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#Let'sBeatCoronaTogether

Management Imperatives for COVID-19, On-line Education and National Education Policy—2020

Suresh Garg* and Sanjay Gupta**

There are four inter-connected key words in the title of this paper: COVID-19, online education, National Education Policy—2020 (NEP) and Management Perspectives. COVID-19 pandemic has been caused by a non-living microscopic virus. It locked down all economic activity in the world. Due to non-availability of reliable treatment/vaccine, most national governments coerced their people to stay at home to be safe. Even scientifically advanced countries like US, Russia, China, UK and France that had dominated space and boast of conquering the cosmos, failed to save the lives of millions of their people. This was particularly surprising because the enemy was so tiny that we needed the most powerful microscopes to view its structure and it could not travel more than a few feet at a time by itself. Strict observance of COVID-19 appropriate protocols like sanitization, periodic washing of hands and constant use of mask at all times, social distancing and isolation, if infected, etc were the only mechanisms to help control the pandemic.

The COVID-19 pandemic has so far claimed more lives than the WWI or WWII. In the first wave, US, Brazil, India, Russia and European Union nations were worst sufferers. The lowering of guard against COVID-19 bordering carelessness of the people brought second wave in India. The more virulent mutated viruses have set in panic and despair due to ferocity of infections and higher mortality. In fact, these are inducing psychic anxiety for human existence; even the emotional tenor of renewed COVID-19 infections is frightening. Moreover, the medical infrastructure is proving unequal to the task. The national government has been forced to cancel 10th examinations and 12th standard CBSE examinations have been postponed for institutional safety and societal mental health. The vaccines are reportedly either proving insufficient or failing to create confidence even among the medical experts in India. Led by Maharashtra, Chhattisgarh, Punjab, Jharkhand, Bihar, UP, Rajasthan and Delhi, the number of daily infections is multiplying more rapidly than what it was at any time in the first wave in all states. The consequences could be horrifying if infections enter community transmission stage.

During the first COVID-19 wave which swept through almost entire 2020, teaching-learning was affected globally with over 1.37 billion students studying from the safety of their homes. Most countries and higher education institutions were compelled to put in

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place alternative teaching-learning strategies to save the semester as well as human lives, though initially everyone—politicians, administrators, teachers, parents and students—was highly confused about the possible mode to be adopted for transaction of education. However, national regulators recommended technology-enabled learning in the form of online education. It became the most accepted mode in much the same way as corporations of all sizes universally adopted the transition to work from home. Almost every university conducted webinars to create awareness about the usefulness of online delivery of education, including student's proctored assessment and evaluation.

COVID-19 and On-line Education

In terrible times brought by COVID-19, it was not a coincidence that educational administrators suggested use of online education and NEP recommended use of technology as intermediary for transaction of teaching-learning through on-line mode. Optimistically speaking, the most important affirmative development of these gloomy times was simultaneous emergence of this triumvirate. Nevertheless it is also a stark reality that several institutions moved directly from F2F mode to online eco-system because of campus closures (Bozkurt and Sharma, 2020). On-line education is learning using the capabilities of the Internet, that is, it is web based. It can be synchronous like online chatting, zoom conferencing or on-line networked teleconferencing as well as asynchronous like email. (This is invariably confused with digital learning, which is a wider term encompassing learning through a large range of digital technologies—computers, mobile devices and the Internet.)

As such, the change to online mode of delivery of education was abrupt, drastic and posed unique challenges to teachers as well as students because of its newness. Even if they did not have positive attitude towards technology for transaction of education, teachers had to undergo digital transformation overnight, i.e. shift from blackboard to computer screen, overcome camera inhibition and forego privacy for the sake of their students. Above all, their role changed from hand holding to screen holding. Former President of COL, Sir John Daniel is credited with the view that the change should not have occurred without preparedness, i.e, training

of human capital and availability of infrastructure were pre-requisites for delivery of quality education. Though medical scientists continued to grapple with the COVID-19 virus, on-line mode was accepted as the new normal for transaction of education and delivery of services. Though Corona virus is here to stay much longer, HEIs should

- Consider long-term virtual learning solutions for their campus communities and equip learners with job oriented skills education in a rapidly changing employment landscape;
- deliver high-quality educational experiences to promote confidence in on-line learning and career outcomes; and
- develop viable online mechanisms to measure and assess student progress and achievement.

It is universally true that COVID-19 has caused havoc to global economy and our mental health. However, adversity such as COVID-19 pandemic forced humankind to innovate and develop values such as collaboration, and strategic thinking, resilience and hope to build a sustainable society. As far as (higher) education is concerned, the disruptions helped bring affirmative change in the mindset of educational administrators as well as national regulating agencies that were not prepared to accept the pleadings for on-line teaching-learning for over decades. This travesty also helped to explode the myth that education could be transacted effectively only within the four walls of the university.

COVID-19, On-line Education and NEP–2020

It is widely accepted that education is a resource which augments itself to meet the emerging needs of the society. In India, education evolved based on the recommendations of Education Commissions (GoI, 1950, GoI, 1966, GoI, 1986). The National Education Policy (NEP–2020) is in place after 34 years. It is an outcome of country-wide discussions of more than four years by leading academics in our universities. This document has been hailed as having infinite transformational potential due to its radical recommendations such as creation of research universities, single regulator for “light but tight” regulation of higher education (HE), vocationalisation of education to promote entrepreneurship and creativity, creation of large multidisciplinary

institutions and abolition of single discipline HEIs by 2030. (Some academics consider it an ambitious document as it did not present detailed analysis of what has ailed Indian education so far.)

NEP-2020 seeks to provide a new and forward looking vision. In particular, it highlights the need to re-engineer Indian education from school level to PhD degree to face new realities and challenges for the country to emerge as an academic power. NEP-2020 is based on the premise that only knowledge can transform our society from stagnation and poverty to dynamism and prosperity, from marginalization and deprivation to empowerment and recognition, from ignorance and illusion to enlightenment and liberation and from conflict and intolerance to peaceful co-existence and non-violence. One of the most important recommendations of this the Policy is that it places reliance on use of technology to enhance access to and quality of education to all for inclusive growth and take the benefits of education to the last mile. While capturing national challenges, NEP 2020 recommended that HEIs offering F2F education shall have option to run online programmes (even beyond their territorial jurisdiction) and use technology as intermediary to impart online education (section 24) and conform to SDG 4. It placed confidence in the creativity of teachers and student entrepreneurs to promote and benefit from offer of online education. It is important to highlight here that while NEP puts no restriction specifically on the nature and level of programmes to be offered on-line, UGC has in a way curtailed the utility of this recommendation. It has laid down the condition that degree programmes (at Bachelors and Masters levels) as well as PG Diploma programmes can be put on offer on-line only if such programmes have been offered through off-line mode by a university and one batch has passed out. This has created a lot of confusion because the pedagogies of online and off-line programmes are vastly different. But who cares? Not the UGC which though cannot claim mastery in the new mode.

As such, online education is an off-shoot of open and distance teaching-learning mode, whose journey has been very exciting, though arduous; from second option for rejects to being just acceptable, to parity of esteem, to showing promise, to being seen as a solution for the isolated and deprived in the last mile and increase GER. It would be prudent to mention here that strictly speaking, so far online education

has not been practiced adequately by any institution. A mere collection of video lectures and e-books etc does not constitute online learning. The lectures must be supplemented by relevant digital content so as to make learning enjoyable and engaging. For practicing online education, an institution should develop high quality digital self-learning materials and provide these to the learners as advocated by Rao (2020) for the ODL system and enhance accessibility of multimedia tools such as twitter, Face Book, YouTube, Skype, E-mail, Chats, Blogs, Podcasting etc. So, there is need now more than ever before to:

- develop reliable online practices and shift towards blended learning by integrating technology in all the domains of student learning;
- create a framework to ensure quality of online and digital education; and
- develop guidelines for regulation and accreditation of online education by an independent body such as Open Education Council of India (OECI).

Further, following acceptance of NEP-2020, UGC decided to allow top 100 HEIs practicing F2F teaching-learning in the country to offer online education. Since the system is new, this decision of UGC is not appropriate as it is not validated by standard international practices and experiences. Actually, online programmes should have been allowed only after assessment of the preparedness based on guidelines for regulation of online education drawn by the practitioners or by a reputed international agency. (The regulators of higher education in India can hardly boast of any expertise in on-line education.) Moreover, this decision is bound to create divide among various HEIs, which is definitely not desirable. We are of the considered view that for implementation of on-line education, as advocated by NEP-2020, it is important to (Garg, 2020a, b)

- Create technological infrastructure in all institutions so that these can embrace technology supported on-line education naturally since this is scalable, efficient and more productive. However, this is a herculean task for the COVID-19 battered economy in a country of the diversity and size of India.
- Realise that the art and science of on-line education combines learning psychology,

behavioural analytics, content delivery and assessment to measure learners' progress. In order to gain competency in such a specialized task, either internationally acknowledged digital experts should be associated with the faculty or a minimum of four week training programme in digital pedagogies/online teaching-learning methods be organised. Doing so will help capacity building of the existing staff, some of who could be master trainers for future. The digital learning experts would be required to empower the staff to redesign curricula, conduct tutorials and carry out continuous assessment suited to digital learning paradigm. This obviously is going to be a big challenge since the number of teachers is astronomical.

- Embrace emerging technologies like artificial intelligence and deep learning to take away routine/repetitive tasks from the teachers. The time so saved could be used by teachers to develop entrepreneurial skills of learners.
- Assessment and evaluation determines the progression curve of learners, their acceptability in the world of work, partly based on the authenticity of certification made and standing of the institution. For authenticity, it would be desirable for all HEIs to master technologies for proctored examination. Lest the largest tech companies such as Face Book, Google, Infosys, TCS, etc. and leading universities like Harvard, Stanford, IISC, IITs forge collaborations and get away with the cake.

Another highlight of NEP is its emphasis on innovation and quality, which has sadly been missing in Indian education at all levels from school education to PhD.

Quality and NEP

Indian Higher Education has been producing unemployable graduates who pass their examinations on the strength of rote learning. It is widely realized that majority of our graduates fail to develop intellectual creativity needed for problem solving, independent thinking, asking probing questions, digital skills and such other skills suited to 21st Century (Das et al, 2019) world of work. Yet quite surprisingly the system has not only continued to resist change but also grown; conventional teachers have refrained from using

technology in their curricular transactions either due to their ignorance about the capabilities of and value addition by it or they view it as an agent that would impede their skills, marginalize their role and adversely affect their importance (Panda and Garg, 2019).

It is now well accepted that in India, conventional higher education system has so far operated in quality-deficit paradigm in spite of the efforts made by well meaning academic administrators and planners to improve their quality. The National Knowledge Commission had observed that there is a “quiet crisis in higher education that runs deep. the general impression is one of mediocrity” (NKC, 2009). Notwithstanding a few islands of excellence that do exist today, these do not do justice to our collective genius; the system lacks drive for excellence and suffers from ‘satisfactory under-performance syndrome’ (Garg, 2015).

Different stakeholders of higher education carry varied perceptions about quality (Garg and Kaushik, 2020). However, NEP- 2020 has highlighted that “quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals.... help them develop good moral character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to the society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence. (p. 33)”

In the context of quality, NEP-2020 has highlighted some legitimate deficiencies of the system. These include

- a severely fragmented and multi-layered higher education ecosystem; we have a wide spectrum of institutions, from a national university in a cosmopolitan city to a college in a remote village, with a vast differential in facilities and operating in quality deficit paradigm in serving the ‘social cause’ (Prasad, 2015);
- less emphasis on the development of cognitive skills and learning outcomes;

- a rigid separation of disciplines, with early specialization and streaming of students into narrow areas of study;
- inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders;
- lesser emphasis on research and lack of competitive peer-reviewed research funding across disciplines;
- sub-optimal governance and leadership in HE;
- over regulated and poorly governed regulatory agencies with overlapping domains--many of these work at cross purposes to keep their spheres of influence intact. It is hoped that 'light but tight' regulation would ensure transparency and resource efficiency;
- large affiliating public universities (Tyagrajan, 2015) engaged in the task of determining uniformity in academic standards through common curriculum, examinations, and evaluation.

A few other reasons for poor quality include

- Lack of 'teachers/researchers by choice' and non-availability of provisions of merit based professional development and growth.
- Mushrooming of (single as well as multiple discipline) private HEIs, which have been largely responsible for expansion of professional higher education in India since the beginning of liberalization era in 1991, cater to about 80 per cent learners. Majority of these tend to be small in size and scope, exploitative while engaging qualified teachers without paying UGC service conditions, salary, etc. These put little emphasis on R&D and are invariably guided by "for-profit" rather than for developmental considerations (though justifiable returns would be in order to sustain further growth). This is a catch-22 situation: government regulators tend to control rather than facilitate development and private providers like ambiguity (Kulandai Swamy 2006). This undesirable situation persists in spite of intervention of the Apex Court of the country. They manage majority of officials involved in the approval processes and lack world class infrastructure.
- Politico-bureaucratic indifference towards education (Garg and Panda, 2019).

NEP-2020 has analyzed such deficiencies, though relatively superficially, and suggested a few remedies. Some sceptics are of the view that private funding may lead to commercialization of education as most private providers have entered the system to make money rather than for social transformation or philanthropic reasons. We can neither boast of any World class University nor our researchers have won international acclaim for their path breaking theories or findings; our best known institutions like IISc, IITs and IIMs do not figure in top 200 universities in global rankings.

To encourage quality, some of the innovative recommendations of NEP –2020 include

- creation of new or identification of 100 research universities out of the existing more than 1000 universities/institutions. The research universities shall be funded by National Research Foundation in various areas of human pursuit, including technology, science, social science and arts and humanities.

The focus of research universities will be on doctoral programme and since research and teaching support mutually, these would be expected to provide high quality education at bachelor and masters levels as well in due course of time. However, progressive intellectuals are raising loud voices of opposition against creation of research universities as, according to them, this recommendation shall divide the higher education system into good and sub-optimal institutions.

India has traditionally taken the path of creating small and specialized institutions for different areas like law, medicine, education, engineering, etc. However, NEP–2020 argues that

- High quality innovation and research require institutions to have multiple disciplines by phasing out single discipline HE institutions. In conformity with this globally successful approach, the NEP expects all universities, including research universities, to scale up and become multidisciplinary by 2030. In short, this policy envisions a complete overhaul of the higher education system and deliver quality higher education at affordable cost for equity and inclusion of the isolated, marginalized and deprived sections of our society.

- Curricular structures should be flexible and creative combinations of disciplines for study with multiple entry and exit points be provided, i.e. modular framework.
- Integration of humanities and arts with STEM should enhance creativity and innovation, critical thinking and higher-order thinking capacities, problem-solving abilities, communication skills and more in-depth learning,
- Learner mobility across institutions anywhere in the length and breadth of the country should be encouraged through accumulation of credits.
- Single regulator be created for all forms of higher education and uniform regulatory system be developed for all, format notwithstanding.
- cultivate culture of ownership of the institution by each and every member of its fraternity, including learners (through alumni); and
- plan incremental improvement in institutional performance standards through continuous professional development of all category of teachers and support staff at all levels, particularly in new and emerging areas.

