical Sciences'.

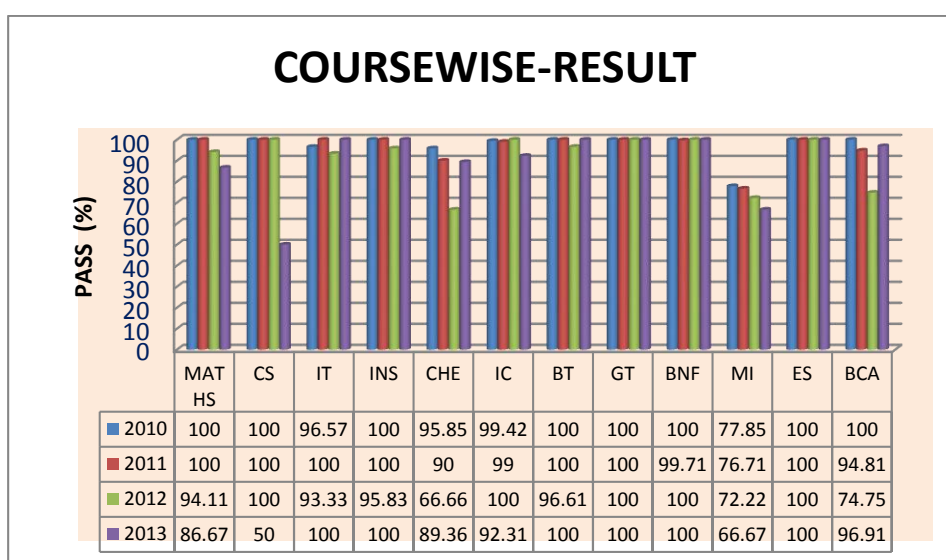
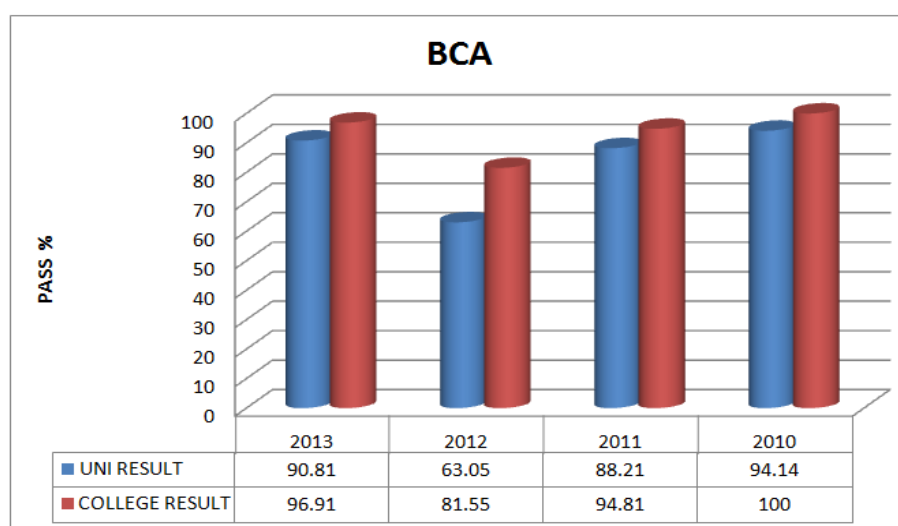
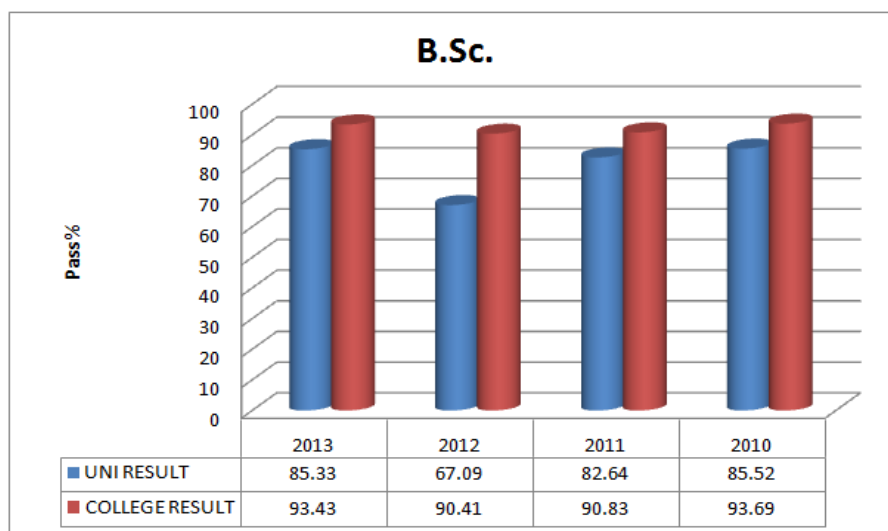
6. Evidence of Success:

The impact of the Unit test has a broad spectrum, covering different sections and stakeholders of the institute which paves the way for better career moulding, increase self-esteem of the organization and provide mechanism to distinguish the level of students among the heterogeneous group. Unit test further intensifies confidence level and allow the evaluation mechanism which enables the students to judge themselves and helps them to improve. This leads to the growth of the organization in terms of the strength of quality human resource. The impact of the practice has been observed on the following sections/stakeholders of the institute.

1. Impacts On Academic Performance of the institute:

Conducting Unit test on the regular basis compels students and faculty members to prepare topics or units of the respective subjects in a stipulated period of time, which in turn becomes instrumental in devising the mechanism which facilitates elimination of fear of the examination and relieves the students from the examination 'fobia'. Unbiased approach of the Unit test by giving equal weightage to all the topics/ units helps the students to perform better in the internal and the university examination which ultimately leads to the improvement of overall result of the institute.

RESULT ANALYSIS



From the above discussion it is apparent that Unit test provides upper hand to the college to obtain better results at university level among all the Science colleges which in turn enhances the reputation of the college not only in the domestic region but at the national level also.

2. Impact on poor performers and advanced learners:

Result of the Unit test is the direct reflection of the ability of the students to use the skills involving, understanding and problem solving. Students having difficulties to grasp the topic or escaping from the preparation of the topic due to the lack of interest can be identified and it can be addressed and rectified by virtue of concern subject teacher or counsellor for example, list of the poor performers is prepared and circulated to the counsellors who recommend for the remedial classes, the crash or by assigning them a special assignment which may help to uplift the academic performance of the students. On the other hand the students performing consistently well in the Unit test can be identified and advised by the concern teacher or faculty member to work upon improvement opportunities which may lead to his/her performance from good to better and from better to best.

3. Impact on faculty members:

Unit test is a significant measurement to evaluate and analyze teaching skills of the teacher. Result of the unit test is the direct reflection of teacher's inputs during classroom teaching and provides mechanism to find out areas of improvement, which may lead to the incremental academic growth of the students.

4. Impact on the departments/course:

The popularity of any course depends upon the interest of students in the subject, and hence, better results reflect inclination of students towards the subject. Unit test fulfills the demand of the subject in terms of quantitative expansion and quality improvement. Thus, mechanism of unit test indirectly determines or forecasts the demand of the subject in the future.

5. Impact on the Parents:

Any practice which is not beneficial to the end-user is considered futile. For an educational institution, it is very important to satisfy the parents, who put faith and handover their ward for shaping/ moulding career in the field of his/her interest. By indulging in the system of unit test, institute can present distinguished, confident, hard working, systematic citizens of the society to the parents having their ward with a better opportunity for the job or higher studies.

Problems encountered:

Sr. No.	Problems Faced	Strategies to Overcome it
1.	Timing and Seating arrangement	<ul style="list-style-type: none">The test is scheduled on every Monday morning (10:30 am to 11:30 am) without compromising routine academic activities.

		<ul style="list-style-type: none"> The classrooms for the seating arrangement are utilized with their optimum capacity such that it facilitates proper monitoring of the examinee by the junior supervisors (ratio of supervisor to the students is around 1:30 per block).
2.	<p>Discipline</p> <p>(i) Late Entry by Students:</p> <p>(ii) Late Entry by Supervisors:</p>	<ul style="list-style-type: none"> Late entry by the students is discouraged by taking strict disciplinary action by senior supervisors and principal like demanding justification for the same, assurance for not reporting late in future, by taking hold of the identity cards and by not permitting to appear in the examination in case of being very late. Late entries are rectified by allotting their duties to the spare supervisors. Justification of the late reporting is demanded in prescribed format which is then duly signed by principal and then submitted to the examination coordinator.
3.	Late submission of Question Papers:	<ul style="list-style-type: none"> Late submissions are redressed by demanding written explanation in prescribed format which is then duly signed by principal and then submitted to examination coordinator.
4.	Error in the Question paper:	<ul style="list-style-type: none"> Any discrepancy related to the question paper is asked to solve by the concerned paper setter by approaching the respective blocks in person after verifying it from the manuscript available with the senior supervisors.
5.	Unfair Means by the students:-	<ul style="list-style-type: none"> The examination system per se is very strict in terms of vigilance and supervision. Even then if the case of unfair means is reported, the senior supervisor is informed by the junior supervisor and answer-sheets along with proof for the unfair means are submitted. The student is marked ZERO in particular paper and expelled from the exam followed by intimation to the parents by postal communication.
6.	Late Submission of the Mark-sheet:-	<ul style="list-style-type: none"> Late submissions are redressed by demanding written explanation in prescribed format which is then duly signed by principal and then submitted to examination coordinator.
7.	Poor performance and absenteeism:-	<ul style="list-style-type: none"> Poor performers and irregular students are recommended to attend remedial classes and Crash Course for the first year students. Parents are informed either telephonically or by postal communication. List of detained students is prepared for the acute cases and apology/ assurance letter is demanded from the student/parents.

Best Practice 4:

1. Title of the Practice: GyanGoshthi (Reader's club)

Goal:

Amidst the routine academic activities, faculty members from different subject/department do not get opportunity to interact with the teachers of other department and/or exchange their views on some contemporary issues which are not a part of regular curriculum. The purpose of GyanGoshthi is to create such opportunity for faculty members to become enthusiastic to share the various subject updates and opinions to with other colleagues. This forum enables the participants to increase their exposure to reading, learning, speaking and sharing. It provides healthy platform for the teachers to dissipate some worthwhile information within their peers so that they can upgrade their peers and by deliberating upon this they can come to some kind of logical conclusion. The theme/subject delivery is carefully chosen to ensure that audience's interest is maintained

Context: Knowledge and wisdom are such two treasures which increase upon sharing. Everyone desires to gain knowledge as much as possible from vast ocean. There are diverse sources to gain knowledge efficiently such as from books, from experience and from sharing with one other. When some faculty goes through some latest updates in subject or he/she reads some article/ research paper or when undergoes some important training program or participates in conference or presents research work, it is desirable that this knowledge be shared with fellow faculty members. Learning from such programs can be percolated among the peers through this kind of activities. As a part of intellectual fraction of the society, it becomes moral responsibility of a teacher to deliberate and discuss such topics which can enrich the knowledge others which will ultimately percolate to the end beneficiaries like students.

Practice:

This club is run by the Coordinator who is appointed by Principal for the smooth functioning of this activity.

1. Coordinator plans the monthly meetings in consultation with Principal
2. Coordinator in consultation with faculty members, invites the concerned faculty willing to give presentation on the topic of his/her choice and finalizes the date of presentation in consultation with the Principal.
3. He carefully prepares and circulates the notice for the forthcoming program of GyanGoshthi. The notice includes the details of Speaker, Time and venue. The time is chosen where majority of the faculty can take part.
4. Notice is circulated to all HODs and also to staff members through display on the notice board of all the staffrooms.
5. Staff members are also informed about the activity through email.
6. Coordinator with support of Office staff sees to it that necessary arrangements in the college auditorium i.e. LCD projector, chairs, audio system etc. are made in advance.
7. Coordinator initiates the proceedings of the activity followed by the presentation of the speaker followed by the discussion.

8. Session ends with a final remarks of Principal.
9. During the discussion tea/coffee etc. are served.

Evidence of Success:

- (1) Notice issued by the coordinator
- (2) Attendance report of various staff members attending the activity
- (3) Copy of presentation from different faculty members.

Problems Encountered:

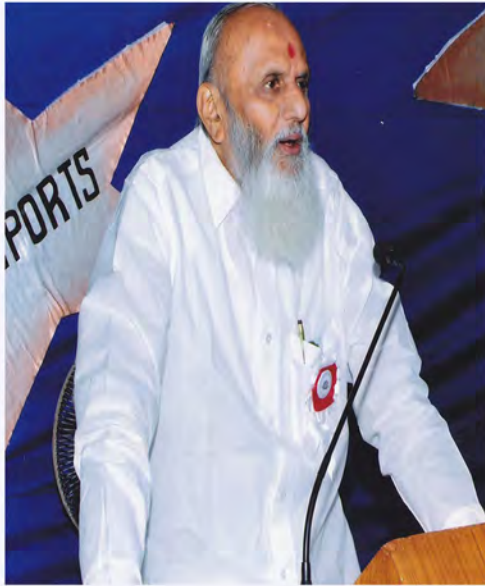
(1) Due to the in house activity there is some sort of flexibility for conducting this activity, however, due to the semester system and the university examination twice in a year the frequency of this activity has been reduced to two such presentations in one semester.

(2) Availability of auditorium due to some other activity or when it is under maintenance.









Charutar Vidyamandal's



Natubhai V. Patel College of Pure and Applied Sciences

Accredited 'A' Grade by NAAC

Near Mota Bazar, Vallabh Vidhyanagar - 388 120,

Dist.: Anand, State: Gujarat, India

Self Study Report

(Cycle-2)

Volume - 2

(Inputs from the Departments)

Submitted for Re-accreditation

To

National Assessment & Accreditation Council (NAAC)

Nagarbhavi, Bangaluru - 560072

May, 2015



Department of Biological & Environmental Science



**Evaluative Report of the Department of
Biological and Environmental Science**

1. Name of the department : Department Biological and Environmental Science

2. Year of Establishment : 1996

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

Level	Program
UG	B.Sc. Environmental Science
Ph.D.	Environmental Science Botany

4. Names of Interdisciplinary courses and the departments/units involved:

Inter disciplinary Courses: Biochemistry, Zoology, Botany, and Biology
Departments involved : Dept. of BT/GT/BNF; Dept. of Microbiology

5. Annual/ semester/choice based credit system (programme wise):

Name of the course offered		System
UG	B. Sc. Environmental Science	Choice Based Credit System Semester system

6. Participation of the department in the courses offered by other departments:

- The Department takes responsibility of teaching the elective subject of First and Second semester for Maths group (A group) as well as Biology group (B group)
- The Department contributes for teaching the courses offered by other departments. The department is sharing teaching of core and elective subjects at third and fourth semester program with Department of Microbiology and Department of Biotech/ Genetics/ Bioinformatics

7. Courses in collaboration with other universities, industries, foreign institutions, etc.:

NIL

8. Details of courses/programmes discontinued (if any) with reasons:

NA

9. Number of teaching posts:

Post	Sanctioned	Filled
Professors		
Associate Professors	01	01
Asst. Professors	04	04
Trainee teachers	08	08

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./ D.Litt./Ph.D. / M. Phil. etc.)

Name	Qualification	Designation	Specialization	No of Years of Exp.	No. of Ph.D. Students guided for the last 4 years
Dr. Rita N. Kumar	M.Sc., Ph.D.	HOD	Bio-Diversity, Forestry, River Pollution, Plant Physiology, Ethnobotany	23	04
Dr. Susmita Sahoo	M.Sc., Ph.D.	Lecturer	Plant Tissue Culture, Medicinal Plants	8.5	NIL
Dr. Isha Desai	M.Sc., Ph.D.	Lecturer	Avian biology, Wildlife biology, Biodiversity, Developmental Biology	08	NIL
Dr. Ami Patel	M.Sc., Ph.D.	Lecturer	Research Methodology, Plant Physiology, Medicinal plants	08	NIL
Dr. Usha Verma	M.Sc., Ph.D.	Lecturer	Enzymology, Clinical biology, Molecular Biology	07	NIL
Ms. Apurva Rana	B.Sc., M.Sc.	Trainee teacher	Environmental Science-ground water quality assessment	03	NIL
Ms. Rashmi Thakkar	B.Sc., M.Sc.	Trainee teacher	Environmental Science-Air pollution and water quality assessment	01	NIL

Mr. Hardik Parekh	B.Sc., M.Sc.	Trainee teacher	Environmental Biotechnology- Soil Quality assessment	01	NIL
Ms. Lilyan Roy	B.Sc., M.Sc.	Trainee teacher	Animal Physiology	01	NIL
Ms. Dhawni Joshi	B.Sc., M.Sc.	Trainee teacher	Animal Physiology	01	NIL
Mr. Suresh Mesra	B.Sc., M.Sc.	Trainee teacher	Plant Physiology	01	NIL
Ms. Soumya K.	B.Sc., M.Sc.	Trainee teacher	Clinical Biology	01	NIL

11. List of senior visiting faculty: On an average 3-4 faculty visit the department every year and share the knowledge with faculty and students

Name of faculty	Name of Institution	Expertise talk in field of
Dr. Nirmal Kumar	Institute of Science & Technology for Advanced Studies & Research	Env. Pollution, Env Biotech
Dr. Hiren Soni	Institute of Science & Technology for Advanced Studies & Research	Wild Life and Forestry
Dr. Saroja	Ashok & Rita Institute of Integrated study and Research in Biotech & Allied Sciences	Cell Biology
Smt. Krishna Narain, Dr. Nidhi Gupta	S M Patel College of Home Science	Natural resources & Conservation

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Temporary faculty	Subjects	Theory/ Practical
08 Trainee teaches	Env Science Botany Zoology	20 % Practical 50 %

13. Student -Teacher Ratio (programme wise)

Sr. No.	Programme	No. of Students	No. of Teachers	Teacher-Student ratio
1	B.Sc.(F Y, S Y & T Y)	585	13	1:45

14. Number of academic support staff (technical) and administrative staff; sanctioned and filledhp:

Support Staff	Sanctioned	Filled up	Remarks
Lab Asst.	03	03	Appointed by management
Peon	05	05	

15. Qualifications of teaching faculty with D. Sc. / D.Litt. / Ph.D. / M. Phil. / PG.
Five permanent faculty members with Ph. D. For details Refer answer of Q.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Sr. No.	Name	Title	Funding Agency	Amount (Rs)
01	Dr. Rita N.Kumar	Ecological studies of Mahi River in relation to pollution status and biodiversity of Gujarat, India.	GUJCOST	1, 80,000/-

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received (Last five years)

Sr. No.	Major/Minor/Sci tech	Name	Year	Funding Agency	Amount (Rs.)
01	Sci tech	Dr.Rita N.Kumar	2009-10	GUJCOST	22,000/-
02	Sci tech	Dr. Sukalyan Chakraborty	2009-10	GUJCOST	15,000/-
03	Minor	Dr. Sukalyan Chakraborty	2009-10	UGC	1,59,875/-
04	Minor	Dr. Susmita Sahoo	2009-11	UGC	85,000/-
05	Major	Dr.Rita N.Kumar	2009-12	UGC	7,03,800/-
06	Sci. tech	Dr. Manishita Das	2010-11	GUJCOST	12,000/-
07	Sci tech	Dr. Nitin Sharma	2010-11	GUJCOST	15,000/-
08	Sci tech	Dr.Sudeshna Chakraborty	2010-11	GUJCOST	18,000/-
09	Sci tech	Dr. Susmita Sahoo	2010-11	GUJCOST	15,000/-
10	Sci tech	Dr. Leena Abraham	2010-11	GUJCOST	20,000/-
11	Minor	Dr.Rita N.Kumar	2012-15	GUJCOST	1,80,000/-

18. Research Centre /facility recognized by the University:

Since the college runs mainly Undergraduate courses, the registration of Ph. D. candidates is done through recognized Research centre of Sardar Patel University - SICART (Sophisticated instrumentation centre for Advanced Research Testing) which is a sister institute of our management

19. Publications:

➤ Publication per faculty

110 Papers published in journal of National and International repute.

Sr. No.	Name of Faculty	No. of Publication
1	Dr. Rita N. Kumar	97
2	Dr. Susmita Sahoo	06
3	Dr. Isha Desai	06
4	Dr. Usha Verma	01

➤ Number of papers published in peer reviewed journals (national /international) by faculty and students :all papers are in peer reviewed journal

➤ Number of publications listed in International Database (For e. g. : Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) : > 60 Scopus Index 6.4

➤ Monographs : Nil

➤ Chapter in Books

Dr. Rita N. Kumar

- “Drugs from Plant”– *Andrographis paniculata* – An Important medicinal Herb, Editor P.C.Trivedi, Aavishkar Publishers,Distributors, Jaipur, Rajasthan (2010)

Dr. Susmita Sahoo

- “Phytotechnology: Emerging Trends”- Approach of Medico Ethnobotany based on Disease oriented study, Scientific publishers, ISBN: 978-81-7233 (2012)
- “Trends in Aqua Chemistry” -Phytoremediation by *Eicchornia* Species, Charotar Publication, Anand (2014)

➤ **Books Published :**

Dr. Rita N. Kumar, Dr Susmita Sahoo, Dr Ami Patel, Dr Isha Desai contributed as authors for following

1. F.Y B.Sc. “A Text Book of Botany Semester I”, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat
2. F.Y B.Sc. “A Text Book of Botany Semester II”, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat
3. F.Y B.Sc. “A Text Book of Zoology- Semester I”, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat
4. F.Y B.Sc. “A Text Book of Zoology- Semester II”, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat
5. F.Y B.Sc. “A Practical Book of Biology Semester I, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat
6. F.Y B.Sc. “A Practical Book of Biology Semester II, 2014-15, Publishers Atul Prakashan, Ahmedabad. Gujarat

➤ **Books with ISBN/ISSN numbers with details of publishers :**

Following Books with ISBN number are authored by above mentioned faculty

(1) A text book of Botany- Semester II ISBN- 978-81-930503-6-1

(2) A text book of Zoology- Semester II ISBN -978-81-930503-7-8
Atul Prakashan, Gandhi Road, Ahmedabad

➤ **Citation Index: 768**

- * SNIP
- * SJR
- * Impact factor

➤ **h-index :12**

20. Areas of consultancy and income generated

Biochemical and micro morphological analysis of leaf constituents, for ISRO sponsored work for the period of one year and the income was Rs. 68,000/- (2009-10)

21. Faculty as members in

- a) National committees
- b) International Committees
- c) Editorial Boards....

