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CVM UNIVERSITY

NATUBHAI. V. PATEL COLLEGE OF PURE AND APPLIED SCIENCES



From The Chief Editor's Desk

By: Dr. Basudeb Bakshi



contributed to this endeavor.

We, at NVPAS, hope to see you all soon- refreshed and rejuvenated.

Dear Readers,

It gives me immense pleasure to communicate you all through this e-magazine. We all are passing through a very difficult and stressful time. This pandemic has altered the college environment also including our teaching systems. E-learning has emerged as the best way of imparting education. Our management, teaching and non-teaching staff of the college all are working at their best in making this Covid-era a meaningful and productive one. We will not leave any stone unturned in educating our dear students. I appreciate all the parents and well-wishers for their precious support and cooperation at this moment. It is our duty to follow the instructions issued by the authorities at the Centre, State and local administration levels. Stay at home, stay safe is the mantra for now. My sincere advice to the students – Do not lose hope. Better to be busy than to be busy worrying. Focus on the silver lining amidst the thickest and darkest cloud at present times. Enjoy our e-magazine 'Spectrum-The measure of Progress' as we move on with our lives. I thank all who

BASICS OF CORONA VIRUS AND ITS TREATMET



By: Dr. Akshaya Gupta

Head Dept. Of
Microbiology

Coronaviruses (CoVs) are a group of related viruses that can cause respiratory tract infections in humans ranging from mild symptoms to lethal outcomes. Until now there are seven genera of CoVs that are known to infect humans. Four of these genera, including Human Coronavirus229E (HCoV-229E), Human Coronavirus OC43 (HCoV-OC43), Human Coronavirus NL63 (HCoV-NL63) and Human Coronavirus HKU1 (HCoV-HKU1) only cause relatively mild and self-limiting respiratory symptoms. Alternatively the other three CoVs, Severe Acute Respiratory Syndrome Corona virus (SARS-CoV), Middle East Respiratory Syndrome Coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) are highly pathogenic and can lead to severe respiratory diseases and fatal outcome in infected patients. The rapid spread of coronavirus disease 2019 (COVID-19) has globally become a serious issue. The disease, caused by a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported in December 2019 (Wuhan, China) and declared by the World Health Organization (WHO) as a pandemic on March 11, 2020. SARS-CoV-2 exhibits the same structural and

molecular patterns as other corona viruses, such as structural proteins S (spike), E (envelope), M (membrane), and N (nucleocapsid). The binding of the virus and its further entry into the host cell through angiotensin-converting enzyme 2 is mediated by the viral S protein. As the S protein is processed by a protease transmembrane protease serine 2, viral fusion with the host cell occurs. The first genetic analyses of the virus revealed an 89% nucleotide identity with bat virus SARS-like-CoVZXC21. Further investigation, however, confirmed a high similarity (96%) between the SARS-CoV-2 and the betaCoV RaTG13 of bats.

Corona viruses (CoVs) are nonsegmented, single-stranded, positive-sense RNA viruses highly pathogenic to humans. Against this backdrop, it is of critical importance to develop safe and effective vaccines against these CoVs. After global approval of one or more Covid-19 vaccines. Covid-19 has become the 28th vaccine preventable human disease.

Types of Vaccines: Preventive and therapeutic are two groups of vaccines, a vaccine belong to both of the groups depending upon the way it is designed. Vaccines are primarily used for the prevention of the diseases and the disease outbreaks aiming to control disease and eradication.

Covid-19 Vaccines:

However, we are still in infancy to understand the effect and outcome of

Covid-19 vaccine and vaccination in its entirety. Researchers have used various approaches to developing vaccines that protect against COVID-19. As a result, they have developed different types of vaccine, including:

- whole virus vaccines (Covaxin from Bharat Biotech, India with 81% efficacy and Sinovac Biotech, China with 50% efficacy)
- recombinant protein subunit vaccines (EpiVac Corona Vaccine from Russia)
- replication-incompetent vector vaccines Sputnik V from Russia with 92% efficacy and Covishield from Oxford AstraZenca with 80-90% efficacy)
- nucleic acid vaccines (Moderna (mRNA 1273) and Pfizer (BNT162b2) with 94-95% efficacy.

These potential vaccines for COVID-19 either approved for use or are in trial stages. Certain questions need to be asked?

Will COVID-19 vaccines provide long-term protection?

It's too early to know and claim if COVID-19 vaccines will either provide long-term protection or not but at present it is claimed to protect for 6 – 8 months after a booster vaccination.

What are the expected side effects from vaccines?