The policy's also envisions the following changes:

Recognizing the need for design and integration of appropriate technologies, the policy has recommended creation of the National Educational Technology Forum (NETF) as an autonomous body to provide intellectual and operational inputs to all higher education institutions.

The new regulatory system envisioned by the new policy should be expected to foster culture of empowerment and autonomy to innovate by gradually phasing out the system of 'affiliated colleges' over a period of fifteen years through a system of graded autonomy. However, it is too early to say anything definite about the success of this mechanism, if same people (with fixed ideas) continue to be at the helm of affairs. It is hope that meritorious, forward looking academics with impeccable integrity shall be involved; "connected" individuals would belie the intent.

Moreover, evaluation of policies and procedures for their efficiency, applicability, suitability and efficacy would be highly desirable to guide HEIs as also stakeholders about making a considered choice. In fact, it is important to maintain prescribed quality specifications and standards in each activity chain to raise the bar, albeit gradually. Therefore it is imperative to:

- undertake periodic review of offerings so as to reflect on pedagogy, improve assessment procedures to determine learner progression and reposition these to provide internationally competitive education;

- grant of graded autonomy, with accountability, to an institution, its leader as well as the teachers because creativity blooms in the vastness of academic freedom;
- improvement in quality of institutional leadership by minimizing external influences and appointing enlightened individuals having pragmatic vision;
- ensure that career progression of academic faculty is based only on teaching and research; and
- every institution should be self-reliant (Atamnirbhar) in physical infrastructure and academics through extensive use OERs and MOOCs courses while making (interactive) learning materials accessible and available to all learners through LMS.

Management Imperatives

In order to achieve the objectives laid down in NEP-2020, it is extremely important that politico-bureaucratic interference is minimized so that no compromise is made in their work (day to day) and a non-obliging institution/leader is not made to face undesirable/unforeseen hardships. As such, recommendations made in NEP-2020 about creation of research universities, shift to technology supported on-line education, closing all single discipline institutions have high cost imperatives. Therefore, for the size, diversity and complexity of India, provision of necessary finances will be a testing challenge for COVID-19 pandemic shattered Indian economy. (We know the fate of the recommendations of National Education Commission about creation of national networked infrastructure and allocation of 6% of GDP to education ever since acceptance of the recommendations of Education Commission (GoI, 1966), among others). Moreover, it would

be advisable that the efforts on finding ways for addressing quality concerns are driven by the wisdom of practitioners and based on solid research evidence in present day indigenous context rather than the recommendations of yester year experts who invariably commend borrowed practices of the west. Similarly, to achieve 50% GER in HE by 2030 will demand ‘disruptive innovations’ in teaching-learning strategies.

Management of private higher education, which caters to about 80 per cent learners in the system, is like managing an elephant in the room. Unlike Cambridge, Harvard, Oxford, Stanford, and other high ranking universities, majority of Indian private universities tend to be small in size and scope, exploitative with little emphasis on R&D. These are invariably guided by “for-profit” rather than for developmental considerations. (We believe that justifiable returns would be in order to sustain further growth.) This undesirable situation persists in spite of intervention of the Apex Court of the country. Moreover, most of these institutions enjoy patronage of powerful political leaders and indulge in corrupt practices. How else can we explain the inability of successive central governments in the past to take various suggestions for the approval of the Indian Parliament? The visiting teams are managed and, recommendations of non-obliging officials are bypassed by competent authorities. This is a catch-22 situation: government regulators tend to tighten control rather than facilitate development and private providers like ambiguity (Kulandai Swamy 2006).

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Education, Employment and Expectations Amidst Intruding Enemies

Sandip Kumar Paul*

The education system of our country is based on a three-tier concept—Primary education, secondary education and higher education. The output of the primary education is the input of the secondary education and again the output of the secondary education is the input of the higher education. During this entire journey from primary education to higher education and even thereafter it is dreams and expectations which motivate the students, inspire them and encourage them. What is dream during primary education is raised to desire or hopes during secondary education and to expectations during and after higher education. What was one's dream during his childhood is gradually converted within himself into ambition during his adolescent period and into aspiration or expectation during his adult days. This is because during all these days one does not simply grow in size and length but within him grows knowledge, wisdom and confidence. The cumulative effect of all these is the creation of a belief "I deserve it" and that imbibes expectation. His education, his result, his performance, his achievements all culminate in expectations.

Those students who are on the verge of completion or have already completed their long cherished Engineering, Medical, Management, Law and such other courses, naturally expect placement in a good concern with a prestigious package. It is at this stage that their parents expect some achievements from them, so also their friends and relatives expect from them, the society expects from them and above all the student himself or herself too expect that.

Now let us have a quick look at the recent changes in the Indian Higher Education and employment sector. India's economic growth in recent past was largely due to the growth of the service sector. The service sector required skilled employees. Naturally therefore, in the Indian labour market the demand for skilled workers expanded. As a result of which in the Indian Higher Education System preference

had shifted from knowledge based education to skill based education. Consequently therefore instead of the traditional subjects like literature, history, philosophy, economics and such, skill oriented subjects like engineering, medical, management, law and such, have gained more and more popularity.

Secondly to respond to the demand of the labour market and thus to enhance the supply of skilled employees, the governments, both at the centre as well as at the states, unleashed the private sector for imparting skill based education. Accordingly since late nineties the country has observed exponential growth of privately owned, managed, administered and controlled business schools, engineering colleges and technological institutions not only in the cities and towns but also in the rural areas as well.

To start with both these changes, i.e., skill oriented education instead of the traditional education and the increasing importance to the private partners yielded positive result. A large number of engineering and management graduates were suitably employed at attractive packages at an average age of 22-24 years, which, so far, was unbelievable with general education in conventional subjects.

However this honeymoon phase continued more or less till 2012 or at best up to 2015. Over these years the market for young engineering and management degree holders became nearly saturated. Consequently these institutes seriously started suffering from the problem of placement. Of late, for campus interview good companies are not coming, good packages are not being offered, job security is virtually absent and so on and so forth. Underemployment was already there, unemployment also started creeping up.

Now the intruding enemies! Etymologically, the term "intruder" means someone who enters a place without permission with an intention to commit a crime. The Cambridge Dictionary more specifically defines an intruder as someone who is in a place or situation where he is not wanted. And today if someone wants to find out one best example of intruder, I think,

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it will definitely be “COVID” in any corner of this world. Again we observe that it is not just COVID-19 alone. COVID has its corollaries like 1st wave, 2nd wave, 3rd wave, 4th wave and such. Also it has its accompaniments like black fungus, white fungus, Delta Plus and such. All these are our “intruding enemies”.

The COVID induced lockdown-unlock days, the revised and enlarged edition of the second wave, the impending third wave, the fungus in different colours -- black, white, yellow and such all have taken away so many things from us -- so many lives, so many programmes, so many jobs and so much of our invaluable time. Not only have they destroyed crores of jobs but also have disrupted billions of job opportunities as well. During the last one year and a half we had to make so many sacrifices, compromises, adjustments and alterations. Time and again we had to change our directions, our motions and even emotions as well. A piece of government data reveals that only the second wave of COVID has made to more than 2.5 crore people jobless in India alone. So many small and mediocre business units had to be closed down, most of the big and large units had to reduce their working capacities, new business units could not be established. Quite a good number of employees including middle level management people have been retrenched from all the leading IT units. An IT giant alone has retrenched more than 1 lakh employees. Thus, in front of our students opportunities and options are now gradually reducing at a progressive rate.

On the other hand, the placement of consecutive three-four batches particularly 2018-19, 2019-20, 2020-21 and 2021-22 was vehemently disturbed by intruders. Further, every year a good number of fresh students are joining as job aspirants.

In this way these intruders have created a situation where under the job opportunities are reducing drastically and on the contrary the number of job aspirants or job seekers are increasing constantly. The popular pandemic practice of ‘work from home’ have further aggravated the problem.

It has been proved during the lockdown-unlock days and thereafter that due to work from home the working time and also the efficiency of the workers have enhanced. So the same job can now be executed by lesser number of workers or

performers. Also during this period many projects have been cancelled. All these have resulted in reduction of the number of employee in IT sector, education sector and in many other sectors as well. Besides the number of support and supervisory staff and contracted workers or those inducted on the basis of third party agreements have drastically been reduced in all sectors.

In this context let me present four case studies. Here all the sample units are situated at Bengaluru, Karnataka, India. It has been observed that even during this COVID-19 affected period the big size units in retail or in pharmaceutical business were able to retain their existing workforce with some adjustments and rearrangements. However most of the units in the IT sector and in the education sector had to reduce the number of employees to survive. Our samples represent one from retail business, one from pharmaceutical business, one from IT sector and one from the education sector. For obvious reasons the names of these companies and Institutions have not been mentioned here.

Case Study I: Retail Business

A multi-national business giant’s Bengaluru office: Majority workers have permanently been sent to work from home. The seven storied office space has now been restricted to only two stories resulting in massive cost reduction in the form of :

1. Rent or Space Cost.
2. Electricity Cost.
3. Cleaning and maintenance cost.
4. Security and Supervision Cost including Cost of CCTV.
5. Drinking Water, Aquaguard, Tiffin and Lunch Cost provided during office hours.
6. Transport Cost - The company was maintaining a fleet of about 250 cars for its employees.
7. Meeting Cost - Budgeted weekly meeting expenses for each small group was Rs 45 thousands and for bigger groups (25 or more members) was one lakh. Now all meetings are being held in virtual mode.
8. Salary of all support and supervisory stuff.

Thus, at present total cost saving of the unit per month is more than rupees ten crores.

Case Study II: A European Company in the Pharmaceutical Sector

The company having head office in Denmark manufactures medicines for the blood sugar patients. Both production and profits enhanced during pandemic. Fresh requirement also done wherever required. No employee on pay roll has been retrenched. However, many of the employees have been removed.

Case Study III : A German based IT Company

Work from home started in March 2020 and may continue till 31st December, 2021 or beyond depending on the situation. During the pandemic period the operating profit is kept stagnant. No fresh recruitment is being done. No staff on pay role is being retrenched. But the support staff on third party agreement have mostly been removed. During these days there has occurred no hike in pay excepting Dearness Allowance @ inflationary index.

Case Study IV: Education Sector

A reputed Institute in the private sector imparting education in engineering as well as in management, having branches in other states. The institute was able to maintain a good placement record. But the packages offered were a bit less than that of the preceding years. However some employers promised to review the pay structure after this COVID-19 phase is over. Contractual faculties, some managerial staff and those staff in support service have mostly been removed. 50% of pay was given in the initial six month of lockdown in 2020. Now full pay is being given. Admission position in the new session is better than that of the previous year.

The sample units for our case studies represent those who were able to take up the challenge and survive. Survival at this stage is of extreme importance. The first and foremost necessity is that a business unit must survive and sustain from the evils of the so-called intruders. If it can survive it will

again flourish in future. Instead, if it is closed down, its closure will affect adversely to all its stakeholders including our students. The exclusion of the losing units or closed units from our samples therefore is not just incidental but rather intentional. It must also be noted that we have not stressed on profitability in our case studies but on employability and the reduction for job opportunities.

Now given this actual perspective it is evident that these intruding enemies have definitely disrupted and disturbed the expectations of our students on education as well as on employability to a great extent. Or in other words it can be said that these intruding enemies have made their task far more difficult and challenging. And this is the hard reality.

In spite of the prolonged two innings of COVID-19, the impending third wave and its other accompaniments like black fungus, Delta PLUS etc., these intruders are not going to be permanent occupiers in our society. Surely they will perish with time. Of course we are to take the vaccines as directed by the physicians and we must continue with the preventive measures suggested by the medical practitioners viz. masking, sanitizing and social distancing so long these intruders remain active and for quite sometime even thereafter. However, at the same time, I do fervently believe that our students, deserve the capacity to win these challenges and also that they possess the ability to change this world to life and freedom again.

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Globalization: Multidimensional Perspectives of War and Women

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The theme of globalization is engaging and interesting. It is a dynamic and evolving concept. It depends mainly on the theme of exploration. One can navigate from the past to the present to understand that phenomena and events, across the world, have never occurred in isolation; however, the consequences may be varied and diverse. The impact of occurrences both at the macro and micro levels affects the economies and cultures of societies of different countries. Studies have shown that they may differ in terms of intensity and size; however, they do influence the future course of initiatives. The theme can become more interesting if inter-disciplinary approaches are adopted to explore how a variety of happenings are woven in the rubrics of time, space, and institution. In the present paper a global event i.e. the World War-1, is discussed in the context of the impact it had in changing the lives of women, across the continent meaningfully if not substantially.

World–War-1, was truly a global event. It engaged both the industrial as well as the colonial countries in a very substantial manner. The reason for the escalation of tension in the early 19th century was due to the long drawn out rivalries that competing developed nation experienced in different fields. The desire to have monopolistic control over trade and commerce, expand colonies in Asia and Africa and prove their military might were some of the identified causes that ignited the tension. Rival alliances were formed that pitched their might against each other to prove their strength. The war is known for the use of lethal weapons, human catastrophe, along with the trench warfare strategy that was employed.

War had influenced the lives of all, both in the colonies as well as the imperial powers, which were involved in the combat. It led to mobilization of human resources, a huge budget expenditure adversely impacting the economies of countries involved. On the health front, it led to the spread of the dreaded disease known as the Spanish flu which became a grave pandemic, leading to the loss of life across the globe. Travel and migration added to its spread.

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Towards 1918, a more virulent strain of the Spanish flu killed more people throughout the world. While it was a big challenge encountered along with the ongoing war, it helped in creating the modern tracking apparatus that is of relevance in contemporary times.

In connection with India, the Great War saw the services rendered by 1.3 million Indians of whom 74,000 never returned. About 65,000 were wounded and ninety-eight Indian nurses were killed. The Indian soldiers, who were recruited for taking part in the war, mainly came from the then United Provinces, Punjab, Maharashtra, Bihar, and Tamil Nadu. The communities to which soldiers belonged were from the Hindus, Sikhs, and from amongst the Muslim communities. Nearly seventy million men from more than thirty different countries were actively engaged in fighting on the land, air as well as high seas. The airplanes were used for bombing, submarines and warships were deployed to carry forward the combat on the high seas, and tanks for waging war on land. While on the one hand, war and growing tension, posed immense challenges for survival, on the other hand, it led to the evolution of coping methods to address this catastrophe. Opportunities and multiple pathways were explored for addressing different kinds of emergent and emergency-like situations. Multiple pathways were evolved to address it. It is in this regard the role that women took several measures to cope up with situations arising out of war. This is discussed in the subsequent paragraph.

As the war escalated and intensified, governments introduced conscription, which meant men were forced to join, those who refused were imprisoned. This phenomenon had a telling impact on different families in different parts of the world including India. Coupled with it was the rise in defence expenses. This led to a rise in the price of essentials e.g. food grains i.e. to a tune of about 93%, affecting the lives of the common people. The taxation of income and business affected the rising middle class adversely. While these were very visible telling impacts on all, on the other hand, some of the industries that prospered during this period were Cotton textiles, the Jute industry, and rail.