Dr. Rita N. Kumar

- Member of Executive Council as Joint Secretary for AJES- an International Referred Research journal
- Life member of Society for Science And Environment (SSE) ISSN-0971-2283

- Life member of Medicinal and Aromatic Plant Association of India (MAPAI)
- Member, Board of Studies (B.O.S.) of Biosciences, and Faculty of Science, SP University

All permanent faculties as Examiners/ paper setters for Sardar Patel University

Dr. Susmita Sahoo:Life member of Medicinal and Aromatic Plant Association of India (MAPAI)

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme – 100%

Topic	Student Name	Roll No	Guide Name
Biochemical & Environmental Factors Of Some Medicinal Plants Used In Diabete	Vicky Bind BansiJani Smit Patel Vatsal Trivedi	188 148 176 179	Dr. Sushmita Sahoo
An assessment of physicochemical parameters of tomato	Praful Barad Rohan Parmar Parth Virani Anil Hadiya	169 185 167 189	Dr. Usha Verma
Short term repeated exposure of cypermethrin 10% EC reduce the protein content in the liver, muscles and gills of fresh water fish poeciliatipinna	Swashati Mahanta Jalja Chavada Suraj Kumar Sain Velse	177 192 187 186	Dr. Isha Desai
Study of noise pollution at different location in Vallabh Vidhyanagar	Aakanksha Dixit Aparna Ajith Lakhan Kanara Keval Bajaniya Mayuri Patel	141 146 161 163	Dr. Ami Patel
Evaluation of air pollution tolerance index of some common plant species in various areas of Anand, Dako, Nadiad and V. U. Nagar: A comperative study	Ashwini Khandekar Ami Patel Anjali Patel Jigen Chauhan Avinash Patel	147 143 144 155 183	Ms. Apurva Rana
Evaluation of water pollution of selected disturbed and undisturbed water bodies	Vaibhavi Lathigara Achintsharan Limbachiya Jay Patel Darshna Patel	178 142 190 150	Ms. Rashmi Thakkar
An estimation of carbon sequestration in trees of Bakrol village	Mitali Patel Mittal Patel Ridhhi Choksi Tejkunwar Roz	164 165 170 181	Mr. Suresh Mesra

Nutritional quality and antioxidant potential evaluation of green bell papper	Sagar Patel	172	Ms. Soumya Menon
	Shardha Vadgama	173	
	Sharvan Suthar	174	
	Sidhhi Patel	175	
Effects of different wave length of visible light spectrum on the plant growth	Khem Kanwar Neha Patel Khushali Shah	156 166	Ms. Kavita Thakur
Evolution on effects of Nickel Toxicity on Fresh water Fishes, <i>Labeo rohita</i>	Komal Jayswal Krupa Patel Srushti Patel Jay Patel	159 160 180 153	Ms. Lilyan Roy
Environmental studies of national highway 8 with particular reference to bio accumulation of heavy metal by selected plant species	Kirandeep Saini Jyoti Chaudhri Anjana Mahala Sachin Chaudhri	158 154 145 171	Mr. Hardik Parekh
Evaluation of effect of chlorpyrifos on total protein content of fresh water fish ladeo rohita	Janaki Patel Charmi Patel Hirva Chavda Manan Patel Parth Patel	152 149 151 162 168	Ms. Dhvani Joshi

- b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/other agencies: Nil

Since the course is Undergraduate program, the students are provided with in house projects only.

23. Awards / Recognitions received by faculty and students

Faculty:

- Dr. Rita N. Kumar was honoured as Fellow of Hind Agri-horticultural Society (FHAS) by Hind Institute of Science and Technology (HIST), Muzaffarnagar, U.P. (2010)
- Dr. Rita N Kumar has been appointed as Joint Secretary in Executive Board for Asian Journal of Environmental Science.

1. Dr Rita N Kumar was invited –

As Judge at the National Seminar on 'Towards Transformation of Higher education' organized by Waymade College of Education on **21st March 2014**

As resource person for SEMCOM faculty Development Program organised by H M Patel Career Development Centre (CDC) on **18th June 2014**. She gave presentation on "Personal counselling to students and parents"

As Pena list in NAAC sponsored two day workshop on "NAAC awareness for non-accredited colleges/ institutions affiliated to Sardar Patel University" organized by IQAC cell of Sardar Patel University on **10th December, 2014**

As resource person in SICART training program organized by H M Patel Career Development Centre. Dr Kumar delivered a talk on "Presentation of researchproject" to SICART scientists/ technicians on **29th Dec., 2014**.

Participated in NAAC sponsored two day seminar on Qualitative enhancement of Higher education through IQAC on **5th and 6th January, 2015** organized by I V Patel College of Commerce, Naiad.

Invited at Nal Sarovar on occasion of World Wetland Day National level celebration organized by Gujarat Forest Dept. where she participated alongwith 6 final year students on **2nd Feb, 2015**.

As Judge in One day National Seminar on "Advances in Environmental Science and Technology- A way forward to clean and green Environment" held on **28th February, 2015** organized by EST Department of ISTAR

As an Expert in Life Sciences by Knowledge Consortium of Gujarat (30.10.2011)

As Resource person by JCI Nadiad & C B Patel Art College (5 July 2012),

As Resource person by H M Patel Career Development Centre (29 Dec 2014)

As Resource person by Way Made College of Education (2014)

As Resource person by Sardar Patel University NAAC workshop (9, 10 Dec 2014)

2.Dr. Susmita Sahoo stood Second in Poster competition for faculty category at Gujarat Science Excellence organized by Gujarat University

Students:

Gold medals received by students of Environment Science at Sardar Patel University

Sr. No.	Name	Year
1.	Ms. Apurva Satishkumar Rana	2009
2.	Ms. Kinjisha Dipakbhai Patel	2010
3.	Mr. Deepakkumar Soni	2011
4.	Mr. Maitrik R. Patel	2012
5.	Ms. Ashwini Turga	2013
6	Ms Dharitri Patel	2014

Various awards received by students:

Mr. Nisarg Chaudhari and Ms Madhukumari of TY Env Sciences had cleared youth selection round at Gandhinagar for Gujarat State and were invited for representing Gujarat state and to participate at YUVA Meet 2010 organized by TERI(The Energy and Resources Institute), New Delhi from 2-3 February, 2010 at British Council.

Sr.No.	Name of Students	Class	Year	Award	Award received at
1.	Ms. Binal Shah	T.Y.B.Sc. ES	2014	First Prize	Minaxi Lalit State level Exam
2.	Ms. Binumol Thomas	T. Y. B. Sc. ES	2014	Second Prize	

3.	Ms Drashti Amin	T. Y. B. Sc. ES	2014	First Prize in Poster Presentation	Gujarat Science Excellence At Gujarat University Ahmedabad
4.	Ms. Khushboo Patel	T. Y. B. Sc. ES	2014	Second Prize in Poster Presentation	
5.	Mr. Rushirajsinh Zala	T. Y. B. Sc. ES	2014	Second Prize in Oral Presentation	
6.	Ms. Bansi Jani	S.Y.B.Sc. ES	2014	Consolation in Poster Presentation	Science Manthan at Charusat University Changa
7.	Ms. Shraddha Vadgama	S. Y. B. Sc. ES	2014	Second Prize in Poster Presentation	Science Meet 2014 at ARIBAS New Vidyanagar
8.	Ms. Shraddha Vadgama	S. Y. B. Sc. ES	2014	First Prize in Cartoon making competition	National Symposium on Clean Water for healthy life- Jaldhara 2014
9.	Ms. Mittali Patel	S. Y. B. Sc. ES	2014	Second Prize in Cartoon making competition	
10.	Ms. Khem Kunwar	S. Y. B. Sc. ES	2014	Third Prize in Cartoon making competition	
11.	Ms. Khushboo Patel	T.Y.B.Sc. ES	2014	Consolation Prize in Cartoon Making Competition	
12.	Ms. Swashati Mohante	S. Y. B. Sc. ES	2014	Consolation Prize in Cartoon Making Competition	
13.	Ms. Aakanksha Dixit	S. Y. B. Sc. ES	2014	Second Prize in Poster Presentation	

24. List of eminent academicians and scientists / visitors to the Department

Sr. No	Invited Speaker	Address	Date & Year
1	1. Dr. B.C. Tripathy	JNU, New Delhi.	2009
	2. Dr. Surendra Ghaskadbi	Agarkar Research Institute Pune	
	3. Dr. Utpal Tatu	IISC Bangalore	
	4. Dr. Nyana Patel	IVF Specialist Anand	
3	1. Dr. H.D.Kumar	Meerut, UP	2011
	2. Dr. Manmohan Sarin	PRL, Ahmedabad	
	3. Shri Bharat Pathak	GEER , Gandhinagar	
	4. Dr. S.K.Pathan	ISRO, Ahmedabad	
4	1. Prof. Hari Om Vats	PRL, Ahmedabad	2012
	2. Prof. J. Adinarayana	IIT, Mumbai	
	3. Dr. T. R. Sharma	IARI, New Delhi	
	4. Prof. Maheep Bhatnagar	M.L. Sukhadia University, Udaipur	
	5. Prof. Jaswant Singh	Dr. RML Avadh University, Faizabad	
	6. Dr. Narottam Sahoo	GUJCOST, Ahmedabad	
5	1. Dr. Sandip Jain	HRD, New Delhi	2013
	2. Prof. V. Raghavendra	LNMIT, Jaipur	
	3. G. Narayana	Excel Industries, Vadodara	
	4. Prof. S.C. Panigrahi	MSU, Vadodara	
6	1. Mr. Ashish Dubey	SunPharma, Panoli	2014
	2. Mr. Ashok Kumar	CGWB, Ahmedabad	
	3. Dr. P.M.Udani	Director, ISTAR	
	4. Dr. Jayendra Lakhmapurkar	GEC, Gandhinagar	

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National

Sr. No	Seminars/Conferences/Workshops	Title	Year	Funding agency
01	National Seminar	New Frontiers In Life Science(NFILS09)	19 th Decem ber, 2009	CVM

02	National symposium	Sustainable Development: Issues and Concerns(SDIC-11)	22 nd January, 2011	GUJCOST & CVM
03	Workshop for women in science	Women in Science	6 th August 2011	DST (in collaboration with CEPT University)
04	National Seminar	New Perspective of Natural Science– I	7 th January, 2012	GUJCOST-DST
05	National Seminar	New Perspective of Natural Science-II	7 th July, 2012	UGC
06	Two day National Seminar	Empowering educational system through quality enhancement and capacity building of students and teachers	6 and 7 Dec.2013	NAAC
06	National Symposium	Jaldhara-2014 : Clean Water for a Healthy World	10 th March, 2014	GUJCOST

b) International: NA

26. Student profile programme/course wise:

Name of The course/ programme	Applications Received	Selected	Enrolled		Pass Percentage
			*M	*F	
Environmental science(2009-10)	60	60	24	36	100
Environmental science(2010-11)	25	25			100
Environmental science(2011-12)	11	11	04	07	100
Environmental science(2012-13)	19	19	07	12	100
Environmental science(2013-14)	53	53	24	29	100
Environmental science(2014-15)	45	42	17	25	Continuing...

*M = Male *F = Female

27. Diversity of Students:

Name of the course	% of students from the same state	% of students from other state	% of students from abroad
S.Y.B.Sc. Environmental Science	99%	01%	NA
T.Y.B.Sc. Environmental Science	98%	02%	NA

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.?

Nil

29. Student progression

Student progression	Against % enrolled
UG to PG	80 %
PG to M.Phil.	NA
PG to Ph.D.	-
Ph.D. to Post. Doctoral	-
Employed <ul style="list-style-type: none"> • Campus Selection • Other than Campus Recruitment 	-
Entrepreneurship/ Self Employed	-

30. Details of Infrastructural facilities:

(a) Library:

- We have departmental library comprising of > 100 books on subjects related to Botany, Environmental Science, Zoology, Biochemistry, Biotechnology, Biostatistics and Wild Life.
- Journals related to research on biological sciences prescribed on monthly basis
- A register is maintained on issue of the library book and journals.
- The detailed list of library books is maintained.

(b) Internet facilities for Staff & Students:

- Department is equipped with 2 desktop computers, Printer and laptop facility
- Department has internet facility which is availed by faculty members.
- For seminar preparation and project work, students are allowed to use this facility
- Wi-Fi facility is provided to all the students and staff of the college.

(c) Class rooms with ICT facility

- Many lectures are taken by the teachers with the help of LCD projectors. Record is maintained for the issue of the LCD to the teachers for taking classes with LCD facility.
- From this year the Environmental Science class room is equipped with LCD facility

(d) Laboratories

- There are five biology Laboratories for FY, SY and TY B.Sc. students.
- For the first year students there are Light Microscopes, Compound Microscopes and Dissecting Microscopes. There are many permanent slides and Preserved Specimens of botany and zoology.
- For second year and third year students the laboratory has instruments like Spectrophotometers, Centrifuge, Electronic balance, Shaker, pH meter, Conductivity meter etc.

31. Number of students receiving financial assistance from college, university, government or other agencies: 10 students received the financial assistance for the year 2014-15

Sr. No.	Name	Class	Amount received (Rs)
1	Parmar Krishna R	S Y ES	43,520/-
2	Gamit Anuri Harishbhai	S Y ES-163	46,220/-
3	Vasava Riya Bharatbhai	S Y ES-192	43,520/-
4	Parmar Jalpaben Natvarlal	S Y ES-172	43,520/-
5	Bhuriya Jayaben Amarsinh	S Y ES-174	43,520/-
9	Anjana Dhakalbhai Mahala	S.Y. ES-145	40220/-
10	Patel Pratikkumar Rameshbhai	S.Y. ES-187	10,000/-
6	Anjana Dhakalbhai Mahala	T.Y. ES-145	39,720/-
7	Sangramsinh Rathva	T.Y. ES-182	37,020/-
8	Roz Tejgunwar Devisinh	T.Y. ES-181	39,720/-

32. Details on student enrichment programmes (special lectures / workshops /seminar) with external experts

A National Seminar on “**Clean water for Healthy world- Jaldhara 2014**” was organized on 10th March, 2014 for students of Gujarat state with a view to create awareness about the water and its conservation. The seminar was sponsored by GUJCOST, Gandhinagar. The experts invited were

1. Mr Ashish Dubey, Manager SUNPharma Ltd; Panoli
2. Mr Ashok Parmar Central Ground Water Board, Ahmedabad
3. Dr Jayendra Lakhmapurkar, Gujarat Ecological Society, Gandhinagar
4. Prof Arun Arya, Former Head, Dept of Botany, M S Uni, Baroda
5. Dr P M Udani, Director ISTAR

The undergraduate, Post Graduate and Ph D students were the participants from various colleges of state. The theme based oral and poster competitions were

organized category wise and prizes were given. The judges were invited from Dr K Saroja- ARIBAS and Dr Nirmal Kumar J I -ISTAR.

33. Teaching methods adopted to improve student learning

- Classroom teaching with traditional chalk and Black board method
- Accompanied by use ICT - LCD Projector
- Question- answer and revision
- Assignments for First year students
- Seminar Power Point Presentation under faculty guidance for T Y students
- One term Project work under faculty guidance for T Y students
- Tutorial Class
- Remedial Class
- Special Crash course before exam
- Field trips
- Industrial visits

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

All the faculties take part in NSS Camp and its activities organized by our college in various villages every year. They take part in all the activities by staying there for the whole day and enthusiastically engage themselves.

College has adopted a village called Dahemi. A committee is formed for the activities to be carried out there. Two faculties from department Dr. Ami Patel and Dr. Isha Desai are part of this team.

Faculty Dr. Susmita Sahoo extends her knowledge and expertise in the Vacation Training Programme of Gujarat Science City, Ahmedabad. She shares her knowledge of biodiversity with the participants comprising of district topper students from all over Gujarat.

“Hungry Genes” a program conducted by students of Genetics every year where useful articles/ items are made by them from recycled material and then sold in college. The income generated is donated for the welfare of needy persons/students of the society. Dr. Isha Desai is involved in this activity.

35. SWOC (Strength, Weakness, Opportunity and Challenge) analysis of the department and Future plans

Strength :	<ul style="list-style-type: none">• Highly competent faculty• Committed supportive staff• Available Expertise in diversified areas• Linkage with GUJCOST• Linkage with VVNC• Regularly organizing sponsored seminars/ conferences• Regular Seminar and Project work for TY students• Regularly organizing study tours/ industrial visits/ field visits for S.Y. and T. Y. students
Weakness:	<ul style="list-style-type: none">• Lack of Post graduate program being U G institute

Opportunities:	<ul style="list-style-type: none">• Linkage with Industry
Challenges :	<ul style="list-style-type: none">• To instil the desire of extra reading

Future Plans:

- To increase thirst for research among students and staff members
- To encourage, motivate and involve all faculty members for research activity
- To maintain and expand the medicinal garden



Department of Chemical Science



**Evaluative Report of the Department of
Chemical Sciences**

1. Name of the department : Department of Chemical Sciences

2. Year of Establishment : 1996

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

Level	Program	Remark
UG	B.Sc. Chemistry B.Sc. Industrial Chemistry	SF
Ph.D.	Ph.D. Chemistry Ph.D. Industrial Chemistry	Regular

4. Names of Interdisciplinary courses and the departments/units involved

NIL

5. Annual/ semester/choice based credit system (programme wise)

Name of the course offered		System
UG	B. Sc. Chemistry B. Sc. Industrial Chemistry	Choice Based Credit System Semester system

6. Participation of the department in the courses offered by other departments

NIL

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

NIL

8. Details of courses / programmes discontinued (if any) with reasons

NIL

9. Number of teaching posts

Post	Sanctioned	Filled
Professors	Nil	Nil
Associate Professors	Nil	Nil
Assistant Professors	06	06
Trainee teachers	07	07

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialisation	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. Smita Srivastava (HEAD)	MSc ,B.Ed, Ph.D	Head, of the Dept	Physical Chemistry	18	Nil (One Project Fellow)
Dr. Shveta Joshi	MSc, Ph.D	Assistant Professor	Analytical Chemistry	17	Nil
Dr. Archana Shah	MSc, Ph.D	Assistant Professor	Industrial Chemistry	17	01 (1 research student enrolled 2013)
Dr. Bhavin Patel	MSc, Ph.D	Assistant Professor	Physical Chemistry	17	Nil
Dr. Ketul Patel	MSc, Ph.D	Assistant Professor	Inorganic Chemistry	16	03
Mr. Manish Parmar	MSc, B.Ed, Ph.D (contd)	Assistant Professor	Organic Chemistry	16	Nil
Ms Ekta Gupta	MSc	Trainee Teachers	Inorganic Chemistry	18 months	Nil
Ms Smita Sorathia	MSc	Trainee Teachers	Organic Chemistry	18 months	Nil
Mr. Ravish Patel	MSc	Trainee Teachers	Organic Chemistry	7 months and 13 days	Nil
Ms. Mehfuja A. Sarathlawala	MSc	Trainee Teachers	Organic Chemistry	5 months	Nil
Mr. Yadullakhan .H. Pathan	MSc	Trainee Teachers	Industrial Chemistry	8 months	Nil
Mr Savan Patel	Msc	Trainee Teachers	Organic Chemistry	3 months	Nil
Mr. Bhanwar Purohit	MSc	Trainee Teachers	Organic Chemistry	3 months and 15 days	Nil
Ms. Jyoti Prasad	MSc	Trainee Teachers	Organic Chemistry	2 months	Nil

11. List of senior visiting faculty

NIL

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Temporary faculty	Subjects	Theory/ Practical
07 Trainee teachers	Chemistry Industrial Chemistry	30 %

13. Student -Teacher Ratio (programme wise)

Sr. No.	Programme	No. of Students	No. of Teachers	Teacher-Student ratio
1	B.Sc. (F Y, S Y & T Y)	892	13(6 + 7)	1:67

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Sr. No.	Sanctioned (Lab Assistant)	Filled	Sanctioned Peon	Filled
1.	02	02	04	04

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Six permanent faculty members with Ph D. For details Refer answer of Q.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Research Projects undertaken: Major/ Minor in last five years

Research Project	Name of Faculty	Date of Commencement	Date of Completion	Funding Agency	Amount Sanctioned
MINOR					
Preparation and Characterization of binders (styrenated & vinylated) for perfect coating application.	Dr.Archana Shah	16-3-12	ON GOING	UGC, PUNE	1,45,000.00

MAJOR					
Synthesis of H - bonded and metal - ligand supramolecular polymers: characterization of their physical, optical, magnetic, electronic properties and exploration of application	Dr. Smita Srivastava	01-07-12	ON GOING	UGC, DELHI	10,90,800.00

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received.