Like any other medicine, vaccines are

known to cause several mild side effects; similarly, Covid-19 vaccines may also induce low-grade fever, or pain or redness at the injection site. Most of the mild reactions go away within a day or a few days on their own.

Why Covid-19 vaccination is necessary?

The target of vaccination is to build up "community immunity," or herd immunity, where enough of the population is protected from the virus and as a result transmission slows down significantly to kill the disease.

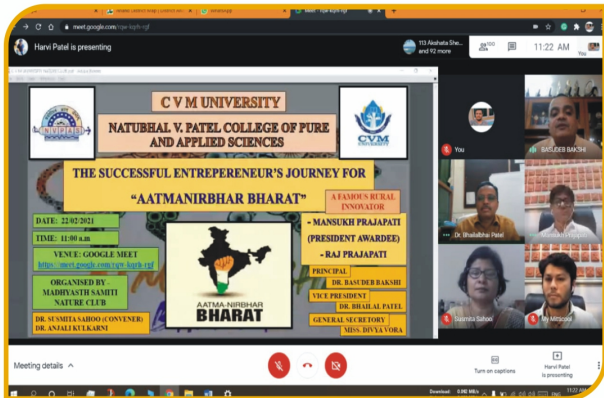
Other treatments:

Remdesivir and Dexamethasone being the two leading drugs that have showed promising clinical evidences in shortening the time to recovery and decreasing mortality rates. These treatment options can be complementary to SARS-CoV-2 pandemic. The new drug has been given permission for emergency use by Govt. of India developed by Zydus biologics called as Virafin.

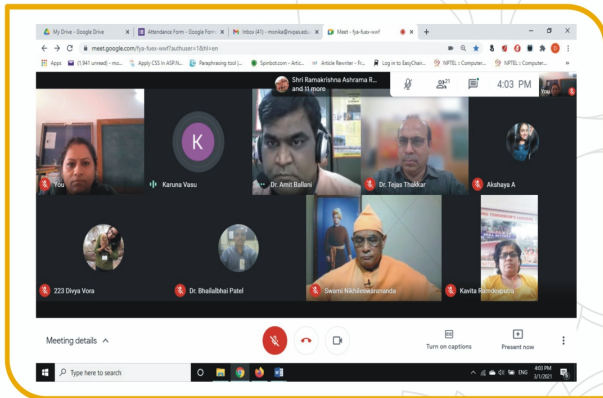
In conclusion, we hope countries all over the world, regardless of political ideologies, can unite

and work together to achieve fast and successful COVID-19 vaccine development in the near future.

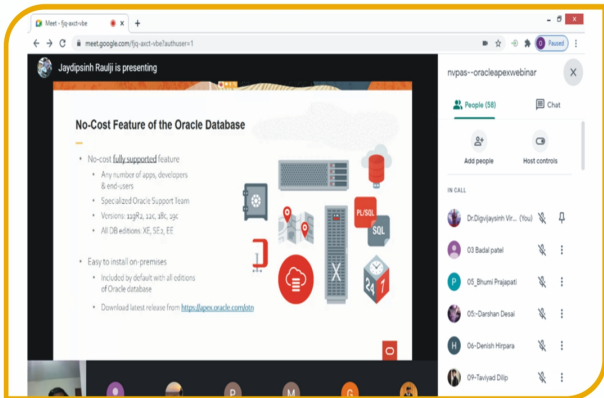
BEST REMEDY: WEAR MASK, STAY HOME DO NOT VENTURE OUT UNNECESSARILY AND FOLLOW THE GUIDELINES GIVEN BY GOVT. OF INDIA.



Nature Club Program on ATMANIRBHAR BHARAT



Expert Lecture by Swami Nikhileshwarananda Ji
Arranged By NCC Subunit of NVPAS



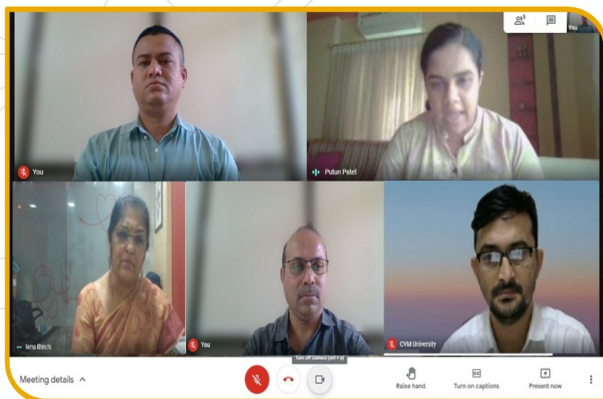
International Webinar organized by Computer Science Department
on Exploring Emerging Low Code Platform-Oracle APEX