The care giving and the nurturing unpaid economy saw a change amidst these developments. In many contexts, the contours of the family changed

from patrilocal to women-headed households with permutations and combinations. Some were temporary and the others were permanent. Women became multi-taskers fending for the home and the hearth. Mourning separation from their spouses, women composed a variety of literary expositions in form of prose and poems to cope with the emergent situation. This allowed the flourishing of a variety of creative literary expositions that enriched the body of our folk traditions. In 1916, a play was written by Satish Chandra Chattopadhyay, "Bengali Platoon", highlighting the plight of women who had to bear the burden of fending for the family. Such themes were penned by others too. Literary compositions throughout the freedom struggle of India was a significant way of venting people's emotions and feeling towards various exploitative policies of the Raj, the World War-1, was one such example.

Across the globe, women at this point began entering service sectors. Women started working in munitions factories, became drivers of a vehicle, worked as iron smelters and in the coal mines. Few joined industries in different capacities, such as clerks, secretaries, plumbers, gravediggers, and in the shipbuilding industries. In the agriculture sector, women contributed, as was always done, in the domain of sowing, weeding, harvesting, and winnowing. In the prevalent war situations, women in many contexts took to ploughing, a work normally done by men. Many posters during this period were published showing women with a plough. The other professions engaging women were nursing, teaching and some women actively took part in the combat. In Britain, women served in uniform as well as in the Royal Navy and the Royal Air Force. The Salvation Army and the Red Cross and many organisations depended on women volunteers. Many of the women drivers of the Red Cross Motor Service and other ambulance groups used their cars to transport the wounded soldiers. The famous scientist Marie Curie invented a mobile X-ray unit, a car nick-named "little Curies". About one hundred women were trained as X-ray operators on the battlefield.

Kasturba Gandhi worked in the Indian Army hospital on England's South coast that was set up for 16,000 soldiers wounded in France and Belgium. Many women volunteered to collect funds for Indian soldiers. Interestingly many soldiers while corresponding with their near and dear, wrote about educating women the girl child in particular. Perhaps, the most important effect of this long drawn-out war was the laying the foundation of the suffrage movement. Many women, who started working in the service sectors, began to realise the importance of getting voting rights and

being recognised for their work. The question of identity i.e. recognition of self-worth was being felt by women. This led to American women getting the right to vote in 1920. In Britain women got the right to vote on the same term as men in 1928 and India in 1926, the Madras Legislative Council appointed Muthulakshmi Reddy as the first woman legislature. In April 1947, the Constituent Assembly agreed to the principal of universal suffrage.

In the arena of fashion, wars lead to women becoming trendsetters. Some dress that became popular was skirts and trousers in Europe. In the Indian context, the clarion call for swadeshi, use of indigenous goods including hand-spun cloth continued. In fact, the focus it acquired during the swadeshi movement of 1905 continued and once again acquired centrality in the subsequent movements of Non-Cooperation Movement of 1920, Civil Disobedience Movement of 1930 and the August Kranti of 1942.

Thus, World War-1 can be interestingly examined from the perspectives of crisis, challenges, coping mechanism and building capacities for evolving strategies for mitigating the same. As has been discussed, women contributed in a variety of ways in meeting the emergent situation. Confidence-building methods were carved by adopting a variety of approaches that were tried out in diverse situations with an innate approach of not giving up. This lesson of meeting situation of crisis, drawn from the pages of history has continued till date. The COVID-19 pandemic has once again explored the inner potentialities of women of all age groups. It has once again surfaced the commitment and resolve of women to wear the garb of a multi-tasker and continue working from the dawn to the dusk, in keeping the home and the hearth functioning. Thus, any event of the past can be made interesting if multiple perspectives are followed. This can be facilitated if phenomena and events are studied from the perspectives of challenges, opportunities created, measures adopted for addressing the situation. Evolving strategies, in form of giving emotional vent to ideas and feeling in different forms of writings, would give another dimension of unravelling human potentials for facing trials and tribulations of life, a positive lesson for all times to come.

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Making India Healthy and Wealthy through Health Literacy: A Futuristic Model

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Since its outbreak, the COVID-19 is impacting the entire world, including India. In the literature published in 2020, it was predicted that the pandemic was not likely to cease soon, and many more waves, similar to the 1918 Spanish flu, COVID-19 would recur again. Many countries including India had already suffered the second wave. In India, the second wave had hit hard and the death rate was significantly higher than the first. With 30,134,445 million corona cases, India has surpassed Brazil, Russia, Italy, and the United Kingdom and emerged as the second most affected country after the United States of America (WHO, 2021). As on 26.06.2021, a total 3,899,172 people have died at global level due to corona virus and the death rate (WHO COVID-19 dashboard). Unfortunately, both in affluent and developing countries; health infrastructure was found inadequate to address the problem (Abhishek, et. al., 2020).

Whereas, India is still reeling with the second wave of the catastrophic flooding of COVID-19, the talks on third wave have already started. Top scientists and officials have expressed concern about the third wave of COVID-19, as it is being anticipated that it will impact children more (Times of India, 2021). The virus is continuously evolving and mutating. In comparison to the first year, the age profile of those infected with COVID-19 in the second wave is mostly unchanged in India. In the first wave of COVID-19, 31 per cent of people in the 30-age bracket were infected, compared to only a 1% increase in the second wave, which stands at 32%. In both waves, however, the percentage of persons infected by COVID-19 in the 30-40 age range stays the same, at 21%. A total of 70% of hospitalized patients in both waves are over the age of 40, demonstrating that the elderly are still more vulnerable (Dey, 2021).

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India is the world's biggest democracy and the second most populous nation after China. According to the 2019 revision of the World Population Prospect the Indian population stood at 1,352,642,280 in number. As far as size is concerned, India is the seventh-largest country in the world with a total land area of 3, 287, 69 square kilometres, covering 2.4 per cent of the total land area (Ministry of Statistics and Programme Implementation). India's rural population accounts for 60-70% of the country's overall population. The Government has created 25,743 Primary Health Centres, 15,8417 Sub-centres, and 5,624 Community Health Centres to provide healthcare to people in rural India (Abhishek, et. al., 2020). Is it enough for a populous country like India? Studies indicate that it is insufficient in comparison to India's overall population (Abhishek et al., 2020). Moreover, achieving the objectives of the health mission without health education and health literacy is extremely difficult. According to the Officials at the UN, WHO, and WWF pandemics like COVID-19 are the outcome of destruction of nature, and the entire globe is ignoring this truth for decades. As per the WWF report, "the risk of a new 'wildlife-to-human disease' is emerging higher than ever, with the potential to wreak havoc on health, economies and global security," (The Guardian, 2020). India must take appropriate steps to inculcate the habit of taking informed decisions in the people right from childhood by providing health education at school level to prepare them to tackle any unanticipated problems like COVID-19 in the future. Furthermore, the teachers at School as well as Higher Education Institutions must participate in health awareness programs. Health literacy modules should be into course curriculum, and develop a communication channel to reach out to rural areas in order to keep villagers health literate.

The devastating effects of the second wave of COVID-19 in India, as well as a sharp increase in contagion at an alarming rate and higher mortality rate among both the older and younger generations, are the compelling reason to conduct this study on

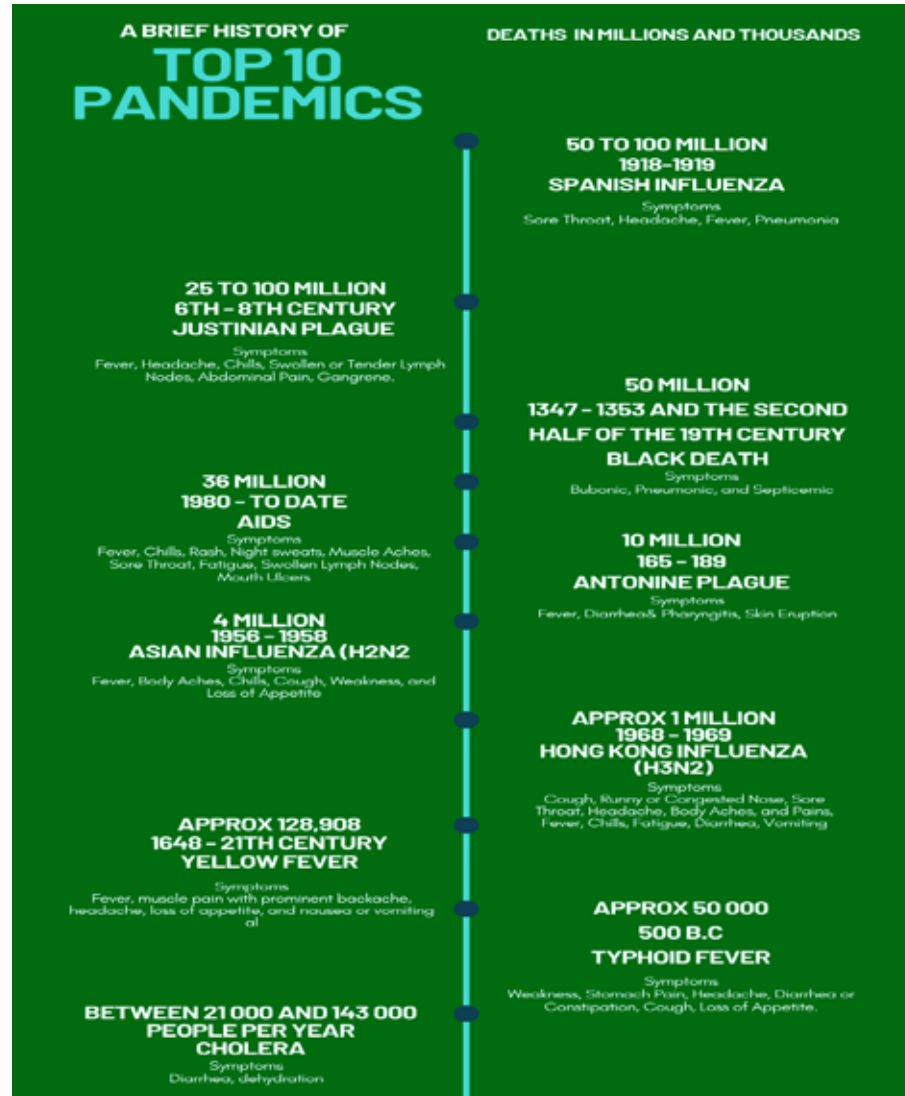
health literacy. What precautions should be taken to confront the current situation and decide how to deal with a calamity like this in the future? Health literacy through Schools, Colleges, Universities and Panchayati Raj system, can help us avoid such types of health disasters in the future. Keeping all these things in mind, a comprehensive literature search was conducted to obtain solid evidence-based explanations for all the concerns involved in it. Journal Articles, News Papers, BBC News, Government Reports, and other sources of information have been used to strengthen this study. The evidence-based literature and analysis strongly advocate that health literacy modules should be included in the curriculum of the schools, colleges, and universities. It is also our primary duty to look after the health of our villagers as well. They play a crucial role in society. However, India has a well-developed structure, known as Panchayati Raj, through which we may educate our villagers on how to protect themselves from seasonal diseases, epidemics and pandemics.

Top 10 Pandemics

Human history has records of some major pandemics, among them, the top 10 pandemics are arranged according to the highest death rate along with year of origin and duration as well as symptoms in Figure -1. The Figure-1 shows that Spanish Influenza was the biggest cause of death worldwide, followed by the Justinian plague, the Black Death, and other diseases. If now suitable precautionary steps are not taken, COVID-19 may become the leading cause of death worldwide. To stay protected against such fatal diseases, the entire world should have a comprehensive framework in place. Health

is wealth; the country's poor health could have a significant influence all over its output. This Pandemic wreaked havoc on the whole global economic structure including India. In April, the second wave of COVID-19 rendered 73.5 lakh people jobless (Nanda, 2021). The Indian economy was forecast to expand by 7.5 per cent in 2021, as per the report of the United Nations, but the country's situation remains precarious (United Nation, n.d.). According to a research published in The Lancet, over five million people die each year owing to insufficient health care throughout the world, with nearly 1.6 million from India. (Iyer, 2018). Illiteracy and low educational status is a major concern in low-income nations, and these are the major cause of disease and mortality (Pednekar, Gupta, & Gupta,

Fig-1: Top Ten Pandemics that have had a Massive Worldwide Impact (Atlas Magazine, 2020)



2011). However, India is ranked 35th in the 2019 Worldwide Education for the Future Index (Sheth, 2020). India's current educational policy 2020 has been regarded as the finest policy for educational progress. This will revolutionize India's educational systems; nevertheless, health literacy is also required for increased productivity. Successful learning is support by good health. Learning goes hand in hand with being healthy. The two are inextricably linked: education and health.

Health Literacy @ School Level

India needs the largest medical infrastructure and sufficient medical equipment to serve and save the nation from such unanticipated pandemics like COVID-19 in future. Furthermore, one of the major concerns in today's scenario is poor health literacy among the general public. Many lives could be saved from numerous seasonal diseases if people in rural and urban areas could be made more aware about some basics of health and safety issues. Using COVID-19 as an example, serious conditions have occurred to people who have already been diagnosed with other illnesses. Physically healthy persons with health literacy on the other hand, have a lower risk of being affected by this virus. According to the Institute for Health Metrics and Evaluation (IHME), the COVID-19 pandemic has become India's second-leading cause of mortality after ischemic heart disease in just eight weeks (Pandey, 2021).

India is being hit hard by the second wave of COVID-19. The entire Indian medical, political, and social systems are working enthusiastically to bring the situation under control, but no one can help if the country's health literacy is low. In India, at least nine out of 10 adults are ignorant about health issues (Kumar, 2021). People who lack health literacy are more likely to be infected by critical diseases like pandemic influenza and non-communicable diseases, and they may even die. Low health literacy is linked to a failure to seek medical attention quickly. Academic success, quality life, and economic output are all linked to health. Health Literacy programmes in schools have enhanced quality and competitiveness in education while also lowering common health problems, according to research from both developing and developed nations. (WHO, 1998) Therefore, Indian Education System should prioritize health literacy promotion among children during their school

years through the teachers. Therefore, teachers should be well-versed in health education so that they can effectively impart Health Literacy to the students.

Teachers should participate in health awareness programmes conducted by various institutions to keep themselves informed. Since the early 1990, the World Health Organization's Global School Health Initiative has advocated for the importance of health promotion in schools (WHO, 2000). Schools may make a positive contribution to the health and wellness of children and their families by establishing a different way of learning in today's youth. In light of the foregoing, it is recommended that the School Curriculum should include certain topics of Health Literacy, as mentioned in Table-1.