Research Projects undertaken: Major/ Minor in last five years

Sr. No.	Research Project	Name of Faculty	Funding Agency	Amount Sanctioned
MINOR				
1.	Mixed Ligand Complexes: Synthetic, Thermal, Spectral Aspects and Biocidal Applications	Dr. Smita Srivastava	UGC, PUNE	65,000/-
2.	Synthesis, Characterization And Biocidal Activity of Some Mixed-Ligand Complexes	Dr.Ketul Patel	UGC, PUNE	80,000/-
3.	Conducting Polymers: Synthesis, Characterization, Molecular Orbital Calculations and Surface Coating Applications	Dr.V.D.Bhatt	UGC, PUNE	65,000/-
4.	Jatropa Oil Based Binders for surface coating application in the subject of Chemistry	Dr. Archana Shah	UGC, PUNE	50,000/-
5.	Preparation and Characterization of binders (styrenated & vinylated) for perfect coating application.	Dr.Archana Shah	UGC, PUNE	1,45,000/-
6.	Synthesis, characterization of Polymeric drug carrier using Guar gum and modified guar gum	Dr.Nirmal Patel	UGC, PUNE	2,00,000/-
7.	Bio conversion of Glycerol and its application for preparation of polyol	Dr.Nirmal Patel	UGC, PUNE	85,000/-

MAJOR				
8.	Studies on Mixed Metal Complexes	Dr.V.D. Bhatt	UGC, DELHI	5,78,200/-
9.	Preparation of E-Content on Selected Topics in Coordination Chemistry	Dr.V.D. Bhatt	MHRD, NPTEL	7,00,000/-
10.	Development of e-content on Heavy and fine chemicals	Dr.Nirmal Patel	NPTEL	7,00,000/-
11.	Development of e-content on Chemical process industries	Dr.Nirmal Patel	NPTEL	7,00,000/-
12.	Synthesis of H - bonded and metal - ligand supramolecular polymers: characterization of their physical, optical, magnetic, electronic properties and exploration of application	Dr.Smita Srivastava	UGC	10,90,800 /-

18. Research Centre / facility recognized by the University

Since the college runs mainly Undergraduate courses, the registration of Ph D candidates is done through recognized Research centre of Sardar Patel University - SICART (Sophisticated instrumentation centre for Advanced Research Testing) which is a sister institute of our management

19. Publications:

➤ Publication per faculty

	Name	No. of Publication
1	Dr. Smita Srivastava	2
2	Dr. Ketul Patel	6
3	Dr. Archana Shah	2

➤ Number of papers published in peer reviewed journals (national / international) by faculty and students - Total : 10

➤ Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) – Total : 10

➤ Monographs : NIL

➤ Chapter in Books : NIL

➤ Books Edited

1. Dr. Shveta Trivedi:

Contributed as authors for a book Published for first semester B. Sc. (Sardar Patel University) students entitled “General Chemistry”. Publisher: Atul Prakashan, Ahmedabad, Gujarat.

2. Dr. Ketul Patel

Published a book for first semester B. Sc. (Sardar Patel University) students entitled "Inorganic Chemistry", Publisher: Atul Prakashan, Ahmedabad, Gujarat.

➤ Books with ISBN/ISSN numbers with details of publishers

Dr. Smita Srivastava

Authored a chapter in a book for Semester-II students of B.Sc., S P University; titled, "Physical Chemistry" with ISBN NOS. 819305033 - 9 Publisher: Atul Prakashan, Ahmedabad, Gujarat.

Dr. Bhavin Patel

Authored a chapter in a book for Semester-II students of B.Sc., S P University; titled, "Physical Chemistry" with ISBN NOS. 819305033 - 9, Publisher: Atul Prakashan, Ahmedabad, Gujarat.

Mr. Manish Parmar

Authored a chapter in a book for Semester-II students of B.Sc., S P University; titled, "A textbook of Organic Chemistry" with ISBN NOS. 978-81-930503-1-6, Publisher: Atul Prakashan, Ahmedabad, Gujarat.

➤ Citation Index

Citation Index, h-index, i-10 index and Impact factor (As on May 17, 2014)

	Citation Index	h-index	i-10 index	Total impact factor
Dr. Smita Srivastava	---	---	---	---
Dr. Ketul Patel	79	4	---	---

20. Areas of consultancy and income generated

NIL

21. Faculty as members in

- a) National committees
- b) International Committees
- c) Editorial Boards....

Names	National Committees	International Committees	Editorial Boards
Dr. Smita Srivastava	NIL	NIL	NIL
Dr. Shveta Joshi	NIL	NIL	NIL
Dr. Archana Shah	NIL	NIL	NIL
Dr. Ketul Patel	NIL	NIL	NIL
Dr. Bhavin Patel	NIL	NIL	NIL
Mr. Manish Parmar	NIL	NIL	NIL

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental /programme

NIL. No project work included in the syllabus.

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies

NIL

23. Awards / Recognitions received by faculty and students

FACULTY

- Dr. Bhavin V. Patel was awarded "Best Counsellor Award" in the year 2011-12.

STUDENTS

Sr. No.	Year	Name	Subject	Name of Gold Medal
01.	2010	Bhupesh Popatlal Panchal	Industrial Chemistry	"Dipee Chemicals Private Limited (Ankleshwar) Gold Medal"
02.	2010	Bhupesh Popatlal Panchal	Industrial Chemistry	"Dr. D. A. Raval Gold Medal"
03.	2011	Niravkumar Harsukhbhai Sapariya	Chemistry	"Dr. B. N. Mankad Gold Plated Medal"
04.	2012	Gourav Chouhan	Chemistry	"Dr. B. N. Mankad Gold Plated Medal"
05.	2013	Mohammadfahim Nazirmiyani Malek	Industrial Chemistry	"Dipee Chemicals Private Limited (Ankleshwar) Gold Plated Medal"
06.	2013	Mohammadfahim Nazirmiyani Malek	Industrial Chemistry	"Dr. D. A. Raval Gold Medal"
07	2014	Rajal Hiteshbhai Patel	Industrial Chemistry	"Dipee Chemicals Private Limited (Ankleshwar) Gold Medal"
08	2014	Rajal Hiteshbhai Patel	Industrial Chemistry	"Dr. D. A. Raval Gold Medal"
09	2014	Rajal Hiteshbhai Patel	Industrial Chemistry	1 st position in Poster competition "Science Manthan" conducted by Charotar University of Sciences and Technology (CHARUSET) CHARUSAT.

10	2014	Rajal Hiteshbhai Patel	Industrial Chemistry	2 nd position in the Poster and Oral presentation competition at Christ college Rajkot
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24. List of eminent academicians and scientists / visitors to the department

Name	Place	Seminar / Workshop / Guest Lecture	Year
Prof. Dr. D. K. Rawal	S. P. University	Guest Lecture	2012, 2014
Dr. Merlyn Thomas	Post graduate department of Industrial Chemistry, ISTAR	Guest Lecture	2014
Prof. Shridhar R. Gadre	Pune University, Pune	National Seminar	2009
Dr. Darshan Chokshi	S. P. University	National Seminar	2009
Prof. K. G. Akamanchi	Institute of Chemical technology, Mumbai	National Seminar	2009
Dr. Upadhyay Ramesh Venkataramaiah	Charotar University of Science and Tech., Anand	National Seminar	2009
Dr. D. B. Shukla	Scientist and Head, IPR Cell Public information & Relation officer, CSMCRI	National Seminar	2009
Mr. Mansukh Vekaria	M.D. Ankleshwar Research & Analytical Infra. Ltd.	Industrial expert, Seminar	2009
Mr. Rajubhai Patel	M.D. Jackson Industries	Seminar	2009
Mr.D. Chakraborty	Production Manager, Berger Paints	Seminar	2009
Dr. Atul. R. Raja	Senior Manager- R & D, Solvay Specialities India Pvt. Ltd.	Seminar	2009
Prof. L. M. Manocha	Head, Material Science Department, Sardar Patel University	Seminar	2009
Prof (Mrs). S. Manocha	Prof. Material Science Department, S. P. University	Seminar	2009

25. Seminars/ Conferences/Workshops organized & the source of funding

(a) National (b) International

- National Seminar entitled "Research in Chemistry at Crossing Edge of Other Sciences-2009" (RC²EOS-2009) sponsored by GUJCOST. The grant received was of ₹40,000/-
- The department had organized "Intercollegiate State Level Scientific Event" which was sponsored by CVM.

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Application received	Selected	Enrolled		Pass percentage
			*M	*F	
Chemistry (SEM III)	123	123	46	23	55.07
Industrial Chemistry (SEM III)	61	61	56	07	2.73

*M = Male *F = Female

27. Diversity of Students

Name of the course	% of students from the same state	% of students from other state	% of students from abroad
Chemistry	79	21	00
Industrial chemistry	87.3	4.76	00

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.?

Being UG institute correct data is not available.

29. Student progression

Student progression	Against % enrolled
UG to PG	CHEMISTRY INDUSTRIAL CHEMISTRY
PG to M.Phil.	NA
PG to Ph.D.	NA. Data not available
Ph. D. to Post. Doctoral	NA. Data not available
Employed <ul style="list-style-type: none"> Campus Selection Other than Campus Recruitment 	Although the students get selected in campus interviews do not join as they prefer to go for higher studies.
Entrepreneurship/ Self Employed	NA. Data not available

30. Details of Infrastructural facilities

(a) Learning resources of the departments –

- **Library** : Department houses its own library with 200+ books of different titles covering variety of subjects like Organic Chemistry, Inorganic Chemistry, Physical Chemistry, Analytical Chemistry, Polymer Chemistry, Industrial Chemistry, Petroleum Technology etc. Various competitive books

are also available for students and teachers references. The departmental library has been established by collecting the specimen copies of the books received by faculty members. In addition to this, the books and periodicals purchased from the budget sanctioned in the research projects are also housed in this library. The faculty members also donate the books to the departmental library. These books serve as ready reckoners for students as well as faculty members.

- **Computers:** The department is equipped with 2 desktop computer and laptop attached with printers purchased from the projects received by the faculties of the department. In addition to this majority of the staff members have their own laptop computers or personal computers.

(b) Internet facilities for Staff & Students

NVPAS WI-FI facility is available to students and staffs for 24 × 7 HRS.

(c) Class rooms with ICT Facility

The department owns a portable LCD projector, which enables the faculty and students to give power point presentations for teaching and seminars respectively.

The classroom is also equipped with LCD projector

(d) Laboratories

Department has 4 laboratories of which one is having capacity of 90 students.

The department has four large laboratories suitable for practical of general chemistry. The practical related to petrochemical testing, unit operations and instrumental methods in physical chemistry are performed in two specialized laboratories viz. unit operations and physical chemistry laboratory.

Preparation room in one of the laboratories is utilized for preparation of solutions and mixture used for practical.

31. Number of students receiving financial assistance from college, university, government or other agencies

Chemistry - 12 students

Industrial Chemistry. - 01 students

Total 13 students are benefited by Government Scholarship.

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts.

Sr. No.	Program	Year
1.	Guest Lecture on "Plastic and Polymer" by Prof. Dr. J. S. Parmar, SPU.	16-7-2009
2.	National Seminar entitled "Research in Chemistry at Crossing Edge of Other Sciences-2009" (RC2EOS- 2009) sponsored by GUJCOST. The grant received was of ₹40,000/-.	8- 9 November 2009
3.	Guest Lectures organized to celebrate "International Year of	2011

	Chemistry"	
4.	Poster and Oral Presentation Competition.	24-1-2014
5.	Orientation Programme	7 -01- 2015
6.	Guest Lecture on "Mass Transfer Operations" by Dr. Merlyn Thomas	30-01-2015
7.	Guest Lecture on "NMR Spectroscopy" by Dr. D. K. Rawal.	02-2015
8.	Interclass Poster And Model Making Competition	20 -02- 2015
9.	Intercollegiate State Level Scientific Event	25- 02- 2015
10.	Industrial visits organized	(2009 - 2012)

33. Teaching methods adopted to improve student learning

In addition to regular classroom blackboard teaching method

- The use of LCD projector by faculty members helps to explain the actual execution of various chemical processes and phenomenon.
- The assignment in the form of Question bank is given to the students which they are required to submit to the concerned faculty member. This helps the students in writing the actual answers.
- During lecture sessions/practical interested students are given opportunity for giving seminar on various topics from the syllabus.
- The department organizes a seminar, paper presentation competition and chemistry quiz for the students.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities.

The Faculty members are involved in admission process and activities of Madhyastha Samiti. Some students of department have joined NSS /NCC and are actively participating in all the NSS/ NCC activities. The students as well as the Faculty members are also associated with social and extension activities of the college.

Dr. Shveta Trivedi is Coordinator of Collegiate Women Development Cell, member in Anti-Ragging Committee, Committee and Faculty in-charge of Women Hostel.

Dr. Ketul Patel is Convener of Anti-Ragging Committee as well as Rector of Boys Hostel.

35. SWOC analysis of the department and Future plans.

Strength	<ul style="list-style-type: none">➤ Harmonious relationship among the members of the management, staff, students and parents.➤ Highly competent and supportive staff with expertise in diverse areas.➤ Well-equipped departmental library (+ 200 Books)➤ Industrial visits, seminars and quiz competition helps to impart
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	<p>first-hand information and better understanding of the subject.</p> <ul style="list-style-type: none">➤ Representation by maximum number of faculty members in Board of Studies contributing to curriculum design and implementation.➤ Success rates in examinations higher as compared to University results.➤ Received 12 UGC sponsored projects (7 minor + 5 major) to the strength of Rs. 44, 59,000/-.
Weakness	<ul style="list-style-type: none">➤ Majority students opt for higher education therefore we cannot meet the demands of industries after under graduation.➤ Lack of extra reading habit by the students
Opportunity	<ul style="list-style-type: none">➤ Exploring possibility of collaborative research with research institutions.➤ Substantial potentiality for enhancing/expanding its educational operations by uploading e - content on the college website thereby bringing about innovative changes in teaching-learning method.
Challenges	<ul style="list-style-type: none">➤ To motivate the habit of extra reading among the students.➤ To produce quality and employable graduates.➤ To motivate the students to take projects work.

Future Plan

- To organize entrepreneurship programme.
- Increase in industrial exposure.
- Introduction of "Vistas in Chemistry" written seminar for T. Y. BSc students.
- To introduce add on courses.



Department of Mathematical Science



Evaluative Report of the Department of Mathematical Science

1. Name of the department: **Mathematical Sciences**
2. Year of Establishment : **1996**
3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

Level	Program	Remark
UG	B.Sc. (Mathematics)	SF

4. Names of Interdisciplinary courses and the departments/units involved Courses:

**Mathematics, Bio-Stats, Operation Research,
Discrete Mathematics, Calculus and Algebra**

Department Involved: **Chemical Science**
Computer Science
Physical Sciences
BT/GT/BNF

5. Annual/ semester/choice based credit system (programme wise):

Name of the course offered		system
UG	B. Sc. Mathematics	Choice Based Credit System Semester system

6. Participation of the department in the courses offered by other departments:

Courses	Department
US03CMTH01,02,03 US04CMTH01,02,03 US03ESTA01, US04ESTA01	Computer Science
US01FBCA02, US02FBCA02	Computer Science
PS01FIIT02, PS02FIIT02	Computer Science
US03EMTH01, US04EMTH01	Physical Sciences
US03EMTH05, US04EMTH05	Chemical Sciences
US03ESTA04, US04ESTA04 US03CGEN01, US04CGEN01	BT/GT/BNF Department

7. Courses in collaboration with other universities, industries, foreign institutions, etc.:

NA

8. Details of courses / programmes discontinued (if any) with reasons:

Nil

9. Number of Teaching posts

	Sanctioned	Filled
Professors	NIL	NIL
Associate Professors	NIL	NIL
Asst. Professors	5	2 permanent + 3 Trainee Teachers

10. Faculty profile with name, qualification, designation, specialization, (D. Sc. / D. Litt. /Ph. D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience
Mr. B. P. Patel	M.Sc., M.Phil, Ph. D. (Conti.)	HOD & Asst. Professor	Mathematics	18
Mr. N. S. Babariya	M.Sc., M.Phil, NET	Asst. Professor	Mathematics	8
Dr. A .M. Khabia	M.Sc., M.Phil, Ph.D, NET	Asst. Professor	Statistics	6
Mr.Chintan Patel	M.Sc.	Trainee Teacher	Mathematics	2
Mr. Vimal Patel	M.Sc.	Trainee Teacher	Mathematics	1
Mr. Pragnesh Paramar	M.Sc.	Trainee Teacher	Statistics	1

11. List of senior visiting faculty:

Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:

Lectures delivered: 20 %

Practical classes: 65 %

13. Student -Teacher Ratio (programme wise):

Programme	Student -Teacher Ratio
F. Y. B. Sc	40:1
S. Y. B. Sc	26:3
T. Y. B. Sc	16:5
F. Y. BCA	25:1
S. Y. BCA	33:1
M. Sc (IT)	15:2

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

01 Peon

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D. / M. Phil. / PG:

Name	Qualification
Mr. B. P. Patel	M.Sc.(Gold Medallist), M.Phil, Ph.D. (Conti.)
Mr. N. S. Babariya	M.Sc., M.Phil, NET
Dr. A.M. Khabia	M.Sc., M.Phil., Ph.D., NET
Mr.Chintan Patel	M.Sc.
Mr. Vimal Patel	M.Sc.
Mr. Pragnesh Paramar	M.Sc.

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:

Nil

18. Research Centre /facility recognized by the University:

NA

19. Publications:

a) Publication per faculty

- * Number of papers published in peer reviewed journals (national /international) by faculty and students:

- * **Number of publications listed in International Database (For eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)**
- * **Monographs**
- * **Chapter in Books**
- * **Books Edited**
- * **Books with ISBN/ISSN numbers with details of publishers**
- * **Citation Index**
 - * SNIP
 - * SJR
 - * Impact factor
- * **h-index**

Mr. Bhailal Patel

Sr. No.	Topic	Journal Name	Year	Page No / Vol. No	Impact Factor
1.	Laplace Transform of Some Well-known Special Functions	International Journal of Innovative Research in Science, Engineering and Technology	2013	Vol. 2, Issue 8, ISSN: 2319-8753,p:3583-3592	1.672
2.	Differential recurrence relation of Generalized K-Wright function	International Journal of Pure and Applied Mathematics	2013	ISSN 1311-8080	2.13
3.	Differential Equation of Generalized K - Wright Function	International Journal of Pure and Applied Mathematics	2013	ISSN 1311-8080	2.13
4.	Error Functions and their Application	PRAJNA-Journal of Pure and Applied sciences	2014	ISSN 0975-2595 (Communicated and Accepted).	

Book Published:

Calculus and Matrix Algebra	Mr. Bhailal Patel Co-Author	Gujarat Granth nirman Board, Ahmedabad	2012
College Mathematics” (ISBN No. 978-93-85138-02-7)	Mr. Bhailal Patel Co-Author	Atul Prakashan	2015

Mr. Niraj Babariya

College Mathematics” (ISBN No. 978-93-85138-02-7)	Mr. Niraj Babariya Co-Author	Atul Prakashan	2015
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Dr. Arti Khabia

Sr. No.	Topic	Journal Name	Year	Page No/ Vol. No
1.	A modified Pareto distribution	Journal of the Indian Statistical association	2011	73-89/vol-49 No.1 ISSN: 0537-2585
2.	Inliers detection in Pareto distribution	Journal of Interdisciplinary Mathematics	2012	261-274/Vol-15 ISSN: 0972-0502
3.	Detection of inliers in Weibull model	Journal of Kerala Statistical Association	2013	49-60/Vol-23 ISSN: 2249-4553
4.	Inliers proness in normal distribution	Reliability: Theory and Application	2013	86-99/Vol-8 ISSN: 1932-2321

20. Areas of consultancy and income generated:

NIL

21. Faculty as members in

a) National committees b) International Committees c) Editorial Boards

Mr. Bhailal Patel

- Worked as the **Chairman of Board of Studies** in Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India from September 2002 to September 2005.
- Working as a member of the Board of Studies in Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India.
- Working as a **Senate member** of S.P. University from February, 2007 to till date.
- Member of “Gujarat Ganit Mandal” since 1997.
- Life time member of the Society of Special functions since 2012.

All permanent faculty members of the department are member of Board of Studies at S.P. University.

