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Charutar Vidya Mandal's NATUBHAI V. PATEL COLLEGE OF PURE AND APPLIED SCIENCES



From the Chief Editor's Desk

By: Dr. Basudeb Bakshi



Dear Readers

It is my pleasure to proclaim that the seventh issue (November, 2017-March, 2018) of our biannual e-magazine, Spectrum: The measure of Progress has come to its fruition. The continuing success of this magazine gives us a sense of pride and achievement in focussing and rapid reporting of major events and activities organized at NVPAS. The magazine will bridge the gap between achievements and publicity. The activities published--- that too not all---are sufficient to prove my claim that NVPAS is progressing at an exponential rate. All credits and thanks go to the dedicated staff and their team work. Finally I want to thank my Editorial Board for their tireless contributions and efforts to make Spectrum a great success. I wish good luck to all my dear students for their forthcoming University examination-2018.

The editorial board jovially welcomes our newly elected chairman, (CVM) Charutar Vidya Mandal **Er. Shri Bhikhubhai B. Patel**.

ISRO-AHMEDABAD CONTINUED ITS RESEARCH COLLABORATION WITH NVPAS



Department of Physical Sciences of NVPAS has continued its nearly 10 years old research collaboration with Space Applications Centre (SAC), ISRO, Ahmedabad, by getting consecutively fifth research project sanctioned from one of the premier research organization of India.

Dr. Himanshu J. Trivedi, Head of Physical Sciences Department has received another three years duration collaborative research project entitled 'Theoretical modelling and Technique development for retrieving Land Surface Reflectance and Surface Albedo from the GISAT observations'.

The tenure of the project is from April 2017 to March 2020 and is having a total outlay of Rs. 44.00 lakh. Dr. Trivedi has successfully worked as the

Principal Investigator of four different collaborative research projects funded by SAC, ISRO, Ahmedabad during the years 2008 to 2017.

All these four research projects were completed successfully.

SAC, ISRO, Ahmedabad has funded more than 1 crore of rupees to NVPAS under various collaborative research projects since 2008, including this project.

Since 2008 the project team of department of Physical Sciences is actively involved in developing algorithms for atmospheric corrections of electromagnetic radiation for different satellite sensors in Visible, IR, NIR, SWIR and TIR spectral regions using hyper spectral approach.

In order to validate the algorithm the project team has also carried out field experiments at various sites at Hoshangabad and Bhopal in Madhya Pradesh, Jaisalmer in Rajasthan, Runn of Kutchh and Anand in Gujarat.

Under the various projects the project team has developed algorithms for obtaining various parameters like, Land Surface Temperature, Surface Reflectance, Surface Albedo, Surface Emissivity etc. from the satellite data.

Till now the project team of the college has contributed to the various satellites of ISRO, namely, KALPANA-1, INSAT-3D, RESOURCESAT-2(AWiFS) and GISAT.

During this research pursuit Dr. Trivedi and his team also got an opportunity to participate in the ambitious AVIRIS-NG flights experiments which were carried out by JPL, NASA, USA in collaboration with ISRO in which the project team successfully carried out field experiments in the western India.

Faculty Achievement



Dr Pratibha Chaurasia from BT,GT and BNF Dept. awarded grant for Bioinformatics lab by GSBTM and Gujarat govt.



Role of Mathematics in the Development of Society

Dr. Bhailal P. Patel,

Head, Department of Mathematical Sciences

What is mathematics?

Mathematics is a branch of science, which deals with numbers and their operations. It involves calculation, computation, solving of problems etc. It is defined as the science of numbers and space or the science of measurement, quantity and magnitude. It is exact, precise, systematic and a logical subject.

Importance of mathematics

The literal meaning of mathematics is “things which can be counted” and counting has a vital role in our day to day life. Just imagine! that there were no mathematics at all, how would it be possible for us to count members of the family, number of students in the class, rupees in the pocket, runs in a cricket match, days in a week or in a months or years? On a basic level you need to be able to count, add, subtract, multiply, and divide. Mathematics helps the human being to give exact interpretation of ideas and able to find its conclusions. It plays a predominant role in our everyday life and has become an indispensable factor for our progress. Even nature also embraces mathematics completely. We see so much of symmetry-around us and have a deep

sense of awareness and appreciation of patterns. Observe any natural phenomenon and find out symmetry or pattern in it like change of day into night, summer into winter etc. In plants there are innumerable examples of symmetry, shapes, patterns, etc. Such examples exist in animals, in objects, in pictures and other things too. The sun rises and sets at specified moment. The stars appear at fixed time. Mathematics runs in the veins of natural sciences like Physics and Astronomy. This subject is inextricably incorporated with world and the natural phenomenon. Importance of mathematics can be understood by the definition given by Galileo. He defined mathematics as ‘*a language in which God has written the world*’.

What is the role of mathematics in the development of a society?

A society, or a human society, is a group of people related to each other through persistent relations, or a large social group sharing the same geographical or virtual territory, subject to the same political authority and dominant cultural expectations. More broadly, a society may be described as an economic, social, or industrial infrastructure, made up of a varied collection of individuals. Mathematics occupies a crucial and unique role in the human societies and represents a strategic key in the development of the

whole mankind.