The Table-1 illustrates the broad topics that students in primary and secondary level should be required to discuss. One of the main reasons for people in India descending towards poverty is out-of-pocket health expenses. According to the 2016-17 National Health Accounts (NHA), the Out-of-Pocket-Expenditure (OOPE) was approximately 64.2% in 2013-2014; however, as a result of many government measures aimed at the health sector, the OOPE has decreased and now stands at 58.7% in 2016-2017 (Pilla, 2020). Regardless of who spends money on healthcare, it has a direct effect on the Indian economy. India must think beyond philosophical and ritualistic practices in order to help the nation to achieve world excellence. India needs to conduct rigorous research to determine the root causes of illiteracy, hunger, death, malnutrition, and other challenges. By giving tribute to Nelson Mandela quote "Education is the most powerful weapon you can use to change the World" (University of Pretoria, n.d.), it means that qualitative education may make human beings as an instruments of change. After civilization, education became the world's primary focus, and those who advance strategically by implementing changes and providing education within a structural context are in the lead. Individual health literacy combined with good education can have a positive effect on national productivity. Every life on the earth has some scientific logic to it. Hence, we Indians must adopt a scientifically sound lifestyle. Only by modifying the educational framework would this be possible.

Table: 1 Proposed Topics in Course Curriculum on Health Literacy for Schools

Sr. No	Topics	Learning Outcome
1.	Health is National Wealth	Capable of understanding how valuable physical and mental health is.
2.	Role of Health in Nation Building	Describes roles of health in national output.
3.	The History of Pandemic Influenza and Its Global Impact	Capable of understanding the history of major pandemics around the world, as well as their impact on the economy and society
4.	Health Literacy	Capable of becoming health-literate and inculcating literacy in one's family, community, and friends.
5.	What precisely are diseases?	Capable of identifying the major disease.
6.	Disease types and symptoms	Capable of grasping the various diseases and their symptoms.
7.	Injuries and its types	Learn about the various injuries and effects of ageing.
8.	Initial Treatment	Capable of providing preliminary treatment to a patient before transporting them to the hospital
9.	Home Remedies	Capable of understanding various types of home remedial treatments based on Indian-born traditional medicine.
10.	Health Nutrition Hygiene and Sanitation	Understand health nutrition, hygiene, and sanitation, as well as their applications in daily life.
11.	Eating disorders	Capable of Understanding your eating habits and how they affect your health.
12.	Tobacco, Alcohol & Drugs	Capable of understanding how harmful tobacco, alcohol, and drugs are to humans.
13.	Physical Exercise and Yoga and its benefits	Capable of performing various types of physical and mental exercises at home in order to maintain fitness.
14.	Vitamins and their it types	Capable of understanding the various types of vitamins required by the human body, as well as their benefits
15.	Vitamins found in fruits and vegetables	Describes the various types of vitamins found in fruits and vegetables.
16.	Medical Departments and their Functions	Capable of understanding various medical departments and their functions
17.	Use and awareness of primary tools and technology available for in-house use.	Capable of using portable medical equipment such as a thermometer, Pulse oximetry, and many others.
18.	Population Control	Capable of comprehending the safety precautions that must be taken in order to keep the population under control.
19.	Natural Environment	Capable of comprehending the importance of nature in keeping the earth safe and calm
20.	Sources of Health Literacy	Capable of determining where to obtain reliable health-related information.
21.	Medical Ethics as well as Law and Order	Capable of understanding medical professionals' moral ethics and adhering to law and order.
22.	Writing and Reading Skills	Capable of understanding the doctor's prescription and instructions.

Health Literacy @ College and University Level

The Health Literacy job should not only be assigned to medical professionals to raise public awareness, but also to non-medical professionals such as university, college, and school faculty and students. Of course, every Indian citizen who is health literate bears the responsibility of making others literate. It is a well-known fact that necessity is the mother of invention. Regardless of how well-developed the medical infrastructure is, it will not be successful unless and until the citizens are able to take benefit out of it. Therefore, a health literacy programme should be included in the UG and PG levels. In the light of the foregoing; there are certain topics as mentioned in Table -2 which can be included in the course curriculum of higher education.

These days' optional papers in UG and PG level courses are offered by Indian universities and institutions in order to provide students more freedom. Take an example of the Department of Library and Information Science at University of Delhi. In the MLISc II semester syllabus, there are numerous elective papers under two categories: Elective Papers and Elective Interdisciplinary Papers (Choose any one of the following options). The DLIS, University of Delhi allows the students to read by choice, not by compulsion. Learning is something you want to do, not something you are forced to do. These days, choice-based education has now become widely available. However, there can be no alternative in the

case of health education since health implies wealth. Therefore, Health Subject should be compulsory rather than elective at the UG and PG level, no matter whether credits will add to the progress report or not.

Health Literacy @ Panchayat Level

In view of anticipated 3rd wave, medical professionals have been raising awareness about how to protect your child from the third wave via digital media. In addition, medical professionals are releasing digital videos on how to increase your oxygen level, as a preventive measure if someone has COVID symptoms, and even prescribing medicine based on symptoms since the first wave of COVID-19. This is so called health literacy or health literacy through digital media. However, only Hindi and English are supported as communication languages. India is a diverse country with distinct local and regional languages of each state. If this is the case, what will happen to those who only understand their native language? In order to reach the end user with this life-saving information at a remote level, it is suggested that a system should be developed to assist in translating COVID-19 preventive-related information into a native language and making it quick and easy to be understood by the diverse language people. It is also well known that nearly 70% of India's total population lives in rural India (Press Trust of India, 2013). Mahatma Gandhi said, "India does not live in its towns, but in its villages." By paying tribute to Mahatma Gandhi, the current

Table: 2 Tentative Course Curriculums on Health Literacy for Universities and Colleges

Course	Topics	Learning Outcomes	Remarks
Undergraduate/ Post Graduate	Introduction to Health. • Concept of Health • Define health Literacy • Objective of Health Literacy • Principles of Health Literacy • Health Communication Media • Project Reports • Field Work	• Capable of understanding physical, mental, Social, economic health, different types of diseases and symptoms and many others. • Capable of understanding the objectives and principles of health literacy. • Capable of understanding communication of health media, Source of health literacy. • Explore the health literacy rate of India.	• Compulsory • Duration is 1 st year only (1 st sem& 2 nd Sem). • Qualifying.
			• Project Report may be submitted in the final year. • Project may be digital video or may be a survey for a particular area. • In field work: Organize Health Literacy Programme in remote areas at least 5 during UG & 3 in PG.

Prime Minister, Shri Narendra Modi, reiterated Gandhi's experience and stated, "If we have to build the nation, we have to start from the villages." (Subramanian, 2018). Keeping this in mind, we, the people of India, must collaborate to increase literacy rate among the villagers. A person must be literate in order to fully understand health literacy.

To accomplish this, first educate yourself, then educate your neighbourhood, then move on to the village level, and so on. The Government of India has taken several initiatives to eradicate illiteracy, poverty, and other issues, and will continue to do so in the future. However, the success is entirely dependent on how seriously and sincerely the people of India take it. The government can only offer assistance; citizens of India must recognise their own responsibility. India has a good structure of Panchayati Raj System with a better communication system from the centre to the villages.

The main objectives of the Panchayati Raj System are Economic development, Social Justice, and

the Implementation of Central and State Government Schemes. It means that the Panchayati Raj system has removed communication barriers, and created a smooth system of transfusion of programmes that are being launched by the centre to the needy community. Hence, health literacy among the villagers via PRS is feasible. We can achieve our objectives through the Panchayati Raj system as depicted in fig-2.

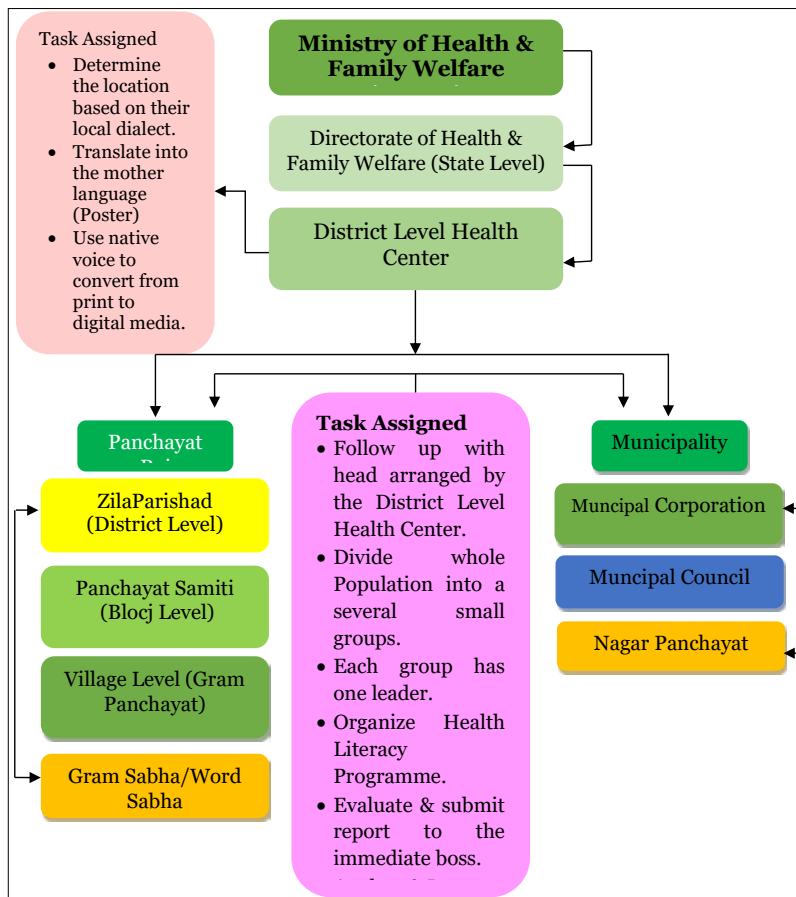
Teachers at all levels, including school, university, and college, must be involved at this point. All the teachers must have competency and skills for locating, gathering and evaluating health related information from the different reliable sources. Ministry of Health and Family Welfare, Government of India has released various guide lines, video to prevent the spread of COVID-19. For example, Awareness materials such as videos on appropriate behaviour during COVID-19, extending support towards persons returning home during COVID-19, showing respect towards our Corona Warriors and many more. In addition to these, they also provide training on Management of Pregnancy if affected with COVID-19, Video training for Ventilator Support for COVID-19, Training for Nursing Personnel and many others. If the value-added information reaches the villages, they will get benefitted out of it.

India has 28 states and 8 union territories and 718 districts (India.govt.in, n.d.), each state has Schools, Colleges and Universities. Local language teachers are found in almost every university, college, and school, and they know their community better than anyone else. To close the gap in health literacy abilities among the villagers, teachers who are competent, experienced, and trained professionals capable of reading, writing, and communicating must provide their support in eradicating health illiteracy in India.

Engagement of LIS Professionals to Combat the Fake News Problems

For the past few years, misinformation has wreaked havoc on

Fig-2: Health Literacy through Panchayati Raj System



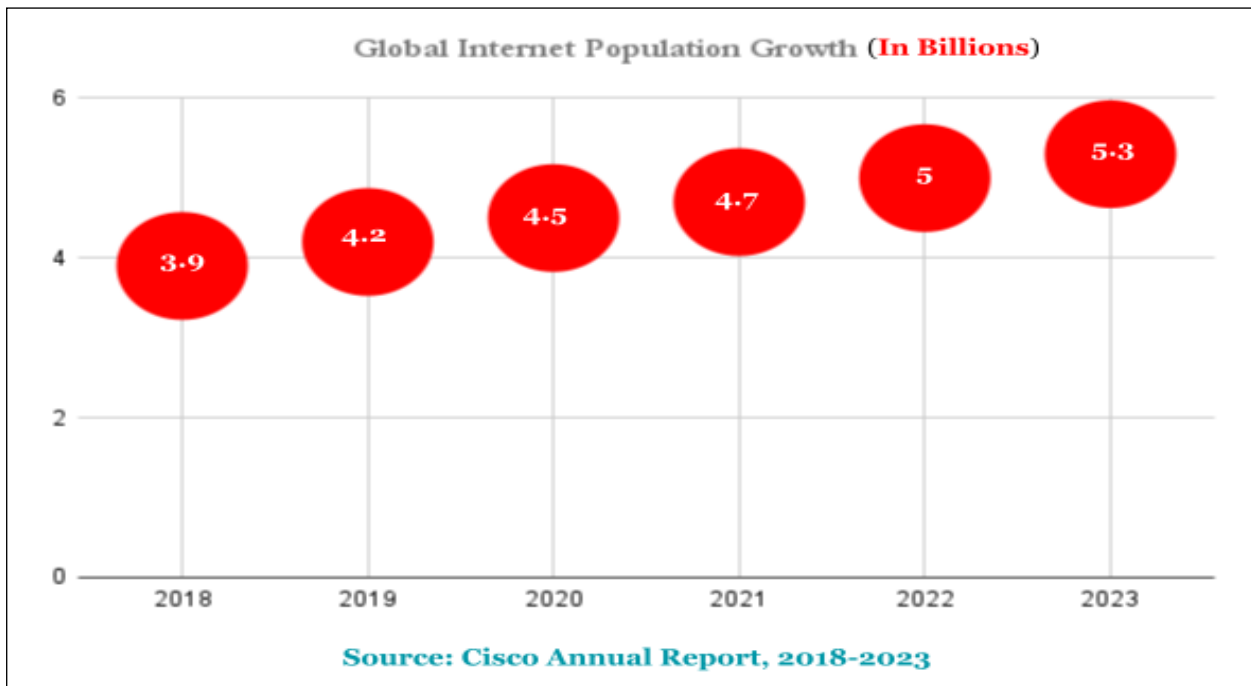
human lives all over the world, including in India. This pandemic outbreak has brought the entire world to its knees. On the other hand, the proliferation of false information on health adds to people’s anxiety. It is found in the literature that there are approximately 376.1 million active social media users in India and most popular social media platforms in India are Facebook, Twitter, WhatsApp and YouTube (Al-Zaman, 2021). According to a BBC report published in 2020, 800 people could have died worldwide during the first three months of the COVID-19 time frame due to the corona virus-related misinformation. In an article published in American Journal of Tropical Medicine and Hygiene, approximately 5,800 people were admitted to hospital due to consumption of false health related information from Social media. The World Health Organization said that the entire world has been suffering from the “Infodemic ‘ along with Corona virus (Coleman, 2020). In these circumstances fake news on social media brings new threats to the community.

In the month of April, a video was released “claiming WHO has warned of 50,000 COVID-19 deaths in India by 15th April” but it was totally fake (Nagpal, 2021). During the health-care crisis, such misinformation bring people’s morale down.

People can keep away from such types of fake news by developing social media literacy skills. The government must take significant measures to address the situation; else, people will lose faith in actual news. In addition, there has been a lot of misconception about COVID-19 food and eating habits in the society. According to a study conducted by University College London and the Health Sciences Academy, 43 percent of people incorrectly believe that washing fruits and vegetables with soap or diluted bleach is a safe way to eradicate the COVID-19 (Whitworth, 2020) If such misconceptions and false information is spread among villagers, a large number of people may succumb to other pathogenic bacteria rather than the COVID-19. In this regard, library and information scientists may be able to play a key role in curbing fake news in society. Libraries from all around the world are demonstrating their existence by providing resources and services at user’s locations throughout this present pandemic. During their professional education, librarians receive considerable instruction on how to evaluate material from a variety of sources.