22. Student projects: NIL

- a) Percentage of students who have done in-house projects including inter departmental/programme
- b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/other agencies

23. Awards / Recognitions received by faculty and students

Sr. No.	Name of Faculty/Students	Details
1	Ms. Nehal Bambharoliya, T. Y. B. Sc. Mathematics	Secured First prize in Minaxi Lalit Science Award-2015
2	Ms. Krishna Patel, T. Y. B. Sc. Mathematics	Secured Third prize in Minaxi Lalit Science Award-2015
3	Ms. Preksha Patel, S.Y. B.Sc (Maths)	Secured Third prize in Minaxi Lalit Science Award-2015
4	Ms. Lokita Patel	Secured First prize in Minaxi Lalit Science Award-2014.
5	Ms. Nehal Bamroliya	Secured Second prize in Minaxi Lalit Science Award-2014.
6	Ms. Shreema Bhatt, S.Y. B.Sc (Maths)	Third prize in Prof. A. R. Rao State level Mathematics competition for year 2014
7	Ms. Preksha Patel, S.Y. B.Sc (Maths)	Qualified in Prof. A. R. Rao State level Mathematics competition for year 2014
8	Dr Arti Khabia	Best published paper award for "Detection of inliers in Weibull model" in "Journal of Kerala Statistical Association" published in year 2013
9	Ms. Mitali Solanki	Gold Medallist of S.P. University Examination, 2013
10	Ms. Lokita Patel and Mr. Jatin Samariya	Qualified in Prof. A. R. Rao State level Mathematics competition for year 2013
11	Ms. Mitali Solanki	Got first prize in Prof. A. R. Rao State level Mathematics competition for year 2012
12	Ms. Mitali Solanki	Qualified in Prof. A. R. Rao State level Mathematics competition for year 2011
13	Ms. Deeksha Trivedi,	T.Y. B.Sc (Maths) got second prize in Prof. A. R. Rao State level Mathematics competition for year 2011

24. List of eminent academicians and scientists / visitors to the department

Sr. No.	Name	Position	Event	Date
1.	Prof. A. M. Vaidya	Former Head Of Mathematics Dept. Gujarat University	GUJCOST sponsored state level Seminar	29 th Jan, 2013
2.	Prof. M.H. Vasavada	Former Head, Mathematics Dept. SPU, Vidyanagar	GUJCOST sponsored state level Seminar	29 th Jan, 2013 and 4 th March, 2014
3.	Prof N.N. Roghelia	Former Head Of Mathematics Dept. M.G. Science College	GUJCOST sponsored state level Seminar	29 th Jan, 2013

4.	Prof. S. G. Ghevaria	Mathematics Dept. SPU	GUJCOST sponsored state level Seminar	29 th Jan, 2013
5.	Prof . A.B. Patel	Mathematics Dept. SPU	GUJCOST sponsored state level Seminar	29 th Jan, 2013
6.	Prof . D. J. Karia	Mathematics Dept. SPU	GUJCOST sponsored state level Seminar	29 th Jan, 2013
7.	Prof S. J. Bhatt	Mathematics Dept. SPU	GUJCOST sponsored state level Seminar	29 th Jan, 2013
8.	Prof J. C. Prajapati	Mathematics Dept. Changa University	GUJCOST sponsored state level Seminar	29 th Jan, 2013
9.	Prof. H. V. Dedaniar	Professor, P.G.Department of Mathematics, S.P.University	Delivered a lecture on account of Science Day	28/02/2015

25. Seminars/ Conferences/Workshops organized & the source of funding

Organized a one day State Level Seminar entitled “**Applications of Mathematics**” on 29th January, 2013, funded by GUJCOST.

26. Student profile programme/course wise:

Name of the Course / programme (refer question no. 4) B.Sc. (Maths)	Applications Received	Selected	Enrolled		Pass percentage
			*M	*F	
2010-2011	03	03	2	1	100
2011-2012	17	17	10	7	94.11
2012-2013	15	15	9	6	86.87
2013-2014	16	16	8	16	81.25
2014-2015	23	23	8	15	Result awaited

*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
T. Y. B. Sc. (Maths)	82	18	Nil
S. Y. B. Sc. (Maths)	93	7	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc. ?:

Being UG institute correct data is not available.

29. Student progression

Student progression	Against % enrolled
UG to PG	95%
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed <ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	NA
Entrepreneurship/Self-employment	NA

30. Details of Infrastructural facilities

a) **Library:** We have departmental library comprising of more than 150 books on subjects related to Mathematics and Statistics.

b) **Internet facilities for Staff & Students:**Internet to faculty through LAN and Wi-Fi and to students in lab, Library and through Wi-Fi.

c) **Class rooms with ICT facility:** 05

d) **Laboratories:**01

Apart from this Department has Laptop, Desktop, printer, LCD and Microphone with speaker for classroom teaching.

31. Number of students receiving financial assistance from college, university, government or other agencies:

Sr. No.	Name	Class	Amount
N.V. Patel Scholarship (2014-15)			
1	Ms. Mili Vaishnav	S.Y.B.Sc.	24,000
Scholarship for ST Students Received(2014-15)			
1	Ms. Rinkalben C. Chaudhary	T.Y.B.Sc.	46220
2	Ms. Lataben V. Chaudhary	S.Y.B.Sc.	49720
3	Mr. Jigneshkumar P Shalot	S.Y.B.Sc.	49720
4	Mr. Hiteshkumar C. Vasaiya	S.Y.B.Sc.	37020

5	Ms. Jaiminiben M. Patel	S.Y.B.Sc.	37020
Scholarship for SC Students Received(2014-15)			
1	Ms. Gurusha J. Mandhva	S.Y.B.Sc.	42920
C.V.M. Scholarship (2013-14)			
1	Ms. Bhavini	S.Y. B.Sc.	3600
2	Ms. Urvashi	S.Y. B.Sc.	2800
3	Ms. Roshni	T.Y. B.Sc.	2800
N.V. Patel Scholarship (2013-14)			
1	Ms. Nehal Jesukhbhai Bambharoliya	S.Y. B.Sc.	24000
SARAT-2014 Scholarship (Insti.)			
1	Mr. Jatin Samariya	T.Y B.Sc.	2500
Scholarship for ST Students Received(2013-14)			
1	Mr. Vimalsinh Kiransinh Rathwa	T.Y B.Sc.	37520
2	Ms.Rinkalben Chhitubhai Chaudhary	S. Y. B. Sc.	40220
Scholarship for OBC Students Received(2013-14)			
1	Ms. Vaidehi D. Modi	S. Y. B. Sc.	3170
Scholarship for ST Students Received (2012-13)			
1	Mr. Vimalsinh Kiransinh Rathwa	S. Y. B. Sc.	41,500

- One of our T.Y.B.Sc (Akshya Bhavsar) students got **INSPIRED** scholarship from Government.

32. Details on student enrichment programmes (special lectures / workshops /seminar) with external experts.

No	Event	Expert
1	Ms. Deeksha Trivedi has participated in M.T.& T.S programme at HRI, Allahabad during May-June, 2010.	
2	Ms. Mitali Solanky has participated in M.T.& T.S programme at M.S.University of Baroda,Vadodara during May-June, 2011.	
3	Organized a one day State Level Seminar entitled “ Applications of Mathematics ” on 29 th January, 2013.	PROF. A.M.VAIDYA Prof. M.H. Vasavada Prof N.N. Roghelia Prof. S.G.Ghevaria Prof. A.B. Patel Prof. D.J. Karia Prof S.J. Bhatt Prof J.C. Prajapati
4	Organized Guest lecture for S.Y and T.Y. B. Sc. Mathematics students.	Prof. M.H.Vasavada

5	Organized lecture of Alumni for S.Y and T.Y. B. Sc. Mathematics students	Mr. Abhigna Ms. Dixa Trivedi
6	Organized guest lecture for S.Y and T.Y.B. Sc. students on account of Science Day, 28/02/2015.	Prof. H.V.Dedania, Professor, P.G.Department of Mathematics, S.P.University

33. Teaching methods adopted to improve student learning:

Tutorials, Remedial classes and classes with Power point presentation.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

All the faculty members are actively involved in extension activities which are conducted by the institute.

35. SWOC analysis of the department and Future plans

Strengths	<ul style="list-style-type: none">➤ Dedicated Faculty➤ Cultivates Student's interest in the subject by insightful teaching➤ Enhance their analytical skills➤ Preparing students for participating state/national level competitions➤ Faculty members are involved in various committee/body of the University
Weakness	<ul style="list-style-type: none">➤ Lower competence of mathematics at entry level
Opportunities	<ul style="list-style-type: none">➤ Enabling better learning by giving individual attention to the students➤ To make mathematics interesting through models and practical's➤ Increasing demand of mathematics in proliferating technological advances
Challenges	<ul style="list-style-type: none">➤ To ensure high academic performance of students➤ To encourage and prepare the students for competitions➤ Work towards goals and objectives

Future plans

- To Start classes for preparation of IIT JAM Examination for Maths
- To improve the academic performance of the students
- To apply for Research Projects from various funding agencies
- To start certificate course



Department of Microbiology



Evaluative Report of the Department of Microbiology

1. Name of the department : Department of Microbiology

2. Year of Establishment : 1996

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

B. Sc.

Ph. D.

4. Names of Interdisciplinary courses and the departments/units involved

Class	Course	Department
S.Y.B.Sc. (SEM III)	US03EMIC01	BIOTECHNOLOGY
S.Y.B.Sc. (SEM IV)	US03EMIC01	BIOTECHNOLOGY
F.Y.B.Sc. S.Y.B.Sc. T.Y.B.Sc.	Carrier oriented course in process development in Bio-Technology (certificate and diploma)	All the students of the college are eligible

5. Annual/ semester/choice based credit system (programme wise):

Semester and CBCS since June 2010

6. Participation of the department in the courses offered by other departments

Class	Course	Department
S.Y.B.Sc. (SEM III)	US03EMIC01 (Fundamentals of Microbiology)	BIOTECHNOLOGY
S.Y.B.Sc. (SEM IV)	US03EMIC01 (Fundamentals of Microbiology)	BIOTECHNOLOGY

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

NIL

8. Details of courses/programmes discontinued (if any) with reasons:

NIL

9. Number of Teaching posts

	Sanctioned	Filled
Professors	NIL	NIL
Associate Professors	01	01
Asst. Professors	02	01 + One Trainee Teacher

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. Akshaya Gupte	Ph. D	Head, of the Department	Microbiology	18 Yrs.	07 completed Ph. D. and 03 are pursuing at present
Dr. Urvish Chhaya	Ph. D	Sr. Assistant Professor	Microbiology	10 Yrs.	Nil
Dr. Yogesh Patel	Ph. D	Adhoc Lecturer	Microbiology	06 Yrs.	Nil

11. List of senior visiting faculty:

NIL

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:

Lectures and Practicals taken by Temp. Faculty is 30%

13. Student -Teacher Ratio (programme wise)

Class	No. Of Students	Student Teacher Ratio
S.Y.B.Sc. (2013-14) Micro	35	12:1
T.Y. B. Sc. (2013-14) Micro	15	5:1
S. Y. B. Sc. (2013-14) Biotechnology	44	15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Support Staff	Sanctioned	Filled up	Remarks
Lab Asst.	02	02	Appointed by management
Peon	05	05	

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. Akshaya Gupte	Ph. D	Head, of the Department	Microbiology	18 Yrs.	07 completed Ph. D. and 03 are pursuing at present
Dr. Urvish Chhaya	Ph. D	Sr. Assistant Professor	Microbiology	10 Yrs.	Nil
Dr. Yogesh Patel	Ph. D	Adhoc Lecturer	Microbiology	06 Yrs.	Nil

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Sr. No.	Name of the Faculty	Major / Minor	Year	Title	Agency	Amount
1.	Dr. Akshaya Gupte	Major	2011-2014	Production of exopolysaccharides from basidiomycetes and their possible antioxidant properties	UGC, New Delhi	6,98,100/-
		Major	2013-2016	Biodegradation of high molecular weight polycyclic aromatic hydrocarbon by defined fungal culture	DBT, New Delhi	25,00,000/-
		Major	2013-2015	Production and purification of laccase and its application for the synthesis and biotransformation of organic compounds	DBT	30,03,000/-
2.	Dr. Urvish Chhaya	Minor	2013-2015	Bioremediation of phenolic environmental pollutant using fungal metalloenzymes by non-aqueous approach	UGC	1,50,000/-

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Sr. No.	Name of the Faculty	Major/ Minor	Year	Title	Agency	Amount
1.	Dr. Akshaya Gupte	Major	2008-2012	Production and characterization of laccase from <i>Pleurotus ostreatus</i> & <i>Fusarium incarnatum</i> and their potential role in delignification of Banana stem / wheat straw.	DBT	22,51,000/-
		Major	2009-2012	Production of Fungal Metalloenzymes by <i>Pleurotus ostreatus</i> and their application in Bioremediation of Azo dyes	DBT	30,09,000/-
		Major	2011-2014	Production of exopolysaccharides from basidiomycetes and their possible antioxidant properties	UGC, New Delhi	6,98,100/-
		Major	2013-2016	Biodegradation of high molecular weight polycyclic aromatic hydrocarbon by defined fungal culture	DBT, New Delhi	25,00,000/-
		Major	2013-2015	Production and purification of laccase and its application for the synthesis and biotransformation of organic compounds	DBT	30,03,000/-
2	Dr. Urvish Chhaya	Minor	2013-2015	Bioremediation of phenolic environmental pollutant using fungal metalloenzymes by non-aqueous approach	UGC	1,50,000/-
		Total				1,16,11,100/-

18. Research Centre /facility recognized by the University:

The doctoral students in Microbiology are registered through SICART and works under the guidance of the recognized guides in the college.

19. Publications: **Total: 38**

* a) Publication per faculty

Sr. No.	Name	No. of Publication
1	Dr. Akshaya Gupte	38
2	Dr. Urvish Chhaya	04
3	Dr. Yogesh Patel	02

- * Number of papers published in peer reviewed journals (national / international) by faculty and students: **Total: 38**
- * Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) : **38**
- * Monographs: **NIL**
- * Chapter in Books: **03**
- * Books Edited: **NIL**
- * Books with ISBN/ISSN numbers with details of publishers: **03**

Name of the Author	Title of the Book	Publisher	Year	ISSN/ISBN no.
Dr. Urvish Chhaya	Guide for Biotechnology and Life Sciences Entrance Examination	Nirav & Roopal Prakasha, Ahmedabad	2008	938128629-9
Dr. Urvish Chhaya	Concepts in Elementary Biotechnology	GSBTM & Lajja Publications, Vallabh Vidyanagar	2014	978-93-81286-29-6

- * Citation Index , h-index, i-10 index and Impact factor (As on Feb., 2015)

Name	Citation Index	h-index	i-10 index	Total impact factor
Dr. Akshaya Gupte	289 (total) Since 2010 - 2014	9	8	40.00
Dr. Urvish Chhaya	18	2	1	7.494
Dr. Yogesh Patel	04	01	nil	4.64

20. Areas of consultancy and income generated:

NIL

21. Faculty as members in a) National committees
b) International Committees
c) Editorial Boards....

Names	National Committees	International Committees	Editorial Boards
Dr. Akshaya Gupte	NIL	NIL	01 (International Journal of Agriculture Environment and Research)
Dr. Urvish Chhaya	NIL	NIL	NIL

Both Dr. Akshaya Gupte and Dr. Urvish Chhaya are the member of Board of Studies of Biosciences. They are also the members of the syllabus framing committee.

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme

Course	Year	No. of Students	Projects In %
COC	2010-11	29	100%
COC	2011-12	27 (certificate)	100%
	2011-12	03 (diploma)	100%
COC	2012-13	25 (certificate)	100%
	2012-13	17(diploma)	100%
COC	2013-14	19(certificate)	100%
	2013-14	02(diploma)	100%

- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies : **NIL**

23. Awards / Recognitions received by faculty and students:

Dr. Akshaya Gupte	1. Second Prize in Poster presentation at Emerging trends in Biotechnology ETBT 2009 (Nov, 2009) at Banaras Hindu university, Banaras 2. Appreciation Award by CVM for Research in 2014.
Dr. Yogesh Patel	1. First Prize in Oral Presentation at 24th Gujarat Science Congress organised by Gujarat University and Gujarat Science Academy, Ahmedabad March 2010. 2. First Prize in Oral Presentation at 26th Gujarat Science Congress organised by M.S. University of Baroda and Gujarat Science Academy, Ahmedabad Feb.2012. 3. Cleared NET examination in 2013
Dr. Urvish Chhaya	Authored 2 books

24. List of eminent academicians and scientists / visitors to the department

Name	Place	Seminar / Workshop / Guest Lecture	Year
Prof. Ashok Pandey	NIIST, Trivandrum	National Symposium	2014
Dr. Rakesh Sharma	IGIB, New Delhi	National Symposium	2014
Dr. Sumit Gandhi	IIIM, Jammu	National Symposium	2014
Dr. J. D Desai	Reliance Industries, Vadodara	National Symposium	2014
Mr. MilindPhanalkar	General manager, Alembic Limited	Guest Lecture	2014
Dr. Naresh Kumar	Head Dept. of Biochemistry, M. S. University of Baroda	Workshop	2013
Prof. H. A. Modi	Dept.of Life Sciences, Gujarat University	Guest Lecture	2013
Prof. S. R. Dave	Director, School of Sciences, Gujarat University	Guest Lecture	2012
Prof. N. K. Singh	IARI, New Delhi	National Symposium	2011
Dr. HemantPurohit	NEERI, Nagpur	National Symposium	2010
Prof. Ravi Verma	IIT, Chennai	National Symposium	2010
Prof. Prashant Phale	IIT, Mumbai	National Symposium	2010
Dr. Sanjay Nene	NCL, Pune	National Symposium	2009
Dr. S. P. Govindwar	Shivaji University, Kolhapur	National Symposium	2009
Prof. Shekhawat	University of Udaipur	National Symposium	2009
Prof. S. D. Purohit	MLS university Udaipur	National Symposium	2009

25. Seminars/ Conferences/Workshops organized & the source of funding

Sr. No.	Title	Conference / Seminar / Workshop	Funding Source
1	Microbial Biotechnology: Advances and Future trends	National Level Symposium Feb.26, 2014	Partial by GSBTM and CVM
2	Passion to Mission	National Symposium Dec. 2011	GSBTM, Gandhinagar
3	Advance in Molecular techniques	State Level Work Shop Feb.25, 2014	Hi-Media labs, Mumbai

26. Student profile programme/course wise: 2013-2014

Name of The course / programme	Applications Received	Selected	Enrolled		Pass Percentage
			*M	*F	
B.Sc. (Microbiology) 2012-13	15	15	2	13	80%
B. Sc. (Microbiology)	35	35	9	26	80%

*M = Male *F = Female

27. Diversity of Students

Name of the course	% of students from the same state	% of students from other state	% of students from abroad
B.Sc. Microbiology 2012-13	86%	14%	NIL
2013-14	80%	20%	NIL

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Being UG institute correct data is not available.

29. Student progression

Student progression	Against % enrolled
UG to PG	85%
PG to M.Phil.	nil
PG to Ph.D.	
Ph.D. to Post-Doctoral	nil
Employed	
• Campus selection	
• Other than campus recruitment	
Entrepreneurship/Self-employment	

30. Details of Infrastructural facilities

a) Library

The department has a departmental library of around 100 books, which are issued for a week and a log book is maintained for the same. The college has a good central library of which the students make the use. The student and the staff are

provided with Wi-Fi Facility. There is also an access to N-list library and other e-resources are available to the students.

b) Internet facilities for Staff & Students :

The students and staff are provided with internet facility. The computer labs are open for the students till 7:00 p.m. every day. There are two computers in the library which are dedicated for N-List (INFLIBNET). All the faculty have their own log in ID for N-List

c) Class rooms with ICT facility

The faculty can use overhead projector or LCD facility for their classroom teaching. With their Wi-Fi access they are also able to show the animations of various important topics on line to the students in the class.

d) Laboratories

Adequate well equipped laboratories with instrumentation facility are available for the students to perform their practicals.

31. Number of students receiving financial assistance from college, university, government or other agencies:

Two students from the department received financial assistance from the government in the financial year 2013-14.