Role of mathematics in development of science and technology:

The "functional" aspect of mathematics stems from its importance as the language of Science, Technology and Engineering, and its role in their development. This involvement is as old as mathematics itself and it can be argued that, without mathematics, there can be neither science nor engineering. In modern times, adoption of mathematical methods in the social, medical and physical sciences has expanded rapidly, confirming mathematics as an indispensable part of all school curricula and creating great demand for university level mathematical training. Statistical modeling is basic to all engineering, plays a vital role in all physical sciences and contributes significantly to the biological sciences, medicine, psychology, economics and commerce. Mathematics has been successfully used in the development of science and technology from 20th century. The areas like advanced semiconductor devices, biotechnology, digital image technology, Nano technology, artificial satellites, and rockets all are based on mathematical concepts. The recent success of NASA's Mars Rover is also based on mathematics.



The Face of Madhyasth Samiti

Aastha Shah

(General Secretary)

We all know the term 'Madhyasth Samiti' but we had never travel around it. Being the student general secretary (GS) I would like to throw some light on 'Madhyasth Samiti'.

What is Madhyasth samiti ?

Madhyasth Samiti is commonly known as the Central committee that elites our abilities towards social issues and extracurricular activities beyond our syllabus. It throws many clubs and cells to the committed colleges and that particular help in the development of the students on the whole.

How Madhyasth Samiti founded?

There is no doubt about curricular knowledge which is very important but only subject knowledge is not

enough to build our overall personality. Therefore for extra -curricular and co-curricular activities in all colleges our management Charutar Vidya Mandal had founded the central committee that takes care of our development through various activities organized under different portfolios.

Since 1996, the time of inception of NVPAS, a trend of framing this committee yearly in a very disciplined manner is established.

In Madhyasth samiti , there are different clubs and cells which are working in a well defined and coordinated manner by different ex-officious from faculty members appointed by principal who is President of the committee. Vice President of Madhyasth samiti, is appointed every year amongst head of departments. Vice president takes the responsibility of all the events, clubs, cells and the overall management of the committee.

Student General Secretary (GS) is selected by the president and vice president of the committee exclusively on merit basis.

Samiti organizes different activities, on the spot painting, mehndi making, Rakhee making cards making thali decoration, paintings, singing, sports excursions and what not, all possible hobby measures for the students.

There is no favoritism amongst the students from different batches, in fact, they all come to a common platform to perform their duties and meet new people from different backgrounds. Different portfolios in NVPAS are 11 and 8 Cells.

This wide variety of clubs give a good platform to the students en route for their careers. We are thankful to the college family for providing us a wonderful base to explore our interest and creativity in well defined form.

SEMINAR AND WORKSHOPS



29th state level intercollegiate competition was organized by Department of Microbiology and Department of Biotechnology, Genetics and Bioinformatics in joint collaboration with Microbiology study circle and GSBTM.



State level prize winners of NVPAS in various events of GIBION.



The Dept of Biological and Environmental Science of NVPAS College in association with Post Graduate Dept of Environmental Science and Technology (EST) of ISTAR organized a one day National Seminar on "Environment. Pollution and Climate Change"-EPCC 2018.



Entrepreneurship Awareness Camp Organized by Computer Science Dept.



Skill development programme on banana propagation through tissue culture by BT GT & BNF & Microbiology department.



Workshop by Environment Science Dept, of NVPAS & ISTAR

INDUSTRIAL VISIT AND EXCURSION TRIPS



An Educational trip "Learning beyond Classrooms" to Akanksha Hospital & Research centre for TYBSc students of BT GT & BNF was organized.



SY ES Students visit to Champaner



Visit of Computer Science Dept. Students to CDAC PUNE



Visit to ISRO Science City by MSc-IT, SY IT and FY BCA Students.



Industrial Visit by IC Students to UPL Ankleshwar



Industrial visit to Gujarat Halogen Petrochemical Corp. by BSc Chemistry students.

President - Dr.Basudeb Bakshi
Vice - President - Dr.Rita N. Kumar
General Secretary - Ms. Aastha Shah

Parampara

Guests for Navratri celebration

Ratri before Navratri celebration

Felicitation of NSS programme officers by Red Cross Society

Swine flu medicine distribution

Mock Parliament by students
SPORT EVENTS

Intercollege football runner-up

Intercollege chess champion boys

Intercollege volleyball champion
GOLD MEDALS SECURED BY OUR STUDENTS AT S.P. UNI. T.Y.B.Sc. EXAMINATION APRIL 2017.

Sr.No	Name	Subject	Name of Gold Medal
01	Bhaveshkumar Rajnikant Modi	Industrial Chemistry	"Dipee Chemicals Private Limited (Ankleshwar) Gold Plated Medal"
02	Dipti Bhaveshkumar Upadhyay	Chemistry	"Dr. B.N. Mankad Gold Plated Medal"
03	Karan Kiritbhai Thakar	Biotechnology	"Charutar Vidya Mandal Gold Plated Medal"
04	Kanishka Ajay Thakur	Environmental Science	"Charutar Vidya Mandal Gold Plated Medal"
05	Devki Chandrakantbhai Patel	Information Technology	"Charutar Vidya Mandal Gold Plated Medal"
06	Surbhai Dilipbhai Patel	Genetics	"Dr. B.R. Patel Gold Medal"
07	Nishtha Ajit singh Tanwar	Bioinformatics	"Dr. B.R. Patel Gold Medal"
08	Bhaveshkumar Rajnikant Modi	Industrial Chemistry	"Dr. D.A. Raval Gold Medal"