As Indian society is evolving into a technologically oriented society, digital literacy, media literacy, and information literacy are becoming increasingly essential in combating disinformation.

Figure -3 Projection of Internet Penetration



Source: (CISCO, 2018)

Keeping all these things in mind, the Department of Library and Information Science, University of Delhi has incorporated a paper on Information Literacy at Masters Level. A competent librarian should be familiar with information resources, content analysis, content management, content evaluation, various tools and technology and many more. Library and Information Science professionals and people who are information literate are aware of the true source of knowledge.

Librarians are trained to determine the current needs of the peoples. Take for example, the public's most pressing need during this pandemic is health-related information, and the Ministry of Health and Family Welfare is the most reliable source of such information. To put a stop to the misinformation, librarians should collect and organize health related information from the WHO and the Ministry of Health and Family Welfare, and disseminate it to the villagers by using social media. Librarians also can find the truth behind the fake news by analysing various sources. The Press and Information Bureau have launched a service called "PIB Fact Check," which allows you to upload a suspicious image and receive a quick response (Govt of India, n.d.) There are many sources and resources available, but only a few people are aware of them; however, librarians can help bridge these gaps.

The Internet Penetration and Digital Health Literacy

According to Cisco's Annual Internet Report, 66 % of the global population is expected to use the Internet by 2023. The Figure-3 conveys the year-to-year growth of the Internet population and projection for the year 2022 and 2023.

Since the commencement of the digital revolution in India, the country's Internet population has been quickly growing. In the year 2020, India's entire Internet population was 622 million, with urban Internet users accounting for 323 million, or around 67 per cent of the entire urban population. Digital adoption has resulted in a sharp increase in the number of Internet users in rural areas, which now stands at 299 million, or around 31% of the entire rural population. By 2025, it is projected that the number of Internet users in India will have risen to 900 million, with rural India potentially outnumbering urban India (Press Trust of India, 2021).

The primary goal of digital governance is to transform India into a technology-driven society and strengthen citizens' interests and improve their lifestyles. The Smartphone plays an important role in attaining digital governance goals. As per the report published by the Indian Cellular & Electronics Association, the number of Smartphone users in India is likely to rise to nearly 83 crore by 2022 (ENS Economic Bureau, 2020). However, digital literacy remains a concern in India. According to the National Statistical Organization's (NSO) latest data for 2017-2018, just one out of every ten households own a computer, although a quarter of all houses have access to the Internet. The majority of Internet access (42%) is found in urban regions, with only (15%) in rural region (The Hindu, 2020). Some of India's healthcare issues might be addressed with the use of digital technology such as telemedicine consultation service, digital health literacy. Various infectious diseases, which arise especially among rural women, can be avoided by raising awareness using digital technology. However, the digital literacy rate among village women is poor. According to a survey by the National Family Health Organization, more than 60% of women in 12 states and Union Territories have never accessed the internet (The Times of India, 2020). Dealing with complicated health information necessitates a high level of health literacy.

Digital Health Literacy (DHL) necessitates a unique set of skills, including the competence to identify, review, critique, incorporate, and use health information collected from online sources. Internet penetration has been expanding day by day, and online communication channels have become the key source for information searching. However, both true and misleading information is present in online communication channels. People with digital literacy skills may be able to pull important information from a variety of sources and apply it to their daily lives. Although the government's progressive efforts have offered a light of hope for rural people's digital empowerment. The Indian government has undertaken various efforts to improve people's digital literacy, such as the Digital Saksharta Abhiyan, which was initiated in 2014 and completed. Another initiative, Pradhan Mantri Gramin Digital Sakshar Abhiyaan, intends to make nearly six crore people digitally literate at the village level across the country, with one

person per household (Digital India, n.d.) However; there is still a long way to go.

Correct Data is the Fundamental Key to Combat Unforeseen Situation

To improve the programme, it is necessary to conduct periodic reviews and make suitable judgments, which are based on correct data collected through authentic agencies. The inference which has been derived from the processed data that assists to create background knowledge helps in decision making. Data can be recognized as significant assets in a variety of ways, including improving people's lives, making informed decisions, obtaining the desired result, locating a solution to a problem, keeping track of everything, and so on (The Council on Quality and Leadership, n.d.) Take COVID-19 as an example: India's ability to battle COVID-19 is limited due to a lack of 'swachh statistics.' Some COVID-19 positive cases and fatalities under home quarantine or those waiting outside hospitals have gone unreported. Furthermore, 70% of India's population lives in rural regions, where testing facilities are scarce and people are terrified of being hospitalized if they seek medical attention. If that's the case, how accurate will the statistics be? Hence, data is essential to develop the medical infrastructure needed to combat COVID-19 (Sangal, 2021). The growth/improvement can't be measured without data. Data is vital for taking instant decisions to combat any situation. Every organization must have an appropriate data flow and control system to continue in the right direction. India has a well-established system, but it needs to be properly utilized. Considering the Panchayati Raj System of India, Government can communicate the information through the proper channel and at the same time receive feedback from the same. As a result, the return on investment may be easily measured.

Conclusion

Planting a tree entails a number of steps, including finding the best place for the tree, using the right amount of compost, and caring for the tree since its infancy. Such a long investment will undoubtedly bear fruit one day. The Indian Education System requires the same level of attention. However, India is moving on implementing best education system. In recent NEP-2020, government has emphasised on coding and computational thinking, health and nutrition, digital literacy, environmental awareness

including water and resource conservation, sanitation and hygiene and many more in middle school level (MoE, 2020) which is praiseworthy initiative of the Government. Good health leads to better education and output. It has been found from the study published in an International Journal of Environmental Research and Public Health that Health Literacy and Digital Health Literacy should be mandatory topics in university curricula, as well as promoting national health education standards at the primary and secondary school levels and also providing teachers with training that could lead to an increase in Health Literacy and Digital Health Literacy growth (Patil, et. al., 2021).

To eradicate poor health in the country, there is a need to prioritise the introduction of health literacy at the School, College, and University levels. Starting with school, the results will be available in 8 to 10 years, whereas college and university results will be available immediately. Teachers and students can improve villagers' health literacy by using the pilot study method. Furthermore, through the Panchayati Raj System, the teaching community can establish a supply chain of lifelong learning for the villagers. Librarians are the cornerstone of every organization in terms of information sources and services, and their presence is particularly important in policymaking aimed at reducing the country's inadequate health literacy. India has more youngster than any other country in the world. Thus, India has a golden opportunity to provide health literacy to the younger generation through the educational system, which would have an immediate impact and eventually eliminate inadequate health literacy from the country.

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Crafting a Sustainable Open Educational Resources Model for Institutionalizing Inclusive Scholastic Culture in Higher Educational Institutions in India

Mahesh Madhav Deshmukh*

India that is the home to 1050 universities (UGC, 2021) the third largest Higher Education System in the world is yet lagging behind in terms of churning out employable workforce to meet the acquisition needs of recruiters. The pyramid of higher education and continuing education required for upskilling the industry demands, displays the mismatch of demand-pull and supply push factors. This widening gap necessitated the need for developing a turnaround strategy for higher education in the ecosystem. With increasing cross-border collaborations and the growth of Multinational Corporations and Trans-National Companies, the pressing needs for filling this gap remains elevated. The agreeableness between the education ecosystem and industry is not to churn out degree holders alone but to create a knowledge society.

With technology, especially affordable penetration of smartphones and internet services in the country, the ideology of open education turned to be a reality even in India, which is still dominated by the rural population. With an objective to penetrate across the diverse socio-cultural populace the conceptualization of open education by the Ministry of Human Resource Development and University Grants Commission were initiated.

“Massiveness” and “Openness” were the two terms poised more than a decade back (the year 2008) in the Higher Education Ecosystem of India. Back then it was perceived to be the facet of transformation of the higher education system in length and breadth especially as a medium of distance learning alone. It complemented distance learning especially for those in employment. The ecosystem largely followed the chalk and board system. The critics and the set of challenges kept swinging in India leaving room for unexplored dimensions of open educational resources. Moreover, even today academicians who form the

pillars of the knowledge society themselves are unable to distinguish between OER and MOOC, they are often considered synonyms of each other. They do complement each other but have their own arenas and objectives. The research study firstly investigates the knowledge of the academicians with respect to OER and through this article educates the readers regarding the same. It also proposes an incentive-based model for developing a sustainable open education resources model at University Level aligning with National Education Policy–2020.

The query whether Massive Open Online Courses (MOOC) and Open Educational Resources (OER) are same remain patchy. It has often created misunderstanding and confusion as the clear demarcation remains unexplained. Undoubtedly both have enlarged the scope of higher education and received impetus at the grass-roots level with the advent of COVID-19. The thin line that differs the two needs to be communicated to both the developers and the users.

Open Educational Resources (OER) is a broad consortium of knowledge resources guided by principles of flexibility and openness. The document titled “Declaration of Paris” crafted in 2012 at “World Congress on OER” defines OER exhaustively as - teaching materials, learning and research in any media, whether digital or otherwise, that are within the public domain or have been released under an open license that allows access, use, adaptation, and free redistribution by third parties, by any restrictions or few restrictions. Open licensing is built within the existing framework of intellectual property rights, such as are defined by whether relevant international conventions and respects the authorship of the work (UNESCO, 2012). They advocate sharing of educational resources on open platforms that can be reused, remixed, revised, retained, and redistributed for varied purposes. Thus they not only allow to access the material but also can be tailored to suit one’s needs. They are available in the public domain

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however the copyright and licensing norms need to adhere. The licensing on the creative commons platform offers a wide framework in this arena. In simpler language, these materials are available anytime with no pre-registration or pre-requisites. They enhance the knowledge of the learner that may or may not be certified.

MOOCs find their roots linked with ideals of developing OER to ensure education in a true sense that knows no bounds - demographic, economic, and geographical. (Yuan and Powell, 2013). Based on the theory of Connectivism and Connective Knowledge, MOOC is generally free, open courses conducted on a virtual platform. The initials when analyzed indicate, 'Massive' that necessitates, thousand and lakhs of learners are capable of learning at the same time as per their convenience thereby saving physical resources. 'Open' indicates that learners are not constrained due to geographical or economic resources as these courses are available free of cost. However, it does require pre-registration or enrolment to ensure the designed course meets its outcomes. But of course, the enrolment is done 'Online', as indicated by the third initial. Finally "Course" indicates the inclusion of pre-defined structured course to ensure learners are well informed in advance. Thus the five elements of MOOCs are Free, Public, Largescale, Decentralized, and Virtual. MOOC's though decentralization have a structured format that specifies the enrolment period, pre-requisites if any, and time-bound. Access to complete course content is available only after enrolment. They have generally certified courses with no rights of remix or reuse. In Indian context, Shodganga, Vidyanidhi, EPrints@IISc, National Digital Library are open educational resources while courses on SWAYAM, NPTEL are MOOCs. NPTEL offers open resources on engineering too. SWAYAM as MOOC's in the higher education ecosystem, it has undoubtedly deepened the education strata but has limited scope in broadening the base. The potentialities of SWAYAM largely remained undermined. The development of MOOC had rather been a slow and gradual process in India.

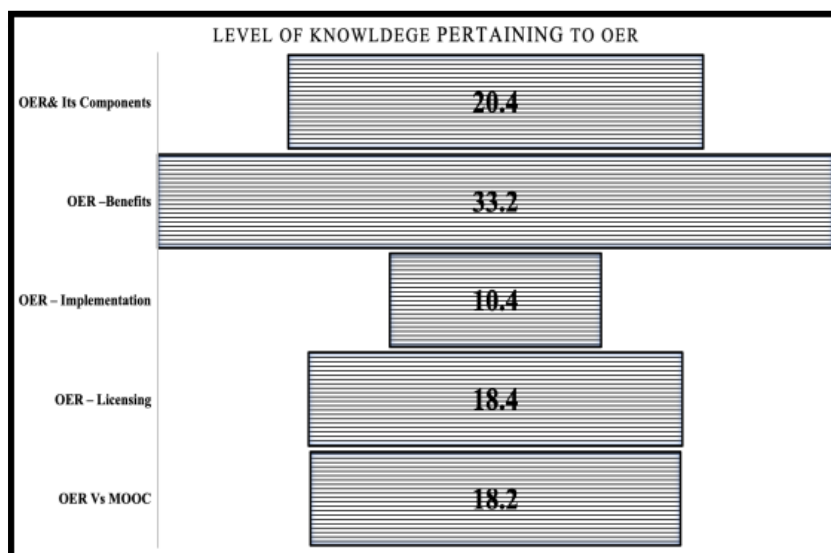
The study to assess the knowledge of the academicians about OER and MOOC, conducted an online quiz with a maximum score of 250 (25 questions of 10 each) using google form and also conducted an interview post quiz to gather the views. The response rate was meagre 50% since most academicians were reluctant to submit the quiz. The knowledge regarding OER was assessed by creating 5 sub topics consisting of 5 questions each under the quiz:

1. OER and its Components
2. OER – Benefits
3. OER – Implementation
4. OER – Licensing
5. OER Vs MOOC

This classification would help the policy makers conduct training materials keeping intact the focus areas. The profile and results of the quiz are discussed as below:

- The average teaching experience of the respondents ranges between 10-15 years, which implies that the academicians are senior professors across the universities in India. Amongst them 46% of them are Ph.D. holders and 32% pursuing Ph.D.
- The average score of the 50 respondents is 100.6 points i.e. 40.24% only.
- The maximum score is 180 points scored by a faculty who has already developed open educational resource under OE4BW program while the minimum score remains as low as 50 points.

Graph 1: Average Scores



Source: Primary Data – Quiz Scores

- Analysing it section wise the average scores are represented in Graph-1.

The Scores vividly illustrate academicians are well versed with the benefits of open education resources but lack clarity when it comes to implementation, licensing and distinguishing between OER V/s MOOC. The quiz verifies the fact as pointed out earlier that knowledge gap with regards to OER is high and presses the need to educate the masses about the same. This certainly invites the role of Universities to act as mediator facilitating the knowledge and resources to disseminate the OER.

The in-depth interviews so conducted with 10 senior faculties, lead to draw conclusions that MOOC's in India lacks recognition as formal education for learners as well as recruiters. Secondly the channel of developing courses on MOOC's remains troublesome and time-consuming with little or no incentives to the developer.