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts:

Name	Place	Seminar / WorkShop / Guest Lecture	Year
Prof. Ashok Pandey	NIIST, Trivandrum	National Symposium	2014
Dr. Rakesh Sharma	IGIB, New Delhi	National Symposium	2014
Dr. Sumit Gandhi	IIIM, Jammu	National Symposium	2014
Dr. J. D Desai	Reliance Industries, Vadodara	National Symposium	2014
Mr. Milind Phanalkar	General manager, Alembic Limited	Guest Lecture	2014
Dr. Naresh Kumar	Head Dept. of Biochemistry, M. S. University of Baroda	WorkShop	2013
Prof. H. A. Modi	Dept.of Life Sciences, Gujarat University	Guest Lecture	2013
Prof. S. R. Dave	Director, School of Sciences, Gujarat	Guest Lecture	2012

	University		
Prof. N. K. Singh	IARI, New Delhi	National Symposium	2011
Dr. Hemant Purohit	NEERI, Nagpur	National Symposium	2010
Prof. Ravi Verma	IIT, Chennai	National Symposium	2010
Prof. Prashant Phale	IIT, Mumbai	National Symposium	2010
Dr. Sanjay Nene	NCL, Pune	National Symposium	2009
Dr. S. P. Govindwar	Shivaji University, Kolhapur	National Symposium	2009
Prof. Shekhawat	University of Udaipur	National Symposium	2009
Prof. S. D. Purohit	MLS university Udaipur	National Symposium	2009

33. Teaching methods adopted to improve student learning

The department conducts regular MCQ quizzes as a part of assessment of the students. Regular assignments are given to all the students and are to be completed in a given stipulated time. Special care is taken for the weak learners by giving special assignments, mcq and extra classes are arranged for such students. After completion of each unit the assignments are to be submitted by the students and an examination is conducted for the same. The faculty of the department also prepares regularly students for various state level and national level competitions so as to make them confident. The students are also encouraged to give seminars and small talks on the topics of their interest.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

The Department and institute always emphasizes on nurturing a spirit of social responsibility among the students. The college provides ample opportunities to the students and faculties to reach out to the society through a few councils initiated to contribute to good citizenship and orient them towards services. The college ensures the transmission of values, attitudes and beliefs that will encourage the students to be sensitive to several social issues and would help to become responsible citizens. The department faculty Dr. Yogesh Patel delivered a talk and explained about the health and hygiene to the small road side vendors of Anand and Vallabh Vidyanagar. Dr. Yogesh also provided his services in NSS camp in village Navli regarding the importance of potable water and in general about the water borne diseases to the villagers. Dr. Urvish Chhaya also provided his services in the NSS camp in Navli and encouraged the panchayat school children by giving a talk on Sam Pitroda and Swami Vivekananda. The students of the department always check the water sample of the college, hostel regularly. The students of the department are associated with various NSS and other activities which benefits the society.

35. SWOC analysis of the department and Future plans

Strengths	<ul style="list-style-type: none">➤ Highly motivated staff.➤ Academically strong teaching faculty➤ Enthusiastic set of students➤ Excellent instrumentation facility➤ Interdisciplinary research➤ Constant new Research projects➤ Involvement in university committees (Board of studies, Syllabus framing)➤ Research aptitude of the faculty
Weakness	<ul style="list-style-type: none">➤ Less consultancy services➤ Lack of resource management for departmental activities.➤ Increase more Alumni support
Opportunities	<ul style="list-style-type: none">➤ Introduction of new certificate courses with respect to food and pharma industry➤ Introducing small student projects.➤ Organising a microday.
Challenges	<ul style="list-style-type: none">➤ Synchronization of activities with more focused goal➤ To motivate student in the subject and encourage them to go beyond syllabus.➤ Improving the results of the students.➤ To motivate more number of students to take up course like the carrier oriented course in process development in Industrial Biotechnology

Future Plans:

- Organizing an annual programme of the department. Involving students in projects.
- Enhance and make more effective Add-on Course.
- To increase student exposure to industry.



Department of Physical Science



Evaluative Report of the Department of Physical Science

1. Name of the department : Department of Physical Sciences

2. Year of Establishment : 1996

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.) :

Level	Program
UG	B.Sc. Instrumentation

4. Names of Interdisciplinary courses and the departments/units involved

Semester	Course	Title of the Course	Departments Involved
3	US03EELE01	Fundamentals of Computer Hardware	Computer Sciences
4	US04EELE01	Fundamentals of Computer Hardware	Computer Sciences

5. Annual/ semester/choice based credit system (programme wise)

Name of the course offered		System
UG	B. Sc. Instrumentation	Choice Based Credit System Semester system

6. Participation of the department in the courses offered by other departments

Sem	Programme	Course	Title of the Course	Departments Involved
3	B. Sc. Chemistry B. Sc. Ind.Chem. B. Sc. Mathematics	US03CPHY01	Optics	Chemical Sciences & Mathematics
		US03CPHY02	Solid State Electronics	
		US03CPHY03	Physics Practicals	
4	B. Sc. Chemistry B. Sc. Ind.Chem. B. Sc. Mathematics	US04CPHY01	Electromagnetic Theory and Spectroscopy	
		US04CPHY02	Solid State Physics	
		US04CPHY03	Physics Practicals	

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

-Nil-

8. Details of courses/programmes discontinued (if any) with reasons

-Nil-

9. Number of Teaching posts

Teaching Posts	Sanctioned	Filled
Professors	NIL	NIL
Associate Professors	NIL	NIL
Assistant Professors	04	04
Trainee Teachers	05	05

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. H. J. Trivedi	Ph. D. M. Phil.,	HOD & Assistant Professor	Physics: Theoretical Condensed Matter Physics, Remote Sensing	18	Nil
Dr. B. D. Patel	Ph. D. M. Phil.,	Assistant Professor	Physics: X-Ray Crystallography	14	Nil
Dr. Y. A. Patel	Ph. D.	Assistant Professor	Physics : Condensed Matter Physics, Crystal Growth & Characterization	12	Nil
Dr. M. S. Dave	Ph. D. M. Phil.,	Assistant Professor	Physics : Condensed Matter Physics, Crystal Growth & Characterization	12	Nil
Mr. D. K. Dhruv	M. Sc. (Pursuing Ph.D.)	Trainee Teacher	Instrumentation : Thin Film Techniques	8	Nil
Mr. Rahul Dubey	M. Phil., M. Sc. (Pursuing Ph.D.)	Trainee Teacher	Physics : Condensed Matter Physics, Crystal Growth & Characterization	1	Nil

Ms. Taruna Padariya	M.Sc.	Trainee Teacher	Physics : Condensed Matter Physics, Crystal Growth and Characterization	1	Nil
Mr. Yatin Patel	M.Sc.	Trainee Teacher	Instrumentation	1	Nil
Ms. Himadri Desai	M.Sc.	Trainee Teacher	Instrumentation	1	Nil

11. List of senior visiting faculty

Name of faculty	Name of Institution	Expertise talk in field of
Dr. Himanshu Kapse	HOD, Instrumentation Department, Institute of Science & Technology for Advanced Studies & Research, V. V. Nagar.	Embedded System Design
Dr. Mrs. Heena Kher	Associate Professor of Instrumentation & Control, A. D. Patel Institute of Technology, New Vallabh Vidyanagar	SCADA Systems

12. Percentage of lectures delivered and practical classes handled (programme wise)

By temporary faculty

Lectures delivered - 10%

Practical Classes - 50%

13. Student -Teacher Ratio (programme wise)

Sr. No.	Programme	No. of Students	No. of Teachers	Teacher-Student ratio
1	B.Sc. (F Y, S Y & T Y)	800	09	1 : 89

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

	Sanctioned	Filled	Remarks
Lab. Assistant	01	01	Appointed by management
Peons	03	03	

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Four permanent faculty members with Ph D. For details Refer answer of Q.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received

Ongoing Research Projects

Sr. No	Title	Principal Investigator	Funding Agency	Amount
1	Retrieval of Land Surface Temperature from the INSAT-3D <i>Imager</i> observations	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	8,70,000/-
2	Sensor System Studies for the GISAT	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	32,00,000/-

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Sr. No	Title	Principal Investigator	Funding Agency	Major / Minor	Duration	Status ongoing / completed	Amount
1	Sensor System Studies for Vegetation Monitoring	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	Major	Aug 2008 to July 2011	Completed	13,60,000/-
2	The study of the role of the dopant on Physical Properties of single crystals of oxalates grown by gel technique	Dr. Babita Tyagi	UGC, New Delhi	Minor	Jan 2010 to Dec 2011	Completed	85,000/-
3	Development of Electronic Devices Based on Organic Semiconductors	Mr. H. N. Parikh	UGC, New Delhi	Minor	Sept 2009 to Aug 2011	Completed	1,16,000/-
4	Retrieval and validation of surface reflectance from Resourcesat-2 AWiFS Data	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	Major	Sept 2012 to June 2014	Completed	12,00,000/-

5	Three Dimensional Crystallographic Studies of Important Heterocyclic Compound by X –ray Diffraction Technique	Dr. B. D. Patel	UGC, New Delhi	Minor	July 2012 to July 2014	Completed	1,85,000/-
6	Retrieval of Land Surface Temperature from the INSAT-3D <i>Imager</i> observations	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	Major	Sept 2011 to August 2015	Ongoing	8,70,000/-
7	Sensor System Studies for the GISAT	Dr. H. J. Trivedi	SAC, ISRO, A'BAD	Major	April 2014 to March 2017	Ongoing	32,00,000/-
Total Grants Received							70,16,000/-

18. Research Centre /facility recognized by the University

The staff members of the departments are involved in active research in association with the Sophisticated Instrumentation Centre for Advanced Research and Training(SICART).

19. Publications:

Total Publications: 39

Sr. No.	Name	No. of publications		Publications listed in database	Citation index	h-index
		National	International			
1	Dr. H. J. Trivedi	04	11	15	39	4
2	Dr. Yogesh Patel	---	10	10	----	----
3	Dr. Mehul Dave	07	10	17	31	2
4	Mr. D. K. Dhruv	-----	01	01	----	----

20. Areas of consultancy and income generated

-Nil-

21. Faculty as members in

- a) National committees**
- b) International Committees**
- c) Editorial Boards....**

Dr. H. J. Trivedi	Members of Board of Studies in Physics, SPU Member of Syllabus framing committee, SPU Member of Faculty of Science, SPU
Dr. Yogesh Patel	Members of Board of Studies in Physics, SPU Member of Syllabus framing committee, SPU Member of Faculty of Science, SPU
Dr. Mehul Dave	Members of Board of Studies in Physics, SPU Member of Syllabus framing committee, SPU Members of Board of Studies in Electronics, SPU Member of Faculty of Science, SPU

22. Student projects

Project work is an integral part of curriculum for the students pursuing B.Sc. Instrumentation Course. The students pursue different projects under the Courses US05CINS09 & US06CINS09 at the fifth and sixth semester of their study.

a) Percentage of students who have done in-house projects including inter departmental/programme

100 % (it is mandatory for all the students of B. Sc. Instrumentation to undergo project work as a part of curriculum)

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

A rigorous project work is undertaken by the students of third year Instrumentation course inside the college as a requirement to be fulfilled for the award of degree of B.Sc. Instrumentation. However they get exposure to the industrial environment through industrial visits organized by the department.

23. Awards / Recognitions received by faculty and students

Gold Medalist Students at the University Exam:

Sr. No.	Name	Subject	Year	Name of Gold Medal
01.	Mitula M. Donga	Instrumentation	2014	“Charutar Vidya Mandal Gold Plated Medal”
02.	Sourav Guha	Instrumentation	2012	“Charutar Vidya Mandal Gold Plated Medal”
03.	Jayana Bipinchandra Patel	Instrumentation	2011	“Charutar Vidya Mandal Gold Plated Medal”
04.	Balvendrasingh Karansingh Chauhan	Instrumentation	2010	“Charutar Vidya Mandal Gold Plated Medal”

05.	Nishita Vijay Desai	Instrumentation	2009	“Charutar Vidya Mandal Gold Plated Medal”
06.	Jatinkumar B Patel	Instrumentation	2008	“Charutar Vidya Mandal Gold Plated Medal”

Awards / Recognitions received by faculty

Dr. H. J. Trivedi:

1. Recognized Ph.D. Guide of SPU
2. Recognised M.Phil. Guide of SPU
3. Best teacher award by CVM
4. Two awards for best research papers by SPU

Dr. M. S. Dave:

1. Recognised M.Phil. Guide of SPU
2. Award for the best research paper by SPU

24. List of eminent academicians and scientists / visitors to the department

- 1 Dr. C. M. Nagrani, Ex-Group Director, SAC, ISRO, Ahmedabad
- 2 Dr. R. P. Singh, Group Director, SAC, ISRO, Ahmedabad
- 3 Dr. M. R. Pandya, Scientist F, SAC, ISRO, Ahmedabad
- 4 Dr. Sushma Panigrahi, Ex-Group Director, SAC, ISRO, Ahmedabad
- 5 Dr. Ajay Rai, Group Director, IMD, New Delhi
- 6 Dr. R. P. Dubey, Ex-Group Director, SAC, ISRO, Ahmedabad
- 7 Dr. K. Dassanacharya, Ex-Director, DECU, SAC, ISRO, Ahmedabad

25. Seminars/ Conferences/Workshops organized & the source of funding

Year	Theme of Seminar	Date	Collaborating / Funding Agency
2009-10	Energy Conservation – Scope and Challenges	14 th December 2009	C. C. Patel Community Science Centre, Sardar Patel University
2010-11	Energy Conservation – Need of the Hour	14 th December 2010	C. C. Patel Community Science Centre, Sardar Patel University
2011-12	The New Horizons in Energy Conservation	14 th December 2011	C. C. Patel Community Science Centre, Sardar Patel University
2012-13	The Frontiers of Energy Conservation	28 th January, 2013	C. C. Patel Community Science Centre, Sardar Patel University
2013-14	Energy is Life, Life is Energy	28 th January, 2014	C. C. Patel Community Science Centre, Sardar Patel University
2014-15	Energy Conservation : Past, Present & Future	5 th February 2015	C. C. Patel Community Science Centre, Sardar Patel University

26. Student profile programme/course wise:

Year	Course/Programme	Applications Received	Selected	Enrolled		Pass Percentage
				Male	Female	
2010-11	B.Sc. Instrumentation	24	24	24	00	100%
2011-12	B.Sc. Instrumentation	04	04	04	00	100%
2012-13	B.Sc. Instrumentation	07	07	06	01	100%
2013-14	B.Sc. Instrumentation	09	09	08	01	100%
2014-15	B.Sc. Instrumentation	17	17	15	2	100%

27. Diversity of Students

Year	Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
2010-11	B.Sc. Instrumentation	83%	17%	00
2011-12	B.Sc. Instrumentation	100%	00%	00
2012-13	B.Sc. Instrumentation	100%	00%	00
2013-14	B.Sc. Instrumentation	71%	29%	00
2014-15	B.Sc. Instrumentation	94%	06%	00

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Since the graduation is no more a terminal stage of study now-a-days, the students pursue higher studies with M.Sc., M.B.A., M.C.A. courses after the graduation. Being UG institute correct data is not available.

29. Student progression

	Student progression Against the % enrolled
UG to PG	100%

30. Details of Infrastructural facilities

- a) **Library:** The departmental library is equipped with 266 books covering a wide spectrum of subjects starting from basic science subjects like Physics up to the most advanced topic of industrial automation.
- b) **Internet facilities for Staff & Students:** All the staff members are provided with the internet facility on Wi-Fi so that they can equip themselves with the latest trends and advances of their fields. They are also provided with the web space so that they can interact with the intellectuals of their fields and enhance their capabilities and knowledge.
- c) **Class rooms with ICT facility:** The department is provided with the ICT facilities like overhead projector, LCD projector with laptop and screen. The Head of the department is also provided with a laptop to smoothly carry out the academic and administrative activities.
- d) **Laboratories:** The department has six state-of-the-art laboratories to carry out the Practical and Project work in Physics, Electronics and Instrumentation. The laboratories are also equipped with all the required tools for maintenance with a dedicated maintenance room.

31. Number of students receiving financial assistance from college, university, government or other agencies

Students are getting scholarships from Gujarat Govt. / Central Govt. under various schemes.

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

The students are motivated to enrich their knowledge by inspiring them to participate in the oral and poster competitions inside and outside the college at state and national level. Also the department arranges scientific exploration tours for all the students of FYBSc classes to the places of general scientific interest like Space Exhibition, ISRO, Ahmedabad and Science City, Ahmedabad. Also the students are encouraged to appear in the state level Minaxi Lalit Science Award Exam conducted by the Gujarat Science Academy, Ahmedabad.

33. Teaching methods adopted to improve student learning

The teachers of the department make use of the excellent ICT facilities provided by the college. They impart teaching with the help of the latest audio visual aids like LCD projectors, portable microphone devices, laptop etc. They also extensively use the internet facility to avail the content on their topics and subjects and make available to the students a variety of explanation for the topics supported by pictures and animations.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

The staff members of the department actively participate in the extracurricular activities of the college including the extension activity. They are also the members of the college Extension Activity Unit and help in arranging and managing all the extension activities in the college. One of the staff member Dr. Yogesh Patel is convenor of Extension Activity Unit as well as the Programme Officer for National Service Scheme (NSS) unit of the college under whose guidance all the extension activities are carried out. Besides Dr. Himanshu Trivedi and Dr. Mehul Dave are also members of extension unit of the college and are actively involved in all the activities of the college. Also the college Madhyastha Samiti has Faculty of Social Services, which takes care of all the societal extension affairs of the college. Dr. Himanshu Trivedi is the Vice-President of the Madhyastha Samiti.

35. SWOC analysis of the department and Future plans

Strength	<ul style="list-style-type: none">➤ The department has signed an MOU with the Regional Telecommunication Training Centre (RTTC) jointly with the department of Computer Science of the college under which the students of the department will be allowed to carry out training or workshops in the centre at concessional rates.➤ Strong Research collaboration with the Space Application Centre, ISRO, Ahmedabad for the research projects since 2008.➤ Representation of staff members in various committees of Sardar Patel University(e.g., BOS, and other committees)➤ 70% of the staff members possess higher degrees like M.Phil. and Ph.D. and make use of their vast experience in carrying out teaching and learning process in the best possible manner.
Weakness	<ul style="list-style-type: none">➤ Extensive use of library and ICT facilities by the students should be promoted.➤ Inability to change the curriculum at will with the rapidly changing industrial scenario.
Opportunities	<ul style="list-style-type: none">➤ New courses in the emerging areas of science can be proposed.➤ Add-On or other Certificate/Diploma courses could be started, which can serve as the bridge between academics and industry.
Challenges	<ul style="list-style-type: none">➤ To maintain the pace with the rapidly developing industrial environment, by introducing new topics in the curriculum.➤ To plan for the collaborative programme with industries to provide the students with hands on experience.

Future Plans

- To start a certificate/diploma course in industrially relevant areas of Instrumentation and Physics.
- To encourage teachers for carrying out research activities.
- To encourage students for the entrepreneurship.



Department of Biotechnology, Genetics & Bioinformatics



**Evaluative Report of the Department of
Biotechnology, Genetics & Bioinformatics**

- 1. Name of the department :** Biotechnology, Genetics & Bioinformatics
- 2. Year of Establishment :** Biotechnology in 1996,
Genetics and Bioinformatics in September, 2004
- 3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Level	Program	Remark
UG	BSc Biotechnology BSc Genetics BSc Bioinformatics	SF
Ph.D.	PhD Biotechnology	Regular

- 4. Names of Interdisciplinary courses and the departments/units involved**

Nil

- 5. Annual/ semester/choice based credit system (programme wise) CBCS in BSc (Annexure-I)**

- 6. Participation of the department in the courses offered by other departments**

Nil

- 7. Courses in collaboration with other universities, industries, foreign institutions, etc.**

Nil

- 8. Details of courses/programmes discontinued (if any) with reasons.**

Nil

- 9. Number of Teaching posts**

Post	Sanctioned	Filled
Professors	Nil	Nil
Associate Professors	Nil	Nil
Asst. Professors	6	6

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D./M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No of Years of Exp.	No. of Ph.D. Students guided for the last 4 years
DrMadhumati Bora	MSc, Ph. D.	HOD	Plant Biotechnology	19 years teaching and 8 years of research after PhD	2 pursuing since last 2.5 years
DrYachanaJha	MSc NET Ph. D.	Assistant professor	Molecular Biology	11 years	Nil
DrKundan K Mishra	MSc NET Ph. D.	Assistant professor	Molecular Biology	10 years	Nil
Dr Amit Ballani	MSc NET Ph. D.	Assistant professor	Immunology	10 years	Nil
MrsPratibhaChaurasi a	MSc NET,GATE MTech	Assistant professor	Bioinformatics	8 years	Nil
Dr Anjali Kulkarni	M.Sc NET Ph. D.	Assistant professor	Animal Genetics& Breeding	9 years	Nil

11. List of senior visiting faculty

Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Nil

13. Student -Teacher Ratio (programme wise)

18:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Common for the whole Bioscience department

Support Staff	Sanctioned	Filled up	Remarks
Lab Asst	02	02	Appointed by management
peon	05	05	

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Out of 6 faculty 5 are PhD and one is pursuing PhD

16. Number of faculty with ongoing projects from (a) National (b) International funding agencies and grants received

3 Faculties getting funds from UGC for one major and two minor projects

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

UGC---total fund sanctioned—16.14 lakh for one major and two minor projects.