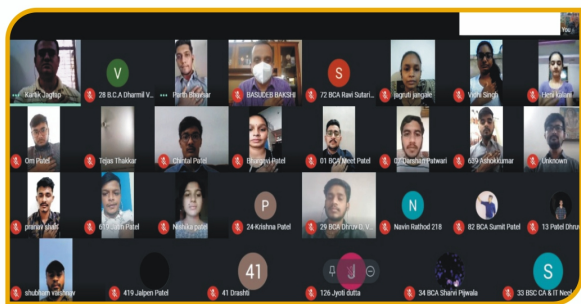
National Science Day Celebration



Group discussion programme of Gender Sensitization cell and
EQUAL OPPORTUNITY CELL



Thalassemia orientation programme by NSS



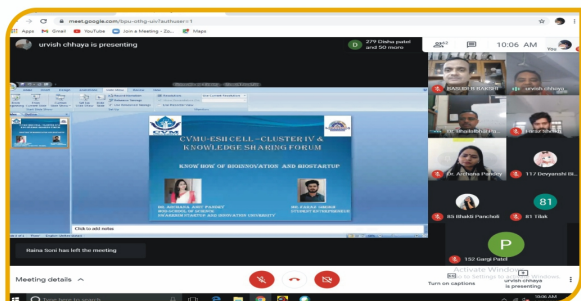
COVID 19 Pledge Ceremony by NSS Unit



Chemistry Department Lecture Series



State Level award for the Research work of Dr.Rita Kumar and her PhD Student



Programme by Knowledge Sharing Forum on BioInnovation and BioStartup



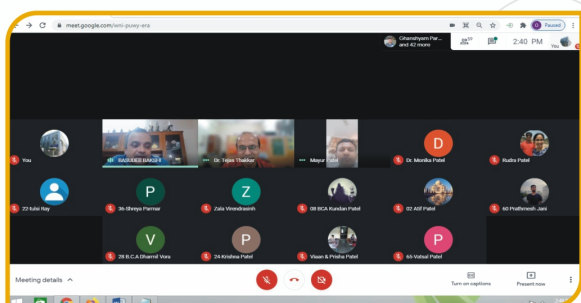
Shahid Divas Celebrations by NSS Unit



Road Safety and Awareness by NSS Unit



Inter-college Rangoli competition on the theme Covid safety By Women development cell



Computer Science Department organized an Guest Lecture on Internet of Things 2021- Trends and Future



Inter-college Rangoli competition on the theme Covid safety By Women development cell

THE SOCIAL MEDIA COMPULSION



By: **Prathmesh Jani**
TY B.Sc(CA&IT)

Social media sites are the most visited website in comparison to any other websites.

People chat and share pictures, videos, audios, views, opinions, activities, etc.

It becomes an addiction when people start to spend more and more time on social networking sites.

Adults start showing low productivity at work.

Students begin to lose interest in studies and lack of concentration.

People can curb their social media addiction if they take control of their actions.

"If you're not paying for the product, then you're the

product."

Social media is a networking platform where people share their ideas, views, opinions, videos, audios, pictures, news, etc. using an internet connection. Twitter, Facebook, Instagram, LinkedIn, Pinterest, Google+, and Reddit are examples of social media websites. They enable people to stay connected with their friends and families. These days we find that more and more are idling their valuable time on social networking sites. They begin to post and repost pictures, videos, and daily activities on the website to get a higher numbers of "Likes and Comments". Gradually, social media begins to affect emotional and mental health, which leads to social media addiction.

Social media addiction hampers their productivity, concentration, emotional wellbeing, and mental IQ. They find it challenging to deal with peer pressure

and start comparing their lives with others. They feel depressed and desperate. Their anxiety level rises. Thus, causing illnesses.

People should continuously keep assessing themselves by monitoring their activities on social media. They should keep a check on how much time they are spending on such websites. Furthermore, it would be best to take control of their actions before it converts into a social media addiction. It is nice to interact with friends and families on social media in moderation. However, too much of anything is not suitable for health. I suggest you to watch "The Social Dilemma" documentary as it provides deep information about how social media works and makes tons of money just by your attention and also how they make you addicted by providing what you want see. "There are only two industries that call their customers 'users': illegal drugs and software."

INDIAN HANDLOOMS: Ore of talent and creativity



By: **Khushboo R. Narang**
F.Y.B.Sc (Div - A)

After agriculture, textile sector is one of the oldest employment generating area in Indian economy. In the modern era too it is one of the largest contributors to Indian export industry accounting for 13 percent of total exports. It has two sectors - organized and unorganized. Organized sector consists of garments made by applying modern mechanized techniques.