Presently OER and MOOCs in India need both supply push as well as demand pull incentives to bring it under the realm of mainstream higher education ecosystem. The research study herein proposes a three way model for initializing development of OER involving tri party involvement i.e. Developer, Learner and Recruiter. Further, the course completed would bear a certification of the affiliating University

ensuring authentication and assurance of content developed. Thus, the Affiliating University would play the role of mentor as envisaged under NEP-2020. The model details are given in Figure-1. The role of each party in the model is discussed here:

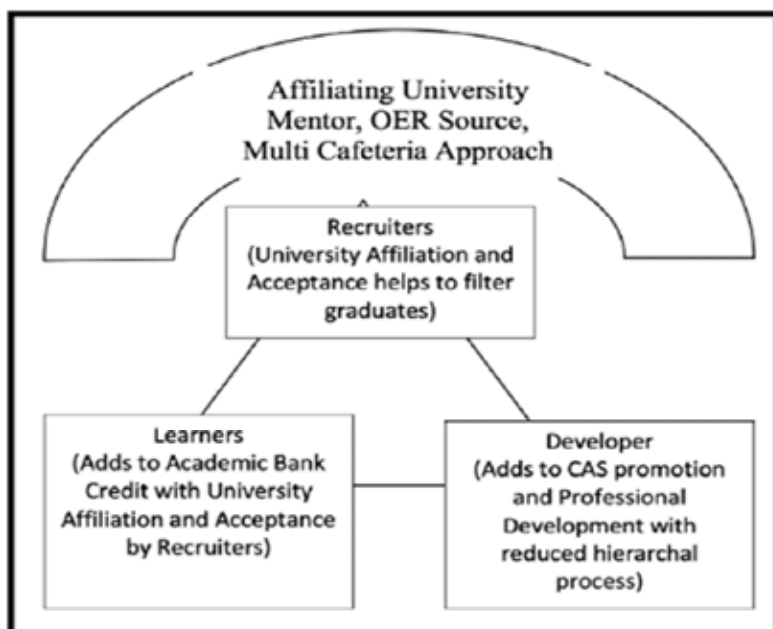
Affiliating University

The role of university under NEP is transformed to be a mentor agency encouraging innovations and patents. Calibrating the same in the model, the university would be the highest authority who shall incentivise both the learner and developer ensuring effective use of OER. Developers as against the current system would be able to approach its affiliating university to access resources, undergo training, develop and place OER on University portals rather than independent ones. This would comprise both of developing open textbooks, quiz, exams as well as pre designed MOOCs like on SWAYAM portal. But the difference lies in the course certification process wherein the University as a brand within itself would recognize and affirm the quality content and course. At the same time the research and incubation cell of the University would act as a guiding source for obtaining licensing under creative commons or like portals. This would enable universities to create repositories accessible to learners across the borders as well as the interiors moving a step closer towards equity and inclusiveness.

Developers

The academicians when working under the hierarchy of the affiliating university inherit confidence and acquaintance that makes the transition easy. Further, it facilitates accessibility to resources for development of OER's or MOOCs which is otherwise a costly affair. The process would run similarly like various research projects such as minor research projects, IMPRESS schemes, Major Research Projects etc. This ecosystem when developed by the University ensures quick implementation as well recognition through CAS. This provides an incentive to the developers to learn and unlearn the innovative practices of education. On the other hand it will lead to exchange of resources and smooth transition from books to e-books.

Figure 1: Proposed Incentive OER Model



Source: Author's Contribution

In the initial stages of the proposed model, academicians would be rolled out and later after time and testing it could be opened to all i.e. corporates, alumni and students too.

Learners

Credibility and acknowledgement of the course so enrolled remains the pre-requisite consideration for student enrolment even today. Courses on SWAYAM failed to reach its core due to this lacuna. On other hand when students receive a course completion certificate under the umbrella of the University, the impact and accessibility is high. Secondly when open educational resources such as open textbooks, references, videos, e-notes are available on the university portals the coverage is wider. This would save the costs of the books so purchased. Lastly the certificates so received would demonstrate a net addition to their resume when transiting from learners to earners.

Recruiters

The industry-academic gaps continue to remain unaltered despite the fact every higher educational institute during its National Assessment and Accreditation Council (NAAC) accreditation process is mandated to take the views of the employers on the curriculum. A little or no attention is paid thereto. Recruiters on other hand through their training cells spent a huge sum of money in the process of filtering and training the lakhs of graduates churned out each year. Once the MOOCs developed under the University with visibility in the final grade card of the learner would simplify this process and ensure industrial-academic gaps are filled. Furthermore these courses developed in the second phase can be used for internal training or for on-job promotions and continuous learning.

Conclusion

Thus, currently wherein the process of use and development of OER and MOOCs amongst all the stakeholders of the higher education ecosystem remains naïve, the functionalities of Universities needs enhancement. The study deliberates the decentralization of these OER repositories at each University level considering the diverse population keeping the peculiarities of OER unamended. This would enhance greater cooperation and acquaintances with cross cultures leading to creation of knowledge societies.

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Distributive Justice: An Important Dimension of Fairness

Niraja Gopal Jayal, Professor, Centre for the Study of Law and Governance, Jawaharlal Nehru University, New Delhi delivered the Convocation Address virtually at the 28th Convocation Ceremony of National Law School of India University, Bangalore on September 27, 2020. She said, "As you advance in your careers, I hope your work will always be animated by the noble goal of upholding and strengthening the rule of law; and that the temptations of technical sophistry and clever casuistry will never deter you from ensuring that law works in the service of justice – in its most profound and meaningful sense – especially for the most vulnerable. This country asks you for nothing less, and I am very confident that you will give us your best. " Excerpts

It is a singular privilege to participate in this 28th Convocation of the National Law School of India University, and a great pleasure to join you in congratulating the graduates and their parents. An exciting future awaits you, even though the world has been quite dramatically transformed between the time you came to law school five years ago, and today. This morning, I would like to draw your attention to some challenges of the post-Covid world and to suggest how you, the most gifted members of Generation Z, might steer us through it.

Even in our highly networked times, the name of the first casualty of the coronavirus pandemic is not known. It could be argued that its first identifiable casualty was globalization, as we knew it. This was already prefigured in the backlash to globalisation in the past few years, with the rise of economic nationalism, trade wars and protectionism, and anti-immigrant sentiment. The pandemic brought these to breaking-point. Supply chains were disrupted as were the movement of capital, goods and people. With global air travel today plummeting to levels last seen in the 1970s, the pandemic has clearly compelled us to press the pause button on our carbon footprint, something that the pleadings of advocates of climate justice could not accomplish. As countries closed borders, people rushed across the globe seeking the safe refuge of home, the more vulnerable among them – like Indian workers in the Gulf – having to sacrifice months of wages as they rushed back.

But is globalization dead? Can or should it be dead? Or is it possible to re- imagine a newer and better form of globalization to replace it?

For globalization does not have to be about the exploitative offshoring of manufacture, or even only about the global integration of markets. A newer form of globalization, grounded in an acknowledgment

of the necessary inter- dependence of nations, is not just possible but also necessary. Whether it is the immediate imperative of a vaccine or the longer-term imperative of forging coalitions to combat climate change, a more humane and equitable form of globalization needs to be crafted.

Already, in the Anglo-American world, moral and political philosophers and lawyers have collaborated with medical experts to develop an ethical framework called the Fair Priority Model for a just and equitable global allocation of the vaccine, as and when it comes. If such a principle of fairness could be adopted by the international community (and obviously I have few illusions here) this would arguably be the first time in human history that principles of distributive justice were honestly applied across national boundaries, without regard to the power or wealth of nation-states.

Today, I wish to speak to you on two particular global phenomena of the contemporary moment, both of which are also abundantly manifest in India, and will significantly inflect the future that you will be called upon to negotiate. These are the Democratic Deficit and the Digital Deluge. Both were present in pre-pandemic times, but both have come into sharper relief since the pandemic began. If the first has been a victim of the pandemic, the second has been its beneficiary. While they are obviously quite different from each other, they are also, I will argue, not entirely unrelated.

Let Me Start with The Democratic Deficit

The erosion of democracy worldwide was already a notable phenomenon before the arrival of the pandemic. The *Democracy Report 2020* shows a surge in autocratization across the world. For the first time since 2001, autocracies are in a majority: 92 countries, home to 54% of the global population.

India sadly does not buck the global trend. In 2017, it was described as a liberal democracy; today, it is classified as an electoral democracy. The difference is not insubstantial: a liberal democracy provides for the protection of individual and minority rights and does this through constitutional protections for civil liberties, strong rule of law, and effective checks and balances that place limits on the use of executive power. An electoral democracy provides only periodic competitive elections. India, according to this report, has declined from a liberal democracy to an electoral democracy. This interpretation is complemented by our falling ranking on several other Indexes: to mention just a few, the Rule of Law Index, the World Press Freedom Index, the Academic Freedom Index, and the Social Progress Index.

Globally, as in our country, this unprecedented process of autocratization is characterised by a concentration of executive power that blurs the lines that we presume to be defining the separation of powers; an erosion of the core democratic principles of representation, accountability and transparency; and a blithe unconcern for the principles of legitimate governance. The absence of debate and deliberation on contentious issues in Parliament and the jettisoning of basic procedures of accountability means that laws can be made, not in accordance with the will of the people and their elected representatives, but by the will of the executive; that governments owe their citizens neither information nor explanation; and that citizens are effectively dispossessed of political agency till the next election comes around in four or five years, as the power can be relied upon to carry it to its pre-determined conclusion.

Democracy, in sum, is reduced to an elective mechanism that begets governments that are committed not to the welfare of all citizens, only to its supporters among them. The claim to govern legitimately does not acknowledge the need to be responsive or accountable to citizens in the conduct of governance. This effectively means that the rights and liberties of all citizens will not receive the equal protection of the law, only those of favoured groups will; and that the rights of minorities and other disadvantaged groups, even if guaranteed by the law, will be disregarded with impunity. These are just a few of the multiple ways in which democracy – in procedure, in practice and in spirit – has been diminished in recent times.

As the political theorist David Runciman says, coronavirus has not so much suspended politics as

it has revealed the nature of state power. Just a few days ago, Lady Hale, the former President of the UK Supreme Court, said that the UK Parliament had “surrendered” its role over emergency laws that were curbing freedoms, by giving sweeping powers to the government, and imposing draconian health regulations on the public with no parliamentary scrutiny. The application of the National Disaster Management Act with no end-date, and without any provisions for review of the exercise of enhanced executive powers, is not dissimilar. The silence around multiple aspects of the pandemic, from data on the spread of the disease to the migrant workers’ crisis, has been resounding.

I mention these deficits of democracy because, as members of the legal profession, you will be called upon to engage with them. I urge you to never forget that you are among the sentinels of our republic and the protectors of its democratic fabric.

I turn now to the second issue I wish to discuss with you, The Digital Deluge.

The Digital Deluge

The pandemic has, as we know only too well, caused real life to be transposed and projected on to screens. For the past few months, we have effectively been living online. For lawyers and judges, doctors and patients, teachers and students: the professional world of work has come to be conducted on the internet. Outside of work, too, life is being lived online - recreation, entertainment, grocery shopping, social interaction. The wonder of technology has us in thrall for the ways in which it has made our virus-induced incarceration bearable. What the Polish philosopher Zygmunt Bauman memorably called Liquid Modernity can now be renamed Liquid Crystal Display or LCD Modernity.

And yet, I have no doubt that a virtual convocation would not have been your preferred mode of celebrating this very special day. You would much rather have been on campus dressed in your academic gowns and mortar-boards, in the company of your teachers, and the friends with whom you forged enduring friendships. Instead, you find yourselves in front of a screen, by all reckoning a sorry substitute.

The digital now envelops our lives and world in a quite unprecedented way. Even before the pandemic, much had been said about the interface of the digital media and politics across the world. We

learnt, if distantly, of the power of the digital media to interfere in elections in different countries. At the same time, we celebrated what appeared to be the inherently democratizing quality of the social media – where every opinion could find a voice, or at least a tweet.

Social media bring much joy into our lives, but we need also to be alert to the fact that they take control over some aspects of our identities. As citizens, but also as lawyers who will be in the frontline of determining how the law can protect our rights over personal and non-personal data, and negotiating issues of privacy and consent, I encourage you to be mindful of some of these traps.

The philosopher Hannah Arendt taught us that the essence of politics, especially democratic politics, lies in the clash of opinions, which are formed through debate in a public sphere, a space in which all are political equals, in which individuals can form opinions freely, express them freely and test them in and through public debate. This may seem impossible when propaganda is used to make lies appear as true, exploiting the vulnerabilities and the anxieties of people. Yet, it is the only way, said Arendt, to deal with the contest between truth and lies in politics.

In recent years, Twitter came to be valorised as a virtual public sphere, an *agora* – the open space in the cities of ancient Greece where citizens would debate on what constitutes the common good. In our times, the digital agora has found expression in a pioneering experiment in what is called ‘radical transparency’ initiated by the famous Digital Minister of Taiwan, Audrey Tang. This entails using an online forum crowdsourcing public opinion for policy-making. On contentious subjects, people are invited to give suggestions, others respond and over a few weeks of online dialogue, a series of policy recommendations emerges. ‘Civic tech,’ as it is called, thus forges an innovative relationship between the state and civil society.

A digital agora is clearly not a feasible model for a country like ours. At the most banal level, the lockdown showed how, even on the micro scale of the WhatsApp groups of Residents’ Welfare Associations, we struggled to have calm and reasoned debates on defining common goals by consensus.

Nevertheless, three aspects of the digital media and its enhanced presence in our lives demand our

attention: technology and state power; technology and democracy; and digital inequality.

- (a) The first is the contemporary iteration of the age-old question about the relationship between technology and state power. Technology can enhance state power in obvious ways, through the incredible possibilities for state stored on government servers that seem to be always hungry for more.

Justice B.N. Srikrishna, who headed the committee that drafted the Personal Data Protection Bill has described the version of the bill that is currently pending enactment as dangerous, because it gives sweeping powers to an Orwellian state, thus endangering the privacy of citizens whose personal data is not adequately safeguarded. There are legitimate anxieties about the enhanced possibilities for state surveillance, even when these are justified by benign purposes such as welfare interventions or, most recently, access to health facilities.

As the cliché goes, data is the new oil: the source of enormous economic value for companies and enhanced power for states.

- (b) Secondly, the digital media today offer enormous opportunities for what used to be called propaganda, with the possible difference that propaganda was easier to identify than the sophisticated and subtle world of political messaging today, conveyed through ostensibly non-political platforms of social networking. The amplification of political opinion in a calculatedly one-sided way precludes the possibility of dialogue and deliberation, as it repeatedly, on the basis of your own viewing history, shows you what you need to believe and furnishes you with evidence as to why you should believe it. Psychologists tell us (as does the documentary *The Social Dilemma*) that the effect of social media on the brain is to provide a dopamine stimulant, so that the brain chemistry of social media addicts and drug addicts isn’t all that different. We could be deluded into thinking that our opinions are uniquely our own, arrived at by the exercise of our own rationality, though they are actually the result of our having been programmed, with our own unconscious complicity, in particular ways.

When political actors use these sophisticated tools to burnish and instrumentalise echo chambers,

the citizenry has been moulded, in ways that we do not recognise as propaganda even if that is what it is. The insidious consequences of these processes for democracy are not limited to how people vote. It has serious consequences also for social harmony, such as when particular social groups are projected as objects of hate deserving of violent speech and action.

Even science is rendered manipulable. It was reasonable to expect that the pandemic would have the effect of making the global public more receptive to science and to expert knowledge. Instead, we have governmental attempts to exercise control over the scientific establishment, to prevent transparency and information-sharing with citizens around the coronavirus statistics. Populist leaders, who first inculcated a skepticism about scientific expertise, now encourage vaccine nationalism, to the detriment of poorer countries.