Sr. No.	Name of the teacher with designation whose project approved	Title of project approved	Major / Minor project approved by	Duration of project	Grant approved for project	Grant approved for any other projects
01	DrMadhumati Bora, HOD, BT,GT & BNF	Establishment and Molecular characterization of Resistance Against Common Pathogen (<i>Psuedomonasaeru ginosa</i>) in Tomato (<i>Lycopersiconesculentum</i>) Using Selected Mycorrhizal Strains.	Major project by UGC	3 years	12,89,400	N/A
02	DrYachana Jha Sr lecturer, BT	Molecular phylogeny of plant growth promoting bacteria and their effect under abiotic stress on <i>Oryza sativa</i> (rice).	Minor project by UGC	2 years	2,00,000	N/A

03	MsPratibha Chaurasia	DNA barcoding among diverse germplasm of Ashwagandha (<i>Withaniasomnifer a</i>)	Minor project by UGC	2 years	1,25,000	N/A
Ms Ami Lokhandwala and MrsPratibhaChaurasia are registered for their PhD in Biotechnology under DrMadhumati Bora						

18. Research Centre /facility recognized by the University

Since the college runs mainly Undergraduate courses, the registration of Ph D candidates is done through recognized Research centre of Sardar Patel University - SICART (Sophisticated Instrumentation Centre for Advanced Research & Testing) which is a sister institute of our management

19. Publications:

- Publication per faculty
- Number of papers published in peer reviewed journals (national / international) by faculty and students

Name of faculty	No of Papers in National journal	No of Papers in International journal	Book/ Article/ Chapter
DrMadhumati Bora	07	25	6
DrYachanaJha	01	08	Nil
DrKundan Mishra	02	04	02
Dr Amit Ballani	01	02	02
MrsPratibhaChaurasia	02	03	01
Dr Anjali Kulkarni	04	07	nil

- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs
- Chapter in Books
- Books Edited
- Books with ISBN/ISSN numbers with details of publishers
- Citation Index
 - * SNIP
 - * SJR
 - * Impact factor
- h-index

20. Areas of consultancy and income generated

Nil

21. Faculty as members in

- a) National committees
- b) International Committees
- c) Editorial Boards...

DrMadhumati Bora

- Life member for BRSI (Biotech Research Society India)
- Member of International plant Biotechnology Network, Colorado, USA
- Member of Editorial board of International Journal of Pure & Applied Biosciences

Dr Anjali Kulkarni

- Life member Indian Association of Women Veterinarian
- Life member of Society for conservation of domestic animal biodiversity
- Member Maharashtra State Veterinary council

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme---Nil
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies---Nil

23. Awards / Recognitions received by faculty and students

- DrKundan K Mishra and Dr Amit Ballani were awarded PhD in biotechnology.
- DrMadhumati Bora has been recognized as PhD guide in Biotechnology at SPU and PhD examiner at MLSU, Udaipur.
- DrMadhumati Bora and her PhD student received best poster award in an international conference
- DrKundan Mishra, Dr Amit Ballani,DrMadhumati Bora and DrYachanaJha are recognized as resource persons for GSBTM crash workshops.
- Dr Amit Ballani and DrKundan K. Mishra are recognized as coordinators for N-BT-CBC and BAT by Pharma Care society.
- DrMadhumati Bora was invited as a plenary speaker and judge for an oral and poster session in an International conference held at Putra University Malaysia during December 9-10, 2014.
- For the first time in Gujarat 14 students from one college (N V Patel College of Pure & Applied Sciences) cleared JNU_CEEB test for MSc biotechnology where PallaviVarshney and Badal Pandya of TYBT got merit position 14thand 16th at National level and got admission in JNU campus other 12 students got

into different Universities for their MSc Biotechnology. These students are getting scholarship 1400/month for their MSc course.

- Mr MaulikJani of TY Biotechnology got first in a National level **‘Biotechnology Aptitude Test’** organized by International Journal of Pharmaceutical Research. He received cash prize of Rs 5100/ and a certificate. Second prize was begged by Ms Unity Patel and third by Ms Prit Gandhi.
- Mr MaulikJani and Ms Vani Singh of TY Biotechnology got success at national level entrance test for MSc PhD integrated course at national centre for biological sciences NCBS. Mr MaulikJani was amongst first 200 students and got success in Tata Institute of Fundamental Research also.
- A state level quiz competition held by Bhaskarcharya institute of space application and geo informatics through swarnim Gujarat, MaulikJani and JamunaNawani of TYBT got first prize.

Year	Student's name	Subject	Gold medal
2010	Richa B. Patel	Biotechnology	“Charutar Vidya Mandal Gold Medal”
	Yashvi B. Shah	Genetics	“Dr. B.R. Patel Gold Medal”
	Hemal V. Nirmal	Bioinformatics	“Dr. B.R. Patel Gold Medal”
2011	Juli J. Chavada	Genetics	“Dr. B.R. Patel Gold Medal”
	Kaminibahen T. Parmar	Bioinformatics	“Dr. B.R. Patel Gold Medal”
2012	Hiral M. Sanghavi	Genetics	“Dr. B.R. Patel Gold Medal”
	AkshaySuthar	Bioinformatics	“Dr. B.R. Patel Gold Medal”
2013	Khushbuben C. Patel	Genetics	“Dr. B.R. Patel Gold Medal”
	Nehaben K. Bhanushali	Bioinformatics	“Dr. B.R. Patel Gold Medal”
2014	Anuja Parikh	Genetics	“Dr. B.R. Patel Gold Medal”

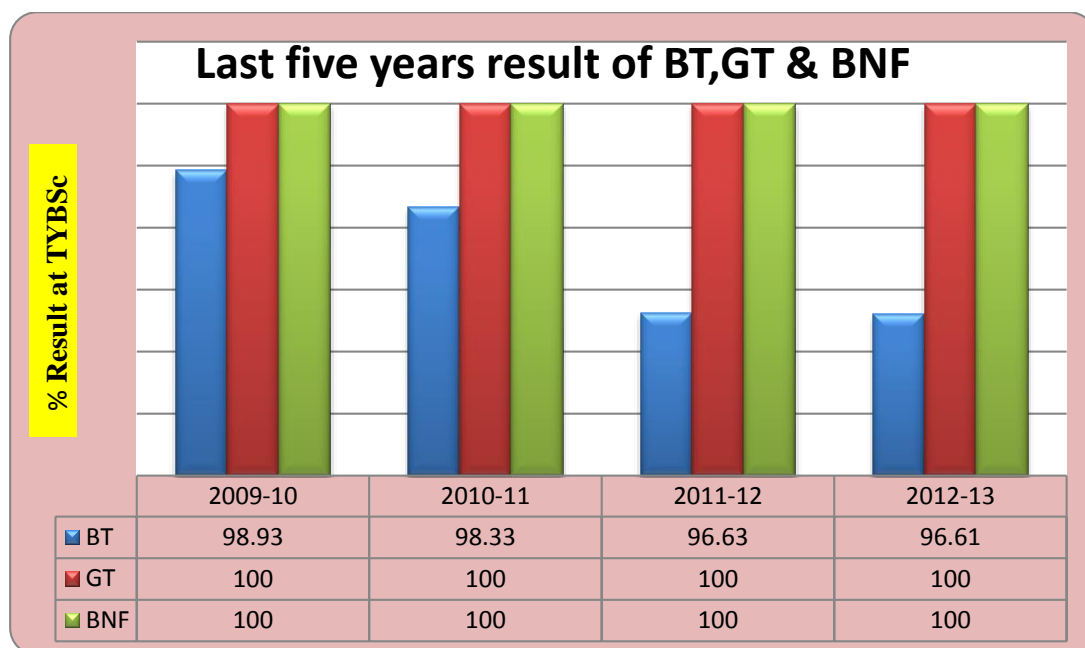
24. List of eminent academicians and scientists / visitors to the department

- Dr Sunil Purohit, MohanlalSukhariya University, Udaipur
- Dr C G Joshi, AAU, Anand
- DrBhavnathJha, CSCMRI, Bhavnagar
- Dr N K Singh, IARI, New Delhi
- Dr Ashok Pande, Trivendram
- Dr Gaurav Bissa ,IIM, Udaipur
- Dr G C Jadeja, AAU, Anand
- Dr R S Fougat, AAU, Anand
- DrNareshkumar ,MSU, Vadodara

25. Seminars/ Conferences/Workshops organized & the source of funding

- a) **National symposium on 26th February,2014 (funded by GSBTM & CVM).**
One workshop on 25th February,2014(funded by HIMEDIA)
- b) **International---Nil**

26. Student profile programme / course wise:



Name of The course/ programme	Applications Received	Selected	Enrolled		Pass Percentage
			*M	*F	
Biotechnology	42+34	42+34	14+14	28+20	96%
Genetics	18+32	18+32	3+7	15+25	100%
Bioinformatics	5+9	5+9	4+3	1+6	100%

*M = Male *F = Female

27. Diversity of Students

Name of the course	% of students from the same state	% of students from other state	% of students from abroad
Biotechnology	93.4%	6.6%	Nil
Genetics	100%	Nil	Nil
Bioinformatics	80%	20%	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

In Science excellence programme organized by Gujarat university, Ahmedabad

1. Ms KetkiGharpura from TYBT got first prize in oral presentation in forensic science
2. Noelle Nelson of TYBT got first prize in poster presentation in biotechnology.

3. AnupriyaPande of TYGT got first prize in poster presentation
4. JigmaAsnani of TYBNF got first prize in oral presentation
5. DhruvaRaval of TYBNF got first prize in poster presentation
6. Lisa Samuel of TYBT got second prize in oral presentation in Environmental science.
7. Anu Nair of SYGT got second prize in poster presentation.

In **BAT(Biotechnology Aptitude Test) 2012-13 MsDishaBhanderi of TYBT** got first rank with **99.99 percentile**. She received a trophy, certificate and cash prize of Rs 5100/ by Pharma Care society.

Six students have got rank in JNU CBEE-2012

- Ms.NidhiRaval (TYBT) AIR- 225
- Ms.RinalMaisuria (TYBT) AIR -41
- Ms HiralSanghvi (TYGT)AIR - 236
- Mr. Pratik Shah (TYBT)AIR-339
- Ms.Priyanka Banerjee (TYBT) AIR – 450
- Ms.SachiKansara- (TYBT)AIR - 709

Students cleared in NET / GATE			
Exam	2010 – 11	2011 – 12	2012 – 13
NET – LS	5	3	5
GATE	1	1	-
NET – JRF	2	2	1

29. Student Progression.

Student progression	Against % enrolled
UG to PG	90-95%
PG to M.Phil.	-----
PG to Ph.D.	-----
Ph. D. to Post. Doctoral	-----
Employed <ul style="list-style-type: none"> • Campus Selection • Other than Campus Recruitment 	02 (2013—14) -----
Entrepreneurship/ Self Employed	-----

30. Details of Infrastructural facilities

(a) Library

Department Library with 115 books

(b) Internet facilities for Staff & Students

Wi-Fi facility to all with broadband facility to department

(c) Class rooms with ICT facility LCD projector, OHP and portable mike facility

(d) Laboratories

- well equipped with all the equipments required for BSc BT GT and BNF e.g. Electrophoresis apparatus, tissue culture room, spectrophotometer(UV/VIS), pH meter, Laminar air flow chamber, Thermocycler, centrifuge with cooling, deep fridge, incubator, waterbath, hot air oven etc.

31. Number of students receiving financial assistance from college, university, government or other agencies

Scholarships received in the year 2013-14

Name of the student	Class	Amount(in Rs) College fee
ShwetaParmar	SYBT	40220/-
Priyanka Chauhan	SYBT	40220/-
PragnaPargi	SYGT	40220/-
Total	3 students	120660/-

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external expert

- a. In order to give exposure and make the students aware regarding the practices at a Human Cytogenetics laboratory, 15 students of Third year BSc Genetics along with Dr.Anjali Kulkarni visited the Cytogenetics laboratory at Ashok & Rita Patel Institute of Integrated Study & Research in Biotechnology and Allied Sciences on 6th and 9th January 2014.
- b. A hands on training on techniques in Molecular Biology was organized for TYBSc and SYBSc students sponsored by HIMEDIA, Bombay on 25th February, 2014.
- c. Students were trained to participate in a national level intercollegiate and state level competition held at Ahmedabad, Changa, Rajkot and Nadiad. Our students won various prizes.
- d. On the occasion of teacher's day, the department organized an exhibition under the name "Designer Genes". Wherein the students of Third year B.Sc. Biotechnology and Genetics had prepared posters showcasing the first ever achievements in the field of biotechnology and genetics which were all out of the indomitable efforts of the great scientists. The posters were presented on First Transgenic animal, First transgenic plant, First recombinant vaccine, First recombinant protein, First cloned animal, First tissue engineering, First Three-Parent Baby, First Hybridoma Technology and First Gene Therapy.

These are the achievements which are regarded as the major milestones because their discovery gave an entire new direction to the realm of life sciences and technology particularly in the arena of biotechnology and genetics.

33. Teaching methods adopted to improve student learning

- After completion of the unit students are asked to come prepared with short questions and answers of that unit which gives them in-depth understanding of the topics they have studied.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

On Teacher's day (5th September 2013), 34 young 'hungry genes' of S.Y. And T. Y. BSc. Genetics of N.V. Patel College of Pure and Applied Sciences, VallabhVidyanagar, raised a handsome amount by selling artefacts and other useful handmade articles, under the brand name - HUNGRY GENES 2013, hungry for memories!

Their selfless intentions proved real when on 18th January 2014, the team along with their mentors visited Hindu Anathashram at Nadiad. The Hindu Anathashram has been undefeatedly showering love and care upon the less-fortunate friends since 15th March 1908, when it was established, and has left no stone unturned to assure quality life to those 90 blessed souls. The Hungry Genes invested their efforts into pencil boxes, geometry boxes, crayon, drawing books, notebooks and a football and badminton kit as their gifts to the children. The students were delighted to see the number of achievements and laurels the orphans had brought to the Ashram and the nation by winning at national and international levels.

HUNGRY GENES is an example of youth power. Such examples deepen the hope of living in a young, free and honest India once again. More power to the youth!

35. SWOC analysis of the department and Future plans

Strength	<ul style="list-style-type: none">➤ PhD and NET qualified staff with > 10.➤ BOS members, Sardar Patel Uni.➤ Entrance Examination Preparation Cell.
Weakness	<ul style="list-style-type: none">➤ Not conducting any consultancy or extension activity in local language (Gujarati) since no faculty is from Gujarat.➤ Number of students opting applied subjects is going down.➤ No consultancy service
Opportunity	<ul style="list-style-type: none">➤ Getting more major research projects.➤ Awareness programs can be arranged about the job prospects and scope of the subjects to change the attitude of students and parents which is more towards technical lines now.
Constraints / Challenges	<ul style="list-style-type: none">➤ To organize International Seminar.

Future Plans

- Getting collaborative projects / interdisciplinary projects.



Department of Computer Science



Evaluative Report of the Department of Computer Science

1. **Name of the department :** Computer Science Department
2. **Year of Establishment :** 1996
3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Level	Program
UG	i. B.Sc. (Computer Science) ii. B.Sc. (Information Technology) iii. Bachelor of Computer Applications
PG	i. M.Sc. - IT (Integrated)

4. **Names of Interdisciplinary courses and the departments/units involved**

Inter disciplinary Courses : Computer Science,
Information Technology,
Bioinformatics, Mathematics

Departments involved : Dept of Mathematics,
Dept of Physics,
Dept of BT/GT/BNF

5. **Annual/ semester/choice based credit system (programme wise)**

Level	Name of the course offered	System
UG	B.Sc. Computer Science B.Sc. Information Technology Bachelor of Computer Applications	Choice Based Credit System Semester system
PG	M.Sc.-IT (Integrated)	Choice Based Credit System Semester system

6. **Participation of the department in the courses offered by other departments**

- The Department takes responsibility of teaching the one elective subject of S.Y.B.Sc. Mathematics.
- The Department takes responsibility of teaching the elective subject (ICT) of First and Second semesters for Maths group (A group) as well as Biology group (B group).
- The Department contributes for teaching the courses offered by other departments. The department is sharing teaching of core and elective subjects

at SY/TY BNF program with Department of Biotech/ Genetics/ Bioinformatics.

7. Courses in collaboration with other universities, industries, foreign institutions:

Nil

8. Details of courses/programmes discontinued (if any) with reasons

Nil

9. Number of Teaching posts

Post	Sanctioned	Filled
Professors	Nil	Nil
Associate Professors	Nil	Nil
Asst. Professors	8	8
Trainee Teachers	4	4

10. Faculty profile with name,qualification,designation, specialization (DSc./D.Litt/PhD./M.Phil Etc..)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph. D Students guided for last 4 years
Ms. Shreya Bhavsar	BSC.(IS), MCA, M.Phil, Ph. D. (Pursuing)	HOD, Assistant Professor	Computer Applications	10 Yrs	Nil
Mr. Mayur Patel	BSc,MCA, Ph.D (Pursuing)	Assistant Professor	Computer Applications	10 Yrs	Nil
Dr.Tejas Thakkar	B.B.A, MCA, Ph.D.	Assistant Professor	Computer Applications	13 Yrs	Nil
Mr. Hasamukh Patel	Bsc, MCA, M.Phil, Ph.D (Pursuing)	Assistant Professor	Computer Applications	7 Yrs	Nil
Dr. Chetan Dudhagara	B.Sc., MCA, Ph.D.	Assistant Professor	Computer Applications	8 Yrs	Nil
Mr. Ghanshyam Parmar	BCA, MCA, M.Phil, Ph. D. (Pursuing)	Assistant Professor	Computer Applications	8 Yrs	Nil

Mr. Ranubha Gohil	BSc(CS), PGDCA, MSc(IS), M.Phil, Ph. D. (Pursuing)	Assistant Professor	Computer Applications	4 Yrs	Nil
Mr. Virpura Digvijaysinh	B.Com, M.C.A, Ph.D (Pursuing)	Assistant Professor	Computer Applications	5Yrs	Nil
Ms. Monika Patel	BCA, MCA, M.Phil, Ph. D. (Pursuing)	Trainee	Computer Applications	10 Yrs	Nil
Mr. Viresh Patel	B.Sc-IS, M.Sc-IS, M.Phil	Trainee	Computer Applications	6 Yrs	Nil
Dr. Megha Patel	Ph.D., MCA, B.Sc. (Mathematics)	Trainee	Computer Applications	7 Yrs	Nil
Mr. Ronak Patel	BCA, M.Sc. IT	Trainee	Computer Application	8 Months	Nil

11. List of senior visiting Faculty:

Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:

30 % of lectures are delivered and
38 % of practical classes are handled by trainee teachers.

13. Student – Teacher Ratio (programme wise) :

Programme	Student/Teacher Ratio
F.Y.B.Sc.	110 : 1
S.Y.B.Sc.&T.Y.B.Sc.	20 : 1
BCA	30 : 1
M.Sc. – IT (Integrated)	30 : 1

14. Number of academic support staff (technical) and administrative staff: sanctioned and filled

Support Staff	Sanctioned	Filled up	Remarks
Lab Asst	03	03	Appointed by management
Peon	02	02	

15. Qualifications of teaching faculty with DSc. / D.Litt / Ph.D / M.Phil / PG.

Ph. D. -3

M.Phil. - 7

M.C.A. - 1

M.Sc. IT - 1

For details Refer answer of Q.10

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Nil

17. Departmental projects funded by DST- FIST; UGC,DBT, ICSSR, etc... and total grants received:

Nil

18. Research Center / facility recognized by the University:

Nil

19. Publications:

➤ **Publication per faculty**

Number of papers published in peer reviewed journals (national / international) by faculty and students

Name of faculty	No of Papers in National journal	No of Papers in International journal
Ms. Shreya Bhavsar	00	04
Mr. Mayur Patel	00	04
Dr. Tejas Thakkar	01	04
Mr. Hasamukh Patel	03	00
Dr. Chetan Dudhagara	01	12
Mr. Digvijay Virpura	00	03
Ms. Monika Patel	03	06
Ms. Megha Patel	00	02

➤ **Number of papers published in peer reviewed journals (national /international) by faculty and students**

All 41 papers are in peer reviewed journal

- **Number of publications listed in International Database (For eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) : Nil**
- **Monographs : Nil**
- **Chapter in Books : Nil**
- **Books Edited : Nil**
- **Books with ISBN/ISSN numbers with details of publishers : Nil**
- **Citation Index, h-index, i-10 index and Impact factor**

Name	Citation Index	h-index	i-10 index	Total impact factor
Dr. Tejas Thakkar	14	2	1	

20. Areas of consultancy and income generated

Nil

21. Faculty as members in

- a) National committees
- b) International Committees
- c) Editorial Boards....

- **Ms. Shreya B. Bhavsar** and **Mr. Mayur Patel** are Member, Board of Studies (B.O.S.) of Computer Science , Sardar Patel University
- All permanent faculty members are Examiners/ paper setters for Sardar Patel University

22. Student projects

- a) Percentage of students who have done in house projects including inter departmental / programme.

- 100% (BCA-VI semester)
- 100% (B.Sc. (CS& IT) -VI semester)
- 100% (M.Sc. IT (Integrated) – II semester)
- 100% (M.Sc. IT (Integrated) – IV semester)
- 100% (M.Sc. IT (Integrated) –VI semester)

- b) Percentage of students placed for projects in organizations outside the institution.

- Since the courses are a part Undergraduate program, the students have to undergo in-house projects only.

23. Awards / Recognitions received by faculty and student.

Faculty:

- Ms. Shreya Bhavsar and Dr. Chetan Dudhagara received Second position in poster presentation at National Level Science Symposium Organized by Christ College, Rajkot on 23rd Feb 2014.
- Dr. Chetan Dudhagara had presented a Paper “Quantum Computing” in 7th National Level Science Symposium Organized by Christ College Rajkot. Secure First Position in Oral Paper Presentation on 23rd Feb 2014.
- Dr. Chetan Dudhagara had presented a Project (IT) in 7th National Level Science Symposium Organized by Christ College Rajkot. Secure First Position in Project (IT) Presentation on 23rd Feb 2014.