The unorganized sector consists of handlooms and handicrafts.

Handloom and handicrafts are one of those sectors which include intensive labour and creativity. Beautiful hand woven crafts are made by craftsmen and craftswomen across the whole country. It provides income to lakhs of talented workers in India. It is especially beneficial for women. It is a source of income to many uneducated women and makes them independent. There are many 'Mahila Gruh Udyogs' in India empowering women and providing them income. The crafts created in these handlooms are the true form of art.

The handloom is providing clothes for textile industries which are exported across the world. But the sad reality is that in India our handloom clothes are not much favored in the market. Most of the urban population prefer buying branded or western styled clothes. The clothing like denim which has been inspired by USA is worn by the workers of that country and we have made it a fashion. Instead of that we should prefer buying our high quality clothes. Because when we buy something from our handlooms, it provides income to many of our Indian workers and also reflects our respect for our rich culture and heritage.

COVID-19 PANDEMIC: Impact And Strategies for Education Sector in India



By: **Dolly Taylor**
TYBCA

Sometime in the second week of March, state governments across the country began shutting down schools and colleges temporarily as a measure to contain the spread of the novel coronavirus. It's close to a month and there is no certainty when they will reopen. This is a crucial time for the education sector—board examinations, nursery school admissions, entrance tests of various universities and competitive examinations, among others, are all held during this period. As the days pass by with no immediate solution to stop the outbreak of Covid-19, school and university closures will not only have a short-term impact on the continuity of learning for more than 285 million young learners in India but also engender far-reaching economic and societal consequences.

The structure of schooling and learning, including teaching and assessment methodologies, was the first to be affected by these closures. Only a handful of private schools could adopt online teaching methods. The low-income private and government school counterparts, on the other hand, have completely shut down for not having access to e-learning solutions. The students, in addition to the missed opportunities for learning, no longer have

access to healthy meals during this time and are subject to economic and social stress.

The pandemic has significantly disrupted the higher education sector as well, which is a critical determinant of a country's economic future. A large number of Indian students—second only to China—enroll in universities abroad, especially in countries worst affected by the pandemic, the US, UK, Australia and China. Many such students have now been barred from leaving these countries. If the situation persists, in the long run, a decline in the demand for international higher education is expected.

The bigger concern, however, on everybody's mind is the effect of the disease on the employment rate. Recent graduates in India are fearing withdrawal of job offers from corporates because of the current situation. The Centre for Monitoring Indian Economy's estimates on unemployment shot up from 8.4% in mid-March to 23% in early April and the urban unemployment rate to 30.9%.

Needless to say, the pandemic has transformed the centuries-old, chalk-talk teaching model to one driven by technology. This disruption in the delivery of education is pushing policymakers to figure out how to drive engagement at scale while ensuring inclusive e-learning solutions and tackling the digital divide.

A multi-pronged strategy is necessary to manage the crisis and build a resilient Indian education system in the long term.

One, immediate measures are essential to ensure continuity of learning in government schools and universities. Open-source digital learning solutions and Learning Management Software should be adopted so teachers can conduct teaching online. The DIKSHA platform, with reach across all states in India, can be further strengthened to ensure accessibility of learning to the students.

Two, inclusive learning solutions, especially for the most vulnerable and marginalized, need to be developed. With a rapid increase of mobile internet users in India, which is expected to reach 85% households by 2024, technology is enabling ubiquitous access and personalization of education even in the remotest parts of the country. This can change the schooling system and increase the effectiveness of learning and teaching, giving students and teachers multiple options to choose from. Many aspirational districts have initiated innovative, mobile-based learning models for effective delivery of education, which can be adopted by others.

Three, strategies are required to prepare the higher education sector for the evolving demand-supply trends across the globe—particularly those related to the global mobility of students and faculty and improving the quality of and demand for higher studies in India. Further, immediate measures are required to mitigate the effects of the pandemic on job offers, internship programs, and research projects.

GOLD MEDALS SECURED BY OUR STUDENTS AT S.P. UNI. T.Y.B.Sc. EXAMINATION AUGUST-2020.

Sr No	Name	Subject	Name of Gold Medal
1	Roshni G. Lalwani	Environmental Science	"CHARUTAR VIDYA MANDAL GOLD PLATED MEDAL"
2	Harshil Ketankumar Amin	Information Technology	"CHARUTAR VIDYA MANDAL GOLD PLATED MEDAL"
3	Pranjal Jitendra Amin	Genetics	"DR. B.R. PATEL GOLD MEDAL"
4	Richa Arun Sanyal	Bioinformatics	"DR. B.R. PATEL GOLD MEDAL"