- (c) The flip side of the Digital Deluge is something that is often called the Digital Divide, but should actually be known by its proper name – Digital Inequality – because it mirrors and reproduces other forms of inequality in our society.

The commonplace form of this of course is the inequality of digital access in the obsession with digital teaching, learning and examinations.

But the absence of access is only the most obvious way in which digital inequality is created. Experts have already begun to flag concerns about algorithmic bias – based on gender, religion and caste – with artificial intelligence magnifying such bias in a range of areas from the grant of loans and recruitment, to law enforcement and the judiciary.

In India, social media have allowed the doxing of inter-faith couples who applied for registering their marriages, so that hundreds of them found their private information displayed on Twitter and circulating on WhatsApp with hateful comments. Twitter has just taken these down after two months.

Many of the dimensions of the democratic deficit and the digital deluge that I have discussed entail some loss of human agency: civic agency, political agency and, most of all, moral agency. Speaking of moral agency, I would like to applaud

the Alumni of this great institution for their public-spirited generosity in getting planeloads of migrant workers safely home.

In the post-Covid world, it will be imperative to recover and reclaim agency.

This will admittedly not be easy given that we are today seeing change on a scale that none of us has ever witnessed. At least as a philosophical principle, contradictory as it may sound, we all know that change is a constant. As the Greek philosopher Heraclitus famously said, you never step into the same river twice.

However, when change is combined with fear, risk and uncertainty, we find ourselves struggling to make sense of it and floundering in our response to it. This is not just a new version of the ‘risk society’ that sociologists spoke about in the 1980s. Today’s risk has a universal quality – almost no corner of the globe is untouched by it. It has also triggered a universalization of fear – an almost primal fear of the stranger and of physical touch in a way that is disturbingly reminiscent of the dastardly practice of untouchability in caste society. But we must hope that the shared and collective quality of this fear will enable empathy, social cooperation and solidarity in ways that have been manifestly fraying of late. This will be essential to the task of redesigning a new and more humane social contract in which there is equitable provision of basic needs, including health and education.

Your generation has learnt valuable lessons that mine (unless they were game theorists) did not have the opportunity to learn – how to negotiate uncertainty, and how to make choices under conditions that are unpredictable. These are lessons that will surely stand you in good stead in a post-Covid world.

As you advance in your careers, I hope your work will always be animated by the noble goal of upholding and strengthening the rule of law; and that the temptations of technical sophistry and clever casuistry will never deter you from ensuring that law works in the service of justice – in its most profound and meaningful sense – especially for the most vulnerable. This country asks you for nothing less, and I am very confident that you will give us your best.

Thank you very much. □

National Webinar on Impact of National Education Policy–2020

One-day National Level Webinar on ‘Impact of National Education Policy–2020’ was organized by the IQAC of Anjuman Islam’s Akbar Peerbhoy College of Education, Navi Mumbai, Maharashtra and IQAC, Anjuman-i-Islam’s Begum Jamila Abdul Haq College of Home Science, Maharashtra, recently. About 240 participants and almost 1400 YouTube viewers including the Head of the Institution, Director, Head Mistress, Head Master, teachers and students of Anjuman-i-Islam’s Group of schools and various colleges attended the event. Other dignitaries were Mr. Moiz Mijiyawala, Treasurer, Anjuman-i-Islam, Mr. Burhan Harris, Executive Chairman, BINM, Ms. Yasmeen Saifullah, Executive Chairman, BIPSHE, Col. S.E. Modak, CEO, AI, Ms. Salma Lokhandwala, Director, School Education, etc. Prof. Aasia Radiowala, Principal, Anjuman-i-Islam’s BJCOHS delivered the welcome address and introduced the Guests.

Dr. Asma Shaikh, Principal, Anjuman-i-Islam’s APCE introduced the theme of the webinar. She said that as soon as Government of India declared the policy, multiple webinars, seminars and panel discussions were conducted. Because understanding and brainstorming on the policies is essential for our betterment. The New National Education Policy is approved by the Union Cabinet on 29th July, 2020 and renamed the Ministry of Human Resources Development (MHRD) as the Ministry of Education (MoE). It will bring transformational reforms in school and higher education system in the country, this is the first Education Policy of the 21st Century and replaces the 34-year-old National Policy on Education (NPE),1986, she further added. The National Education Policy-2020 aims to transform the education landscape in India. The NEP-2020 is expected to put India on track to attain Goal #4 of the 2030 agenda for sustainable development by ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all in the next decade. Significantly, the policy lays emphasis on four key areas of reforms viz. curricular changes to build strong foundational skills, improving quality of learning across all levels of education, shift

in the ways of assessment and, the need for systemic transformation. The gap between the current state of learning outcomes and what is required must be bridged through undertaking major reforms that bring the highest quality, equity, and integrity into the system, from early childhood care and education through higher education. Some of the innovative policies introduced for the primary and secondary level education are:

- This policy envisages that the extant 10+2 structure in school education will be modified with a new pedagogical and curricular restructuring of 5+3+3+4 covering ages 3-18 age.
- Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels.
- A national Curricular and Pedagogical Framework for Early Childhood Care and Education for children up to the age of 8 will be developed by NCERT.
- Empower students through flexibility in course choices. There will be no hard separation of learning areas like science and humanities in terms of curricular.
- Mathematical thinking and scientific temper will be a part of school curriculum.
- Board exams will be conducted in two parts – Objective and Descriptive. These examinations should be designed to promote knowledge application rather than rote learning.

Technology will be part of education planning, teaching, learning, assessment, teacher, school, and student training. The NEP-2020 is focused on creating a holistic, application-based education system with a special emphasis on skill development which will make the students future.

President of Anjuman-i-Islam, Dr. Zahir I. Kazi presided over the webinar and shared his words of wisdom and threw light on the quality of education as per new education guideline. He motivated the participants by saying that let us be optimistic towards the policy and stated that our institution will provide full support to implement National Education Policy-2020.

Resource Person, Dr. Abdul Shaban, Professor, Centre for Public Policy, School of Development Studies, Tata Institute of Social Sciences, Mumbai explained the philosophy and background behind NEP-2020. The National Education Policy- 2020 (NEP 2020), which was approved by the Union Cabinet of India on 29th July, 2020 outlines the vision of India's new education system. The policy is a comprehensive framework for elementary education to higher education as well as vocational training in both rural and urban India. The following dimensions of NEP-2020 were talk through:

- After a long thought, discussion and critical analysis NEP is a welcome policy.
- It is a very comprehensive policy.
- It is a step forward to modernization and it gives focus to Indian culture.
- Even after some criticism it may lead to dream policy if implemented properly.
- The school and higher education is very important as it leads to social and economic status as many of us our first generation of learners from our families.
- The NEP will have 5+3+3+4 structure. The initial three years will be from *anganwadi* so the nutrition will be taken care of, which is a welcoming thing for marginalized group like Muslims and Dalits.

He elaborated key features of NEP-2020:

- i. It center stages the role of education in human development, economic growth, social justice, equity, scientific development, national integration and cultural preservation.
- ii. It argues for universal education and also promotes lifelong learning process.
- iii. It situates itself in the global context.
- iv. It emphasizes on outcome learning rather than rote learning.
- v. It also emphasizes on pedagogy and pedagogy is more experiential.
- vi. It emphasizes on development of rational human being.
- vii. It emphasizes on the mother tongue.
- viii. NEP tries to re-establish the teachers training college.
- ix. It also balances the between the scientific thought and tradition.

He concluded that NEP-2020 is a holistic approach for education. The session was very informative and content was useful and enlightened.

Dr. Heena Bijli, Faculty and Former Director, School of Continuing Education, Indira Gandhi National Open University, New Delhi. Dr Bijli focused on the impact of NEP-2020 on higher education and on educators.

1. NEP-2020 purpose the revision and revamping of all the aspects of the education structure, including regulation and governance.
2. Early childhood care and education training of *anganwadi* workers, teachers and mentor Regular health checkup of schools' children's Open and distance learning program in India who are not able to attend school physically.
3. Restructuring school curriculum and pedagogy Learning should be Holistic integrated inclusive enjoyable and engaging New design 5+3+3+4, 3 years of preschool + grades 1-2, preparatory grades 3-5, middle grades 6-8, high school education.
4. More holistic and multidisciplinary education. All institutions will have option to run distance learning and online programs UG degree will be either 3 or 4 years' duration multiple exit option within the period. 4 years integrated B.Ed. course, teacher eligibility test, more autonomy to choose finer aspects of pedagogy.
5. Software solutions envisaged Creation of national education alliance for technology a single portal for various educational technology solutions for both school and higher education.
6. Significant
 - Setup higher education commission of India.
 - Higher education Grant's council.
 - National higher education regulatory council.
 - Entrance exam by NTA.
 - Multidisciplinary college in every district by 2030.
 - Granting of grades autonomy to universities.
7. Online distance learning system is an aggregate of Open Learning system and distance education methodology. Learner center, flexible entry norms, multiple entry and exit, individualized study, modular approach towards study, resource sharing

cost effectiveness, support service network, associate studentship.

8. Innovation in online distance learning system. Scope for innovative practices in course design poster organization of student enrollment facilitating exercise of option of free choice of courses by the learner.
9. For enhancing quality of education and research.

She also suggested strategies for adding value to the proficiency of educators. The session was thoughtful, enlightened and very informative.

The Question-Answer Session was conducted by Ms. Athira, Faculty, BJCOHS and the participants provided the feedback. The certificates were awarded to the participants. The Vote of Thanks was proposed by Ms Hoorjahan, Hasan, Associate Professor, AIAPCE.

International Conference on Theoretical, Applied, Computational and Experimental Mechanics

A three-day International Conference on 'Theoretical, Applied, Computational and Experimental Mechanics' is being organized by the Department of Aerospace Engineering Indian Institute of Technology Kharagpur, West Bengal during December 20-22, 2021.

Mechanics is an area common to many disciplines of science and engineering and has made tremendous strides in recent years. The event is aimed at bringing together academicians and researchers working in various disciplines of mechanics to exchange views as well as to share knowledge between people from different parts of the globe. The conference will focus on current research trends in all disciplines of mechanics including interdisciplinary areas. The topics of the event are:

Fluid Mechanics

Experimental and Computational Aerodynamics, Experimental and Computational Fluid Mechanics, Seepage Flow, Computational Mechanics, Computational Methods, Shock-boundary Layer Interactions, Active and Passive Flow Controls, Fluid-structure Interaction, High Enthalpy Flows and Hypersonic Aerodynamics, Biomechanics, Bio-inspired Mechanics, Aeroacoustics, Hydrodynamics, Turbulence, LES, etc.

Solid mechanics and Dynamics

AI and Expert Systems, Classical Mechanics, Composite Materials and Structure, Computational Mechanics, Computational Methods, Damage Mechanics, Fracture Mechanics, Functionally Graded Materials, Fuzzy Logic, Genetic Algorithms and Neural Networks, Modeling and Simulation, Nano Mechanics, Nonlinear Mechanics, Optimization, Smart Materials, Structures and Systems, Structural Dynamics, Aeroelasticity, Terramechanics, Uncertainty Quantification, etc.

Flight Mechanics, Control and Navigation

Space/Orbital Mechanics, UAV, MAV, AI and Expert Systems, Fuzzy Logic, Genetic Algorithms and Neural Networks, Satellite-based Navigation Systems, Optimal, Non-linear and Robust Control.

Propulsion and Combustion

Turbo machinery, Aerodynamics of Gas Turbine Components, Development and Testing of Gas Turbine Systems, Heat Transfer, Gas Turbine Blade Cooling, Rotor Dynamics, Performance Analysis and Advanced Cycles, Droplet and Spray Combustion, Laser Ignition, Combustion Spectroscopy, LES of Combustion, Alternative Fuels, Non-conventional Energy, Nano-fuels, Technology Development in Solid/Liquid/Hybrid Rockets, etc. Statistical Thermodynamics, Uncertainty Quantification.

For further details, contact Chairman of the Conference, Department of Aerospace Engineering Indian Institute of Technology, Kharagpur-721302 (West Bengal), E-mail: ictacem@aero.iitkgp.ernet.in. For updates, log on to: <http://www.ictacem2021.org/>

Symposium on Globally Advancement in Technology for Environment-2021

A two-day Symposium on 'Globally Advancement in Technology for Environment-2021' is being organized by the Department of Chemical Engineering, Maulana Azad National Institute of Technology (MANIT), Bhopal and Indian Institute of Science Education and Research (IISER), Bhopal under the aegis of Chemical Engineering Students Association (ChESA), MANIT Bhopal IChE Students Chapter, and IChE Headquarter, Kolkata during September 24-25, 2021. It provides a platform for the Chemical Engineering Students to interact,

learn and gain exposure to the expanding arena of Chemical Engineering. The symposium aims at exploring recent developments and trends in chemical reaction engineering. It will also provide an excellent opportunity for young researchers and postgraduate students to interact with eminent researchers working in the frontier areas of chemical engineering science and process technology.

Chemical Engineering has a number of applications in our day to day lives. Chemical Engineering also has applications in production of electronics, clothing, paper and photographic equipment, etc. The scope for individuals in the field of Chemical Engineering is bound to grow in time. This is mainly because of industrial growth as well as the related scarcity of the resources those are required. In overall, it can be said that chemical engineers will be able to make very crucial contributions to the improvement in addition to the maintenance of the quality of our lives. Chemical Engineering techniques are used for the production of usable, high quality products such as fibers, fabrics, paints, medical drugs, biomaterials, gasoline, lubricants etc used in various industries such as textile, food, plastics, automotive, aerospace, petroleum, oil and gas, biomedical, biotechnology and pharmaceuticals, thereby increasing the scope of Chemical Engineering. The topics of the event are:

Post-COVID19

- Post-COVID19-New Normal Practices to Chemical Process Industries.
- Recent Research on COVID-19.
- Chemical/Environmental/Pharma/Food Engineers Responsible in COVID-19 Situation.
- Materials for Cheap and Accurate Detection of COVID-19.

Digital Sustainable Engineering

- Industry 4.0 for Chemical Refinery and Process Industries.
- Application of Digital Tools Like Artificial Intelligence (AI), Machine Learning (ML), Digital Twin (DT) and Cloud Computing, etc. for Chemical Industries.
- Digital Engineering Development in the Areas of Solar Energy, Hydrocarbon, Waste Water Treatment, etc.
- Modelling, Simulation of Chemical Process.
- Case Studies/Critical Assessment, State-of-art in the Above Areas.

Green/ Sustainable Materials

- Novel Material/ Catalyst Development for the Processes.
- Recent Development and Application of Nanoparticles.
- Best Solutions for Industrial/Commercial Building Wastewater Treatment.

Alternative Energy and Storage: 2021 to 2025

- Bio-energy, Hydrogen Energy and LNG.
- Environmental Biotechnology, Nanoparticles Application in Energy and Environment.
- Energy Resources: Potential, Estimation and Utilization of Renewable Resources.
- Environmental Impact Assessments in the Indian Context.
- Case Studies/Critical Assessment, State-of-art in the Above Areas.