Students:

Gold medals received by students of Computer Science Dept. at Sardar Patel University in last five years.

Sr. No.	Name	Year
1.	Ms. Rishita Das Rabindra Nath	2010
2.	Ms. Nidhi Nareshkumar Saini	2011
3.	Ms. Nisha Jadav	2012
4.	Ms. Hiral Patel	2013
5.	Mr. Shalin Pradipbhai Shah	2014

Various awards received by the students

- Parth S. Patel of F.Y.BCA received second prize in Web Designing & Development competition organized by V.P & RPTP Science College, V. V. Nagar 17th February 2014.
- Ms. Chandni Thakkar of M.Sc.IT (Integrated) received the second prize in paper presentation competition at the 7th National Level Science Symposium organized by Christ College Rajkot, on 23rd February 2014.
- Mr.Sanjay Khubchandani and Mr.Ankit Sutariya (M.Sc. IT – 2nd sem) secured 3rd position(Consolation Prize) in “Programming Competition” at the State Level competition organized on 07th February, 2015 organised by GLS, Ahmedabad
- Mr.Sanjay Khubchandani and Mr.Ankit Sutariya (M.Sc. IT – 2nd sem) secured 2nd position in “Programming Competition” at the State Level competition “COMPUCARNIVAL” organized on 18th February, 2015 organised by VP Science College, V.V.Nagar

- Mr.Sanjay Khubchandani and Ms. Gopi Ka.Patel (M.Sc. IT – 2nd sem) secured 1st position in “Programming Competition”, Mr. Chiranjay Mistry (M.Sc. IT – 2nd sem) secured 2nd position in “Web Designing Competition”, Mr Jaykrishna Thakkar(M.Sc. IT – 4th sem) secured 2nd position in “Paper Presentation” Mr. Ali Asgar Bagichawala and Mr. Soumil Patel (F.Y.BCA Sem 2) secured 3rd position in “Quiz Competition” at the State Level competition “Techno Khoj-2015” organized on 20th February, 2015 organised by ISTAR , V. V. Nagar.
- Mr. Samir M. Thaker and Ronit M. Patel of BCA 6th Semester secured consolation prize in Quiz Competition at the State level IT Quiz competition organized on 21st February 2015. Organised by G.H.Patel Department of Computer Science, V.V.Nagar.
- Priyesh Pillai of T.Y.B.Sc. Information Technology (TYIT-17) secured 2nd in State Level Minaxi Lalit Science Award 2015.

24. List eminent academicians and scientists / visitors to the department

Sr. No.	Invited Speaker	Designation/ Institute	Occasion	Year	Expert Lectures delivered on Topic
1	Dr. N. N. Jani,	Director and Dean of Computer Science, Kadi Sarwa VishvaVidalaya	State Level IT competition "Techno Astrum"	19 th Jan, 2010	Embedded Systems
2	Dr. S. Pradhan	Professor, Nirma Institute of Technology, Ahmedabad	State Level IT competition "Techno Astrum"	19 th Jan, 2011	New Computing Paradigm
3	Dr. Darshan Choksi	Prof & Head, G.H Patel Computer Science Department, S.P University.	State Level IT competition "Techno Astrum"	20 th Jan, 2012	Internet security and digital signature
4	Dr. Darshan Choksi	Prof. G.H Patel Computer Science Department, S.P University. Ex-Director of Computer Science Department, Ex-Chairman of BOS-CS at SP Univeristy	Students orientation programme	18 th July, 2013	ICT Fundamentals

5	Mr. Dipak Rai	Ex-Vice President (IT) Reliance Industry	State Level IT competition "Techno Astrum"	13 th Feb , 2014	Cyber Crime & Cyber Laws
6	Dr. Amisha Shingala	Asst. Prof. SVIT, Vasad	State Level IT competition "Techno Astrum"	20 th Jan 2015	Big Data-A journey discovering new opportunitie

25. Seminars / Conferences / Workshops organized & source of funding

- A) National
B) International

Department organizes State level IT competitions under the name 'TechnoAstrum' in which 'C Programming', Paper Presentation and Poster Presentation competitions are conducted. The event is sponsored by the management i.e. (CVM)

Sr. No.	Seminars / Conferences / Workshops	Title	Date & Year	Funding agency
01	State Level Competitions	TechnoAstrum	19 th Jan, 2010	CVM
02	State Level Competitions	TechnoAstrum	19 th Jan, 2011	CVM
03	State Level Competitions	TechnoAstrum	20 th Jan, 2012	CVM
04	State Level Competitions	TechnoAstrum	13 th Feb, 2014	CVM
05	State Level Competitions	TechnoAstrum	20 th Jan, 2015	CVM

26. Student Profile programme / course wise :

Name of the Course / Programme (Refer Question no . 4)	Applications received	Selected	Enrolled		Pass Percentage (%)
			*M	*F	
B.C.A	226	226	174	52	69.44
M.Sc. – IT	45	45	37	08	86.66
B.Sc. – CS	2	2	1	1	100.00
B.Sc. – IT	12	12	12	2	83.33

*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of Students from the same state	% of the students from other states	% of the students from abroad
B.C.A	90.26	9.70	-
M.Sc. – IT	91.11	8.88	-
B.Sc. – CS	100.00	-	-
B.Sc. – IT	100.00	-	-

28. How many students have cleared national and state competitive examination such as NET, SLET, GATE, Civil Services, Defense Services, etc.?

Defense Services - 1

29. Student progression

Student progression	Against % enrolled
UG to PG	More than 90%
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	NA
Entrepreneurship/Self-employment	NA

30. Details of Infrastructural facilities:

- Library:** Apart from College library, the department is also having departmental library consisting of more than 100 books of various subjects like C Programming, Computer Networks, JAVA Programming, etc.
- Internet facilities for Staff & Students:** Internet facility is provided to the students and faculty in LAB 3 & 4 faculty through LAN and Wi-Fi with in the college campus and Library building. Separate register is maintained to track usage of internet in Lab 3 & 4 and Wi-Fi facility is availed by the registered users.
- Class rooms with ICT facility:** At present 05 class rooms are having mounted LCD projectors. Apart from this our department is provided LCD and a Laptop for classroom teaching.
- Laboratories:** The department is having 5 well equipped laboratories with latest PCs, a Server and 4 switches. Out of 5, two labs are having Internet connection through LAN.

31. Number of students receiving financial assistance from college, university, government or other agencies:

7 students from Computer Science department have received financial assistance from government agencies during last five years of Total Amount Rs. 2,65,920.

Sr. No	Name	Class	Amount received (Rs)
1.	Krishna Vasava	TYBCA-367	43220/-
2.	Ganasva Krishna M.	TYBCA-309	39920/-
3.	Patel Aakansha V.	FYBCA- 48	39920/-
4.	Gohil Manish	FYBCA-49	40720/-
5.	Shraddha Ranpurwala	SYBCA-467	3520/-
6.	Patel Aakansha V.	SYBCA - 561	43520/-
7.	Naimesh Bhupendrabhai Patel	TYBCA - 444	36920/-
8.	Gohil Manish P.	SYBCA – 577	46520/-
9.	Makwana Divya K.	FYBCA	45920/-
10.	Makwana Divya K.	SYBCA	46520/-
11.	Makwana Divya K.	TYBCA - 422	46520/-

32. Details on student enrichment programmes (special lectures / workshops /seminar) with external experts.

No	Event	Expert
1	Organized workshop on Android Technology.	Mr. Pritesh Patel, Assistant Professor, ISTAR.
2	Organized workshop on “Advanced Controls of VB.Net”	Dr. Bharat Patel, Associate Professor, G. H. Patel Department of Computer Science
3	“Advanced Controls of ASP.Net with C#”	Dr. Bharat Patel, Associate Professor, G. H. Patel Department of Computer Science

33. Teaching methods adopted to improve student learning:

- Classroom teaching with traditional Chalk and Black board method.
- Lectures delivered by using LCD Projector.
- Question- Answer session and Revision at the completion of each unit.
- Assignments for improving writing ability.
- In-house project work under faculty guidance for students of 6th Sem B.C.A./B.Sc. C.S./ B.Sc. I.T. and M.Sc. I.T.(Integrated) Sem II/IV/VI.
- Tutorial class for practical based subjects.
- Remedial Class for slow learners.
- Special Crash course before exam.
- Industrial visits.

- Organizing Workshops, Seminars and Competitions to enhance IT knowledge.
- Department has started an “Advanced Learner Cell” for conduction workshops on latest software technology to cover topics beyond syllabus.
- Department has implemented an e-learning system MOODLE for College.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- All the faculties take part in NSS Camp and its activities organized by our college in various villages every year. They take part in all the activities by staying there for the whole day and enthusiastically engage themselves.
- Faculty Member Mr. Digvijay Virpura is NSS officer who takes care of all organizing NSS activities conducted by the college.
- College has adopted a village called Dahemi. A committee is formed for the activities to be carried out there. Dr. Tejas Thakkar, Mr. Digvijay Virpura faculties from department are part of this team.
- Extension cell members are Dr. Chetan Dudhagara, Mr. Ghanshyam Parmar, Dr. Tejas Thakkar.
- All the faculty members of the department are involved in various extension activities organized and conducted by the college.

35. SWOC analysis of the department and Future plans

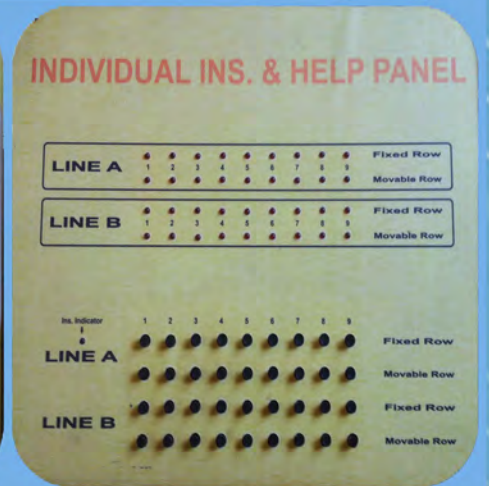
Strengths	<ul style="list-style-type: none">➤ Highly qualified and dedicated staff members with Ph.D., M.Phil & PG Degrees.➤ Well-equipped laboratories with internet and Wi-Fi facilities.➤ Computer Science & Physical Science department has signed MOU with BSNL at Ahmedabad.➤ 2 Faculty members are Member of Board of Studies.➤ A 5 years MSc.IT (Integrated) Course.➤ Organizing various seminars/guest lectures on topics which are beyond syllabus.
Weakness	<ul style="list-style-type: none">➤ Lack of flexibility in changing the syllabus as per industrial requirement.
Opportunities	<ul style="list-style-type: none">➤ Collaboration with industries and other higher institutions, so that the faculties and students can upgrade themselves and know the latest developments going on in the market.
Challenges	<ul style="list-style-type: none">➤ Today's technology will be obsolete tomorrow. The main challenge in IT is to cop up with the ever fast changing technologies.

Future Plans

- To prepare students for industrial job oriented certificate courses like: CCNA, OCP etc.
- To start certificate course in Office Automation and Web Designing.
- To apply for research projects from various funding agencies like UGC, DST, Department of Electronics and Information Technology.



Department of English



Evaluative Report of the Department of English

1. Name of the department : English

2. Year of Establishment : 1996

3. Names of Programmes / Courses offered:

English as a Foundation Course in the form of Practical only

4. Names of Interdisciplinary courses and the departments/units involved:

None

5. Annual/ semester/choice based credit system (programme wise):

CBCS

6. Participation of the department in the courses offered by other departments:

English is taught as the Foundation Course in the form of practical only in the initial four semesters of all the courses of B.Sc. and Two semesters of BCA and M.Sc.-IT.

7. Courses in collaboration with other universities, industries, foreign institutions etc.:

None

8. Details of courses/ programmes discontinued (if any) with reasons:

English was taught as a Theory Course before 2010-11. But after the Choice Based Credit System came into existence in 2010-11, as per the University rules, English was removed as a Theory subject.

9. Number of Teaching posts:

Post	Sanctioned	Filled
Professors	NIL	NIL
Associate Professors	NIL	NIL
Asst. Professors	3	2 + 1 (Trainee Teacher)

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph. D Students guided for the last 4 years
Mr. Kartik A. Jagtap	M.A., M.Phil., Pursuing Ph.D	Head	ELT	Seven	Nil
Dr. Hemang Desai	M.A., Ph.D	Assistant Professor	Translation	Seven	Nil
Mr. Rakesh Patel	M.A., B. Ed., M.Phil., Pursuing Ph.D	Adhyapak Sahayak	ELT	Six	Nil
Ms. Lipi Acharya	M.A., M.Phil.,	Trainee Teacher	Indian English Literature	Five Months	Nil

11. List of senior visiting faculty:

None

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:

English is taught as the foundation course in the form of practical only in B.Sc., BCA and M.Sc. - IT. Hence, the trainee teacher handles practical classes only in the initial two semesters as per the time table. The percentage of practical classes handled by temporary faculty is 33%.

13. Student -Teacher Ratio (programme wise):

Sr. No.	Programme	No. of Students	No. of Teachers	Student Teacher - Ratio
1	B.Sc. (Sem-1 and 2)	458	03	153:1
2	B.Sc. (Sem-3 and 4)	317	02	158:1
3	B.C.A. (Sem-1 and 2)	44	01	44:1
4	M.Sc. – IT (Sem-1 and 2)	20	01	20:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Support Staff	Sanctioned	Filled up	Remarks
Peon	01	01	Appointed by management

15. Qualifications of teaching faculty with D.Sc./ D. Litt/ Ph.D/ MPhil / PG.:

Sr. No.	Name of Faculty	Qualification	Post
1	Mr. Kartik A. Jagtap	M.A., M.Phil., Pursuing Ph.D	Head
2	Dr. Hemang Desai	M.A., Ph.D	Assistant Professor
3	Mr. Rakesh Patel	M.A., B. Ed., M.Phil., Pursuing Ph.D	Adhyapak Sahayak
4	Ms. Lipi Acharya	M.A., M.Phil.,	Trainee Teacher

**16. Number of faculty with ongoing projects from
a) National b) International funding agencies and grants received:**

None

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:

Sr. No.	Title of Research Project	Funding Agency	Year	Fund Received
1	<i>Generation Of Exhaustive E-Content On Theory And Practice Of Literary Translation</i>	NMEICT, MHRD	2012 - 2014	7,00,000/-
2	<i>“Translation Of Select Contemporary Gujarati Poems Into English And Critical Introduction To Emerging Trends In Gujarati Poetry</i>	UGC, WRO, Pune	2008 - 2010	50,000/-

18. Research Centre /facility recognized by the University:

None

19. Publications:

➤ Publication per faculty:

1. Mr. Kartik A. Jagtap

Attended NAAC sponsored National Seminar on 'Nurturing Quality in Higher Education through IQAC' organized by V. P. and R. P. T. P. Science College, V. V. Nagar and presented a research paper on the topic 'Role of Internal Quality Assurance Cell (IQAC) in Sustaining Quality Education in Higher Education' on 11 January 2014. The paper is included in the E-book of V. P. Science College with ISBN no. 978-93-83520-40-4

2. Mr. Rakesh Patel

Attended NAAC sponsored National Seminar on 'Nurturing Quality in Higher Education through IQAC' organized by V. P. and R. P. T. P. Science College, V. V. Nagar and presented a research paper on the topic 'ICT to Augment Teaching Learning Process in Higher Education' Internal Quality Assurance Cell (IQAC) in Sustaining Quality Education in Higher Education' on 11 January 2014. The paper is published in the E-book of V. P. Science College with ISBN no. 978-93-83520-40-4

- Number of papers published in peer reviewed journals (national /international) by faculty and students: **None**
- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.): **None**
- Monographs: **None**
- Chapter in Books: **None**
- Books Edited: **None**
- Books with ISBN/ISSN numbers with details of publishers: **None**
- Citation Index: **None**
 - * SNIP: **None**
 - * SJR: **None**
 - * Impact factor: **Not Applicable**
- h-index: **Not Applicable**

20. Areas of consultancy and income generated:

Nil

21. Faculty as members in

- a) National committees
- b) International Committees
- c) Editorial Boards:

Mr. Kartik Jagtap is a Member Board of Studies of Faculty of Arts (English) in S. P. University, Vallabh Vidyanagar.

22. Student projects

- a) Percentage of students who have done in-house projects including inter departmental/programme: **None**
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies: **None**

23. Awards / Recognitions received by faculty and students: **None**

24. List of eminent academicians and scientists / visitors to the Department: **None**

25. Seminars/ Conferences/Workshops organized & the source of funding

- a) National: **None**
- b) International: **None**

26. Student profile programme/course wise: **Not Applicable**

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			*M	*F	
Nil	Nil	Nil	Nil	Nil	Nil

*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
Nil	Nil	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc. ?:

NA

29. Student progression

Student progression	Against % enrolled
UG to PG	NA
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	NA
Entrepreneurship/Self-employment	NA

30. Details of infrastructural facilities:

- a) **Library:** The department has a small library housed with literary works on English and Gujarati literature and criticism.
- b) **Internet facilities for Staff & Students:** The head of the department is given a wired internet connection whereas the staff has been provided Wi-Fi internet connection.
- c) **Class rooms with ICT facility:** Since English is taught as the Foundation Course in the form of practical only in the initial four semesters of all the courses of B.Sc. and Two semesters of BCA and M.Sc.-IT, we don't require classrooms.
- d) **Laboratories:** The department has two language laboratories with state-of-the-art infrastructure and latest equipments to facilitate the Foundation Course. Each student is provided an individual headphone for excellent listening comprehension. Each lab has an individual LCD projector. The labs have ultra-modern technologies like Video Class System and Interactive Board in the lab which make the process of learning more efficacious and interesting.

31. Number of students receiving financial assistance from college, university, government or other agencies:

Not Applicable

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts:

Some senior faculty members were invited to deliver lectures on select topics. The details regarding the same are mentioned below.

Name of faculty	Name of Institution	Topic of Lecture
Dr. Charudatt Gurjar	V. P. and R. P. T. p. Science College, V. V. Nagar	Note Taking and Note Making

Ms. Monika Shah	M. B. Patel science College, Anand	Interview Skills
-----------------	---------------------------------------	------------------

33. Teaching methods adopted to improve student learning:

- Use of audio-visual aids like LCD, Headphones, Video Class System, Interactive Board
- Interactive method
- Functional method

The department of English initiated a Two-week short-term course titled “**LANGUAGE THROUGH LITERATURE**” for the First year students of B.Sc., BCA and M.Sc.-(IT). The course aims mainly at improving the linguistic competence of the students. The objectives of the course are:

- To improve oral and written communication skills
- To develop the grammatical competence
- To develop presentation skills
- To remove the stage fear
- To enhance the knowledge of sentence structures
- To develop reading skills
- To improve the pronunciation

Six short stories were selected on this course. The students were made to read the short stories and the following points were discussed by the teachers:

- Lexical Items
- Idiomatic expressions and Turns of phrase
- Alternative Sentence Structures
- Use of Modals and Tenses
- Focus on Connectives and linkages

The students were expected to note down each discussed point and they had to submit the same to the teacher concerned after the completion of the programme. The students were asked to share their understanding of the story by making a brief presentation during the last two hours of the course.

At the end of the course, ten students were randomly selected to fill up the feedback forms. Almost all the students admitted that they did not attend any such programme in the past and were satisfied with the course content as well as the way it was handled. Motivated by the success of the programme and appreciation of the students, the department is going to organize such programme every year henceforth.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

- The department guides students who want to participate in activities like debate, elocution, extempore, essay writing etc.
- Mr. Kartik Jagtap, Head – Department of English is a member of Extension Activity Cell, Red Ribbon Club and NSS Programme Officer.

- The Extension cell of the college visited a Harijan Hostel run by P. J. Solanki trust, at Prantij in Himmatnagar on 26th January 2014. 47 students were provided uniform and other basic necessary equipments.
- The extension unit adopted Dahemi village, Ta: Borsad, Dist: Anand on 10th February 2014. Our cell assured the villagers to help them in the fields of education, environment and social uplift.
- Also, the NSS Unit made survey about the lack of primary facilities in Navli village and submitted the report to the Hon. Collector, Anand.
- In association with the Faculty of Social Service, the Cell distributes abandoned cloths among the needy people of Anand and Vallabh Vidyanagar.
- The NSS Unit organizes Free Health Check-up Camp and Blood Donation Camp for the villagers, Rally to spread awareness regarding social issues like AIDS Prevention, Addiction Eradication, Superstitions Eradication and Save Girl Child during the Annual NSS Camps.
- Mr. Kartik Jagtap is the Coordinator of the Anti-Tobacco Cell of the college. This cell made all the teaching and non-teaching staff members to take oath for not consuming any tobacco product on the college premises.
- Mr. Rakesh Patel is the Convener of The Film Club. The Film Club was initiated this year with the aim of making students aware of social taboos prevailing in society. Today's youth are the agents of change for tomorrow. The youth can be sensitized towards such taboos in order to prevent negative impact and create awareness in society. The documentaries are shown to students in Language Lab/ college auditorium. Students are informed about the topic of the documentary film through a notice. At the outset, a brief introduction of the topic is given. Then the student secretary summarizes the documentary. After students have watched the documentary, group discussion is organized wherein students express their own views on the topic of the documentary.
 1. The first documentary 'The Untouched India' focused upon the caste discrimination still prevailing in almost every state of India, which is the hindrance to the uplift and progress of the country.
 2. The second documentary 'Slow Poisoning of India' was based on harmful effects of pesticides on living organism which are widely used in farming. At the end of the session, it was decided that students would spread awareness among farmers about ill effects of pesticides. The students, through extension programme run by NSS, decided to take the initiative of informing farmers about the harmful effects of the pesticides and appeal them to use biological or herbal fertilizers in place of pesticides.
 3. In the third documentary 'You Can Win' the narrator Mr. Shiv Kherra appeals the youngsters to do their best so that our country becomes the better place to live. It highlights the weakness of Indian policies after freedom which has led to downfall of the moral values in our day-to-day life.

35. SWOC analysis of the department and Future plans

Strength	<ul style="list-style-type: none">➤ Competent and committed staff➤ Digital language lab
Weakness	<ul style="list-style-type: none">➤ As per the university guidelines, English is introduced as merely in the form of practical.
Opportunities	<ul style="list-style-type: none">➤ To be a centre of SCOPE / DELL
Challenges	<ul style="list-style-type: none">➤ To cultivate taste for learning English language among students who receive their school education in a language other than English➤ To make the language study more effective and interesting by employing new methods➤ To enhance students' communication skills

Future plans

- To promote teachers for active participation in seminars and workshops
- To organize special classes for students to help them enhance their communication skills in English
- To start a separate library for promoting extra-curricular reading among students
- To help students perform better in competitive exams
- To spread awareness about importance of English language among society through extension activities
- To start a Short-term Certificate Course on 'Communication Skills Enrichment Course.'







Charutar Vidyamandal's



Natubhai V. Patel College of Pure and Applied Sciences

Accredited 'A' Grade by NAAC

Near Mota Bazar, Vallabh Vidhyanagar - 388 120,

Dist.: Anand, State: Gujarat, India

Self Study Report

(Cycle-2)

Annexure

Submitted for Re-accreditation

To

National Assessment & Accreditation Council (NAAC)

Nagarbhavi, Bangaluru - 560072

May, 2015

NVPAS Certificate for Section 2(f) & 12(B) of the UGC Act, 1956



ज्ञान-विज्ञानं विमुक्तये

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110 002.

F. 8-19/02 (CPP-I)

May 13, 2003

The Registrar,
Sardar Patel University

Vallabh Vidyanagar - 388120 (Gujarat).

Sub :- List of Colleges prepared under Section 2 (f) & 12 (B) of the UGC Act, 1956-
Inclusion of New Colleges.


Sir,

I am directed to refer to the letter No. NVP/G-9/210/03 dated 05-03-2003 on the subject cited above and to say that the name of the following College has been included in the above list under Non-Government Colleges teaching upto Bachelor's Degree :

Name of the College	Year of Establishment	Remarks
Natubhai V. Patel College of Pure and Applied Sciences, <u>Vallabh Vidyanagar-388 120.</u>	1996	The college is eligible to receive Central assistance in terms of the Rules framed under Section 12-B of the U.G.C. Act, 1956.

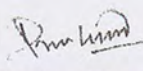
The Indemnity Bond and other documents in respect of the above Colleges have been accepted by the Commission.

Yours faithfully,


(Sharanjit Singh)
Deputy Secretary

Copy to :-

1. The Principal, Natubhai V. Patel College of Pure and Applied Science, Vallabh Vidyanagar-388 120.
2. The Secretary, Government of India, Ministry of Human Resource Development, Department of Secondary & Higher Education, Shastri Bhawan, New Delhi-110 001.
2. Joint Secretary, UGC, Western Regional Office, Ganeshkhind, Poona University Campus, Pune (M.S.).
4. Section Officer, FD-III Section, UGC, New Delhi.
5. All Sections, UGC, New Delhi.
6. Guard file.


(Prem Chand)
Section Officer



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

*The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed*

Peer Team is pleased to declare the

Charutar Vidya Mandal's

Natubhai U. Patel College of Pure

and Applied Sciences

Vallabh Vidyanagar, Mota Bazaar, Dist. Anand, affiliated to

Sardar Patel University, Gujarat as

Accredited

with CGPA of 3.10 on four point scale

at A grade

valid up to March 07, 2014



Date : March 08, 2009

NAAC
Director



Important Events

- **22nd June** : Reopening of the College and commencement of First Academic Term - Principal's Address to newly admitted FYBSc/ FYBCA /MSc(IT) students

PLANNER : June 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Important Events

- **13th July** - Formation of Madhyastha Samiti and Declaration of list of Ex-officio Advisors
- **14th July** - Announcement of Notification for the Nominations for CR/LR/Secretaries/ Active Members for Madhyastha Samiti
- **27th July** : Commencement of Unit Test

Holidays

- **18th July** - Rath Yatra & Ramzan Idd

PLANNER : July 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Important Events

- **14th August** : Independent Day Celebration
- **23rd August** : Open House

PLANNER : August 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Holidays

- **15th August** : Independence Day
- **18th August** : Pateti
- **29th August** : Raksha Bandhan

Important Events

- **4th September** - Teachers' Day and Janamashtmi Celebrations
- **24th September** : NSS Day Celebration

PLANNER : September 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Holidays

- **5th September** - Janamashtmi
- **17th September** - Ganesh Chaturthi
- **25th September** - Bakri-Idd

Important Events

- **1st October** : Commencement of Prelim Exams
- **6th October** : Blood Donation Camp
- **8th October** : Ratri Before Navratri
- **17th October** : End of academic work
- **19th October** : Commencement of University Exam

PLANNER : October 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Holidays

- **2nd October** - Gandhi Jayanti
- **22nd October** - Dusshera
- **24th October** - Moharram
- **31st October** - Sardar Jayanti

Important Events

- **9 - 28 November** : Diwali Break
- **30th November** : Commencement of University Exam for First Semester.

PLANNER : November 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Holidays

- **11th November** - Diwali
- **12th November** - Hindu New Year
- **13th November** - Bhai Bij
- **25th November** - Guru Nanak Jayanti

Important Events

- 12th December - End of the First Academic Term
- 14th December : Commencement of second term and classes
- 21st December : Commencement of Annual NSS Camp

Holidays

- 25th December - Christmas

PLANNER : December 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Important Events

- 7th January : Seminar on Energy Conservation*
- 12th January : Swami Vivekananda Jayanti - Yuva Divas Celebration
- 18th January : Commencement of Unit Tests*

Holidays

- 14th January - Makar Sankranti
- 26th January - Republic Day
- * subject to change

PLANNER : January 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Important Events

- 14th February : Open House programme*
- 25th February : Talent Evening*

Holidays

- 26th February - Maha Shivratri

* subject to change

PLANNER : February 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

Important Events

- 2nd & 3rd March : Prize Distribution Function & Annual Day Celebrations*
- 15th March : Commencement of Prelim Exams

Holidays

- 23rd March - Holi
- 25th March - Good Friday

* Subject to Changes

PLANNER : March 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Important Events

- 2nd April : End of the Academic work in the College.
- 4th April : Commencement of University Exams

Holidays

- 14th April - Ambedkar Jayanti
- 15th April - Ramnavami
- 19th April - Mahavir Jayanti

PLANNER : April 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Important Events

- 2nd May : Commencement of Summer Break

PLANNER : May 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

BALANCE SHEET AS AT 31ST MARCH, 2011

LIABILITIES	Sch.	Rs.	Np.	ASSETS	Sch.	Rs.	Np.
Fund Balances	A	18326271.43		Fixed Assets	B	18326271.43	
Current Liabilities, Loans & Advances				Current Assets, Loans and Advances			
Depreciation Fund	B	1745375.00		Equipment Advance by CVM		5334818.00	
Sundry Credit Balances	C	11619645.28		Advance to Staff		417.00	
				CVM Advance A/c		7769091.60	
				WCC Bank		10000.00	
				SBI A/c		9876.38	
				OBC Bank		230533.30	
				Cash Balance		10284.00	
CVM Current A/c		12082072.13		Excess of Expenses Over Incomes			
TOTAL Rs.		43773363.84		TOTAL Rs.			
						13365020.28	
							12082072.13
							43773363.84

Adutor's Report- We have examined the above Balance Sheet as on 31st March, 2011 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2011 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.

Signature



Signature
V. Patel College of
Pure & Applied Sciences
VALLABH VIDYANAGAR

Charutar Vidya Mandal's

N.V.Patel College of Pure & Applied Sciences (BSc)

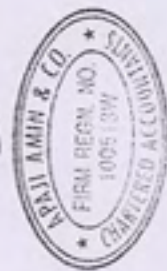
BALANCE SHEET AS AT 31ST MARCH, 2011



(2)

EXPENDITURE	Sch.	Rs.	Np.	INCOME	Sch.	Rs.	Np.
To Salaries & Other Benefits to the staff	D	374599	16.00	By Tution Fees from students		257904	74.00
" Administrative Exps.	E	400645	7.63	" Lab Fees from students		638950	00.00
" Academic Exps.	F	201922	1.00	" Excess of Exps. Over Incomes carried to B/S		120820	72.13
" Maintanance Exps.	G	298493	5.50				
" Depreciation	B	477,958	00.00				
TOTAL Rs.		44262046.13		TOTAL Rs.		44262046.13	

Prakash Kumar



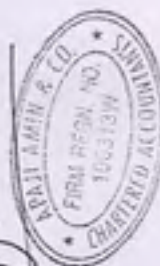
Prakash Kumar
Principal
N.V.Patel College of
Pure & Applied Sciences
Vallabhnagar

CHARUTAR VIDYA MANDAL'S
NATUBHAI V PATEL COLLEGE OF PURE AND APPLIED SCIENCES V.V.NAGAR
[BSC & BCA] BALANCE SHEET AS AT 31ST MARCH, 2012

LIABILITIES	Sch.	Rs. Np.	ASSETS	Sch.	Rs. Np.
Fund Balances	A	27,485,593.80	Fixed Assets	B	27,485,593.80
<u>Current Liabilities, Loans & Advances</u>			<u>Current Assets, Loans and Advances</u>		
Depreciation Fund	B	3,239,835.00	Equipment Advance by CVM		7,967,719.00
Sundry Credit Balances	C	12,004,243.28	Advance to Staff		2,417.00
			CVM Advance A/c		6,969,749.60
			WCC Bank		10,400.00
			SBI A/c		10,258.38
			OBC Bank		255,292.30
			Cash Balance		28,242.00
CVM Current A/c			Excess of Expenses Over Incomes		15,244,078.28
TOTAL Rs.		61,291,664.08	TOTAL Rs.		61,291,664.08

Adutor's Report- We have examined the above Balance Sheet as on 31st March, 2012 and the annexeure Income & Expenditure Accounts for the year ending on 31st March, 2012 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.

Signature



PRINCIPAL
NATUBHAI V PATEL COLLEGE OF
PURE AND APPLIED SCIENCES
V.V.NAGAR

N.V.Patel College of Pure & Applied Sciences (BSc & BCA)

BALANCE SHEET AS AT 31ST MARCH, 2012

EXPENDITURE	Sch.	Rs. Np.	INCOME	Sch.	Rs. Np.
To Salaries & Other Benefits to the staff	D	44,820,453.00	By Tution Fees from students		30,039,500.00
" " Administrative Exps.	E	6,773,950.00	" " Lab Fees from students		6,795,500.00
" " Academic Exps.	F	2,889,289.00	Saving A/c Interest Income		382.00
" " Maintenance Exps.	G	168,014.00	" Excess of Exps. Over Incomes carried to B/S		18,561,992.00
" " Depreciation	B	745,668.00			
TOTAL Rs.		55,397,374.00	TOTAL Rs.		55,397,374.00

Adutor's Report- We have examined the above Balance Sheet as on 31st March, 2012 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2012 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.

Signature



Signature
PRINCIPAL

**NATUBHAI V PATEL COLLEGE OF
PURE AND APPLIED SCIENCES
V.V.NAGAR**



CHARUTAR VIDYA MANDAL'S
NATUBHAI V PATEL COLLEGE OF PURE AND APPLIED SCIENCES V.V.NAGAR
BALANCE SHEET AS ON 31ST MARCH, 2013

LIABILITIES	Sch.	Rs.	Np.	ASSETS	Sch.	Rs.	Np.
Fund Balances	A	28,821,830.80		Fixed Assets	B	28,821,830.80	
<u>Current Liabilities, Loans & Advances</u>				<u>Current Assets, Loans and Advances</u>			
Depreciation Fund	B	4,389,958.00		Equipment Advance by CVM		9,303,956.00	
Sundry Credit Balances	C	12,731,691.28	17,121,649.28	Advance to Staff		2,417.00	
				CVM Advance A/c		7,450,583.03	
				WCC Bank		10,400.00	
				SBI A/c		10,674.38	
				OBC Bank		336,532.87	
				Cash Balance		7,086.00	
CVM Current A/c			8,129,790.13	Excess of Expenses Over Incomes		8,129,790.13	
TOTAL Rs.		54,073,270.21		TOTAL Rs.		54,073,270.21	

Auditor's Report- We have examined the above Balance Sheet as on 31st March, 2013 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2013 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.

Dr. J. K. Shree



Dr. J. K. Shree
PRINCIPAL
NATUBHAI V PATEL COLLEGE OF
PURE AND APPLIED SCIENCES
V.V.NAGAR

Charutar Vidyā Mandal's
N.V.Patel College of Pure & Applied Sciences

INCOME EXPENDITURE AS AT 31ST MARCH, 2013

EXPENDITURE	Sch.	Rs. Np.	INCOME	Sch.	Rs. Np.
To Salaries & Other Benefits to the staff	D	37,114,498.00	By Tution Fees from students		33,990,750.00
" Administrative Exps.	E	6,570,254.43	" Lab Fees from students		6,404,500.00
" Academic Exps.	F	3,481,568.00	Saving A/c Interest Income		416.00
" Maintenance Exps.	G	216,031.70	" Excess of Exps. Over Incomes carried to B/S		8,129,790.13
" Depreciation	B	1,143,104.00			
TOTAL Rs.		48,525,456.13	TOTAL Rs.		48,525,456.13

Auditor's Report- We have examined the above Balance Sheet as on 31st March, 2013 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2013 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.

Ati Sheer



Natubhai V Patel
PRINCIPAL
NATUBHAI V PATEL COLLEGE OF
PURE AND APPLIED SCIENCES
V.V.NAGAR

CHARUTAR VIDYA MANDAL'S
NATUBHAI V PATEL COLLEGE OF PURE AND APPLIED SCIENCES V.V.NAGAR
BALANCE SHEET AS ON 31ST MARCH, 2014

LIABILITIES	Sch.	Rs. Np.	ASSETS	Sch.	Rs. Np.
Fund Balances	A	195,17,874.80	Fixed Assets	B	290,67,796.80
<u>Current Liabilities, Loans & Advances</u>			<u>Current Assets, Loans and Advances</u>		
Depreciation Fund	B	56,07,087.00	CVM Advance A/c		94,20,435.07
Sundry Credit Balances	C	139,98,298.28	VVCC Bank		10,400.00
			SBI A/c		11,106.38
			OBC Bank		5,95,396.83
			Cash Balance		18,125.00
CVM Current A/c			Excess of Expenses Over Incomes		
TOTAL Rs.		471,78,339.72	TOTAL Rs.		471,78,339.72

Auditor's Report- We have examined the above Balance Sheet as on 31st March, 2014 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2014 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.



PRINCIPAL
NATUBHAI V PATEL COLLEGE
OF PURE AND APPLIED
SCIENCES V.V.NAGAR

[Signature]



Charutar Vidya Mandal's
N.V.Patel College of Pure & Applied Sciences

INCOME EXPENDITURE AS AT 31ST MARCH, 2014

EXPENDITURE	Sch.	Rs. Np.	INCOME	Sch.	Rs. Np.
To Salaries & Other Benefits to the staff	D	460,00,039.00	By Tution Fees from students		422,05,000.00
" Administrative Exps.	E	65,19,171.64	" Lab Fees from students		72,30,000.00
" Academic Exps.	F	36,19,357.00	Saving A/c Interest Income		432.00
" Maintenance Exps.	G	1,34,815.00	" Excess of Exps. Over Incomes carried to B/S		80,55,079.64
" Depreciation	B	12,17,129.00			
TOTAL Rs.		574,90,511.64	TOTAL Rs.		574,90,511.64

Auditor's Report- We have examined the above Balance Sheet as on 31st March, 2014 and the annexure Income & Expenditure Accounts for the year ending on 31st March, 2014 of Natubhai V Patel College of Pure & Applied Sciences, Vallabh Vidyanagar with books all information and explanation by us in our opinion the said balance sheet, expenditure and correct state of affairs of the institute according to best of our information and explanation given to us.



PRINCIPAL
NATUBHAI V PATEL COLLEGE OF
PURE AND APPLIED SCIENCES
V.V.NAGAR

Aty Kher






Date:16-1-10

MESSAGE

I am very much happy to note that **Natubhai V. Patel College of Pure and Applied Science** ranked second among fifty two Colleges in the country, and entered the list of accredited Institutes by NAAC. Efforts towards quality – consciousness for pure and applied science have also been reflected for creating and sustaining quality standards and scientific research. To share the success and enjoy such sharing will bring sustaining happiness from such efforts.

I appreciate the achievement and congratulate all of you.


(Narendra Modi)

To,
Dr. Basudeb Bakshi - *Principal,*
Natubhai V. Patel College of Pure and Applied Science,
Vallbh Vidhyanagar – 388 120.
Email:nvpascollege@yahoo.co.in



Narendra Modi

Chief Minister, Gujarat State

NAAC peer team recommendations for Quality enhancement of the Institution (March -2009)

1. The college may introduce programs to facilitate progression to Post graduate studies and personality development may be strengthened

- College has taken initiative for Post graduate program and a Master degree program in Computer Science M.Sc. IT- Integrated course has been started in 2010.
- The college has been selected as nodal centre by Gujarat State Biotechnology Mission (GSBTM) for N-B-TCBC Cell of Gujarat State which focuses on imparting special coaching to students for Entrance Examination preparation for Post Graduate Studies
- College has strengthened the Personality Development Program by regularizing the classes and attendance and adding some special program

2. Some program specially for female students to be introduced

Since the neighbouring institute is Home Science College for girl students only which runs number of COC courses in fashion design, interior and Sports nutrition, the confusing task of having such program in Science College was easily solved. An awareness program was arranged for all girl students of college whereby the concerned subject faculty members were invited to provide orientation. The students who showed interest were encouraged and helped to register for such COC program at sister institution

3. Strengthening of NCC unit

Since the college had only NCC girls unit from inception, vigorous efforts were made to start Boys NCC Unit. Now the college successfully runs NCC Boys unit too since last two years. NCC students have won prizes at Annual Camp

4. Emphasis on Academy interaction and paid consultancy

- Here are the endeavours in direction to enhance the academy interaction
- Faculty of chemical science took part in NPTEL projects for IIT
- Faculty took part in numbers of seminar/symposia/workshops
- Several State level and National level Seminars were organized by college
- College has received Rupees two crore from various funding agencies like ISRO, UGC, GUJCOST for research.
- Department of Microbiology is involved in Consultancy work

5. Computerization and modernization of Library

Library is 100 % computerised. Library is equipped with INFLIBNET (N-List) and automated with SOUL program to access different journals and research related

papers / articles. Wi-Fi facility allows internet facility to the students in library premises. Reprography facility is available for students in Library

6. NSS/ NCC for extension of social out reach

- NSS unit of college has strengthened its social outreach activity by adopting the village 'Dahemi'. The social, educational, health and employment related issues are taken care of by NSS unit. Number of Health check-up program, awareness program are conducted regularly for village people/ women/ children
- NSS unit also has initiated community program in surrounding areas. The slum children of Hari Ohm Nagar were given free coaching classes
- NSS unit visited the public places like railway station and provided blankets to poor and needy people

7. MOU with institutions of repute

Several MOUs have been signed between academic institutions, University and Industries in last five years.

- MOU has been signed/ linkage/ collaboration established with Gujarat Council of Science and Technology (GUJCOST) for research.
- ISRO
- Gujarat State Biotechnology Mission (GSBTM)
- CHARUSAT University, Changa
- Life Cell
- Anand Agriculture University
- Pune University

8. An electronic classroom

A smart class room has been introduced at English laboratory. Moreover, college has good number of classrooms with LCD projection facility.

9. LAN establishment

LAN network has been set up for office, Principal and HODs for E-governance and also in five computer labs.

10. Welfare benefit as per UGC recommendation

Sixth pay recommendation in the salary has been extended to all staff members

11. Promotion of Faculty members as per UGC recommendation in Associate and Professor grade

The senior faculty members with good length of service have been recommended to management for such promotion.