For further details, contact Organising Secretary, Maulana Azad National Institute of Technology, Bhopal- 462051 (Madhya Pradesh), Mobile No: 8989005393 and/or 8011153037, E-mail: schemcon2021@gmail.com. For updates, log on to: <https://conf.iiserb.ac.in/SCHEMCON2021/> □

THESES OF THE MONTH

SCIENCE & TECHNOLOGY

A List of doctoral theses accepted by Indian Universities (Notifications received in AIU during the month of June-July, 2021)

AGRICULTURAL & VETERINARY SCIENCES

Agricultural Economics

1. Thombre, Ramkishan Fakirrao. **Econometric analysis of production and marketing of maize in Marathwada Region of Maharashtra.** (Dr K V Deshmukh), Department of Agricultural Economics, Vasantao Naik Marathwada Agricultural University, Parbhani.

Agricultural Engineering

1. More, Pramodini Gajananrao. **Development of combo-process technology for RTE carrot slices.** (Dr .S U Khodke), Faculty of Agricultural Engineering, Vasantao Naik Marathwada Agricultural University, Parbhani.

Soil Science

1. Bhosale, Ajinkya Ranindra. **Enhancement of drought tolerance in wheat [*Triticum aestivum*] and soil health using promising microbial cultures in vertisol.** (Dr. Syed Ismail), Department of Soil Science and Agricultural Chemistry, Vasantao Naik Marathwada Krishi Vidyapeeth, Parbhani.

Veterinary Science

1. Dogra, Sheetal. **Diagnostic and therapeutic studies on chronic gastrointestinal disorder in dogs.** Department of Veterinary Medicine, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana.

2. Gupta, Tania. **Studies on role ankyrin repeat proteins in virulence of sheeppox virus.** (Dr. Rajesh Chahota), Department of Veterinary Microbiology, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur.

BIOLOGICAL SCIENCES

Biotechnology

1. Gaur, Shailendra. **Amelioration of biochemical toxicities in mammalian cell culture system using cell engineering.** (Dr. Rakesh Rawal), Department of Biotechnology, Gujarat University, Ahmedabad.

2. Oudah, Marwah Ali. **Screening and evaluation of L rhamnosus isolated from mother milk: Optimization and immobilization in gastric conditions and in yogurt.** (Dr. A Krishna Satya), Department of Biotechnology, Acharya Nagarjuna University, Nagarjuna Nagar.

3. Shankar, Amar. **Evaluation and characterization of bio-active compounds from the selected medicinal plants against cancer.** (Dr. S M Gopinath and Dr. Ismail Shareef M), Faculty of Applied Science, Visvesvaraya Technological University, Belagavi.

4. Shankar, Amar. **Evaluation and characterization of bio-active compounds from the selected medicinal plants against cancer.** (Dr. S M Gopinath and Dr. Ismail Shareef M), Faculty of Applied Sciences, Visvesvaraya Technological University, Belagavi.

5. Thakur, Nandita. **Phytochemical characterization and bioactivity analysis of wheat seedlings (*Triticum aestivum* L) and barely seedling (*Hordeum vulgare* L) for formulation of new herbal products.** Department of Biotechnology, Eternal University, Sirmour.

Botany

1. Ranjith, Y. **Production of biodiesel from fresh water algae.** (Dr. Parameswara Naik T), Department of Applied Botany, Kuvempu University, Shankaraghatta.

Marine Science

1. Kurian, Amitha. **Evaluation of cost effective feed additives as dietary supplement to improve growth, immune function, antioxidant activity and disease resistance in Nile tilapia (*Oreochromis niloticus*).** (Dr. Preetham Elumalai), Department of Fish Processing Technology, Kerala University of Fisheries and Ocean Studies, Kerala.

Zoology

1. Anand, Yashpal Alok Kumar. **A study on marine mammals of Gulf of Kachchh, Gujarat, India.** (Dr. H N Highland), Department of Zoology, Gujarat University, Ahmedabad.

2. Reddy, Injeti Sadasiva. **Impact of imidacloprid 17.8% SL (Tatamida) on biochemical and hematological parameters of the freshwater fish cyprinus carpio (Linnaeus).** (Prof. K Veeraiah), Department of Zoology, Acharya Nagarjuna University, Nagarjuna Nagar.

ENGINEERING SCIENCES

Chemical Engineering

1. Parsottamdas, Christian Ujvala. **Studies on synthesis, characterization and applications of microencapsulation process via interfacial polymerization.** (Dr. Shrikant J Wagh), Department of Chemical Engineering, Gujarat Technological University, Ahmedabad.

Civil Engineering

1. Bhatt, Bhasker Vijaykumar. **Vulnerability modeling based on effects of climate change and mitigation through urban land-use planning: A novel case study of SUDA.** (Dr. Neeraj Kumar D Sharma), Department of Civil Engineering, Gujarat Technological University, Ahmedabad.

2. Panda, Patitapaban. **Parking management: A solution to the urban mobility.** (Dr. Sudhansu Sekhar Das), Department of Civil Engineering, Siksha O Anusandhan University, Bhubaneswar.

3. Rath, Ashutosh. **Optimal irrigation water management in parts of Hirakud Command Area, Sambalpur, India using benchmarking and artificial intelligences techniques.** (Prof. Prakash Chandra Swain), Faculty of Civil Engineering Sciences, Veer Surendra Sai University of Technology, Burla.

4. Sachin, B P. **Studies on retrofitting of hybrid fiber self compacting concrete beams subjected to elevated temperature.** (Dr. N Suresh), Faculty of Civil Engineering Sciences, Visvesvaraya Technological University, Belagavi.

Computer Science & Engineering

1. Angadi, Sharanabasavaraj H. **Intelligent techniques for recognition of handwritten text: An experimentation with Kannada script.** (Dr. Shanmukhappa A Angadi), Faculty of Computer & Information Sciences, Visvesvaraya Technological University, Belagavi.

2. Baiju, B V. **Multi attribute inter dependency relational clustering of diabetic data with influence measure based disease prediction.** Department of Computer Science & Engineering, Hindustan Institute of Technology and Science, Chennai.

3. Chippada, Nagamani. **An efficient network intrusion detection system based on outlier analysis for secure data communication.** (Dr. Ch Suneetha), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

4. Chitra, R. **Address anonymity and data security in multi-hop multicast wireless sensor network.** (Dr. Jagadeesha S N and Dr. Yerriswamy T), Department of Computer Science & Engineering, Visvesvaraya Technological University, Belagavi.

5. Chitradevi, D. **Analysis of brain sub regions using optimization techniques in Alzheimer disease.** Department of Computer Science & Engineering, Hindustan Institute of Technology and Science, Chennai.

6. Dave, Namrata Ashokbhai. **Content based video retrieval from Gujarati news videos.** (Dr. Mehfuza Suleman Holia), Department of Computer Science & Engineering, Gujarat Technological University, Ahmedabad.

7. Jayasheela, C S. **Fuzzy neural mechanism for handoff management in text generation wireless networks.** (Dr. Gowrishankar), Faculty of Computer & Information Sciences, Visvesvaraya Technological University, Belagavi.

8. Joseph, Linda. **Design of a novel security mechanism for virtual machines using an autonomic approach with VM snapshots.** Department of Computer Science & Engineering, Hindustan Institute of Technology and Science, Chennai.

9. Krishna, B Vamshi. **A domain adaptive framework for text opinion mining and sentiment analysis.** (Dr. Ajeet

Kumar and Dr. A P Siva Kumar), Department of Computer Science & Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

10. Kushwaha, Ajay. **Designed of enhanced selective encryption method for securing mobile ad hoc network.** (Dr. Megha Mishra and Dr Subhash Chandra), Department of Computer Science & Engineering, Chhattisgarh Swami Vivekanand Technical University, Bilhalai.

11. Mahesh Kumar, K M. **A forward-secure framework for private information retrieval systems.** (Dr. N R Sunitha), Faculty of Computer & Information Sciences, Visvesvaraya Technological University, Belagavi.

12. Mantena, Srihari Varma. **An efficient mining framework to analyse and secure outsourced transactional databases.** (Dr. C V P R Prasad), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

13. Mishra, Pradeep Kumar. **Development of rainfall run off model using soft computing.** (Dr Sanjeev Karmakar and Dr Pulak Guhathakurta), Department of Computer Science & Engineering, Chhattisgarh Swami Vivekanand Technical University, Bilhalai.

14. Mohapatra, Hitesh. **Designing of fault tolerant models for wireless sensor network.** (Dr. Amiya Kumar Rath), Department of Computer Science & Engineering, Veer Surendra Sai University of Technology, Burla.

15. Nagendranath, Maganti Venkata Satya Siva. **An energy efficient clustering based secured multihop routing protocols in MANET.** Department of Computer Science, Hindustan Institute of Technology and Science, Chennai.

16. Nayak, Chinmaya Kumar. **Minimization of energy holes in wireless sensor networks.** (Dr. Satyabrata Das), Department of Computer Science & Engineering, Veer Surendra Sai University of Technology, Burla.

17. Pallavi, G B. **Design and development of secure and dynamic resource sharing techniques in multi-tenancy.** (Dr. P Jayarekha), Faculty of Computer & Information Sciences, Visvesvaraya Technological University, Belagavi.

18. Pande, Sohan Kumar. **Design of scheduling algorithms for vehicular cloud computing.** (Dr. Satyabrata Das and Dr. Sanjaya Kumar Panda), Department of Computer Science & Engineering, Veer Surendra Sai University of Technology, Burla.

19. Panicker, Sreejit. **Hybrid approach for synthesis and classification of facial images for age determination.** (Dr. Smita Selot and Dr Manisha Sharma), Department of Computer Science & Engineering, Chhattisgarh Swami Vivekanand Technical University, Bilhalai.

20. Patil, Yogita Dattatraya. **Energy efficient and QOS aware routing protocols in wireless sensor network.** (Dr. Jayashree A), Faculty of Computer and Information Technology, Visvesvaraya Technological University, Belagavi.

21. Prajna, M R. **Classification and selection criterion for advanced composite materials using machine learning approach.** (Dr. Antony P J and Dr. N A Jnanesh), Faculty of Computer & Information Sciences, Visvesvaraya Technological University, Belagavi.

22. Tripathy, Laxminath. **Studies of some fault-tolerant interconnection networks for parallel systems.** (Dr. C.R. Tripathy), Department of Computer Science & Engineering, Veer Surendra Sai University of Technology, Burla.

Electrical & Electronics Engineering

1. Awati, Jayashree Sudhir. **Automation in agriculture field using wireless technology.** (Dr. Patil Shrinivas Annasaheb and Dr. Meenakshi R Patil), Faculty of Electrical & Electronics Engineering, Visvesvaraya Technological University, Belagavi.

2. Ahmed, JS Fareduddin. **Efficient spectrum allocation for cognitive radio networks.** (Dr. Rohitha U M), Department of Electrical & Electronics Engineering, Visvesvaraya Technological University, Belagavi.

3. Kelagadi, Hemantaraj M. **Efficient topology control and fault tolerant schemes for wireless sensor networks.** (Dr. Priyatamkumar), Department of Electrical and Electronics Engineering, Visvesvaraya Technological University, Belagavi.

4. Lotia, Piyush. **Analysis and implementation of text independent speaker verification system using spectral characterization feature and statistical modeling.** (Dr M R Khan), Faculty of Electrical, Electronics Telecommunication Engineering and Instrumentation, Chhattisgarh Swami Vivekanand Technical University, Bhilai.

5. Ravikiran, H K. **Development of compression and reconstruction algorithm for progressive transmission of medical images.** (Dr. Jayanth J), Faculty of Electrical & Electronics Engineering, Visvesvaraya Technological University, Belagavi.

6. Revanesh, M. **Some novel algorithms to enhance security in WSN.** (Dr. V Sridhar), Faculty of Electrical and Electronics Engineering Sciences, Visvesvaraya Technological University, Belagavi.

7. Saha, Nutan. **Application of soft computing techniques for control of switched reluctance motor (SRM).** (Dr. Siddharth Panda), Department of Electrical & Engineering, Veer Surendra Sai University of Technology, Burla.

Electronics & Communication Engineering

1. Manimaran, A. **Design and implementation of FFT using radix-4 single path delay commutator and split radix based multipath delay commutator for wireless applications.** Department of Electronics & Communication Engineering, Hindustan Institute of Technology and Science, Chennai.

2. Salgotra, Rohit. **Nature inspired computing: Algorithms, performance and applications.** (Dr. Urvinder Singh), Department of Electronics & Communication Engineering, Thapar Institute of Engineering and Technology, Patiala.

Electronics & Telecommunication Engineering

1. Mishra, Soumya Ranjan. **Microstrip filtenna structured with enhanced performance for KU band application.** (Dr. Sheeja, K.L.), Department of Electronics & Telecommunication Engineering, Veer Surendra Sai University of Technology, Burla.

2. Mishra, Suvendu Narayan. **Characterization of some unconventional planar patch antennas.** (Dr. Debasis Mishra), Department of Electronics & Telecommunication Engineering, Veer Surendra Sai University of Technology, Burla.

3. Panda, Madhusmita. **Path planning algorithm for autonomous under water vehicle.** (Dr. Bikramaditya Das), Department of Electronics & Telecommunication Engineering, Veer Surendra Sai University of Technology, Burla.

Information Technology

1. Vajinath, Puri Vishal. **Context aware sensor deployment problem in wireless sensor network.** Department of Information Technology, Hindustan Institute of Technology and Science, Chennai.

Mechanical Engineering

1. Chougula, Sanjeevkumar R. **Development of expert system for estimation of cutting forces in turning.** (Dr. R R Malagi), Faculty of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

2. Dash, Amar Kumar. **Studies and performance and emission of DI diesel engine fueled with waste plastic oil using different techniques.** (Dr. Dulari Hansdah and Dr. Achyut Kumar Panda), Department of Mechanical Engineering, Veer Surendra Sai University of Technology, Burla.

3. Guruprasad, H S. **Parametric assessment on prototype manufacturing of tungstencarbide insert by green machine process.** (Dr. Sharanabasava C Pilli), Faculty of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

4. Joshi, Ayanesh Yogeshkumar. **Experimental investigation and microstructure characterization of hard to cut materials using powder-mixed electro discharge machining.** (Dr. Anand Y Joshi), Department of Mechanical Engineering, Gujarat Technological University, Ahmedabad.

5. Keerthi Kumar, N. **Studies on combustion, performance and emission characteristics four stroke DI compression ignition engine using Simarouba oil as bio fuel.** (Dr. T K Chandrashekar), Faculty of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

6. Kumaraswamy, H S. **Development and characterization of aluminium boron fiber-graphite hybrid MMCS.** (Dr. T Krishna Rao), Department of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

7. Mahesh Kumar, V. **Characterization of mechanical and tribological behaviour of AL-7079 based reinforced**

MMCS. (Dr. C V Venkatesh), Faculty of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

8. Patil, Nagraj. **Modelling and experimental investigations of cryotreated cutting tool insert.** (Dr. K Gopalakrishna), Faculty of Mechanical Engineering Sciences, Visvesvaraya Technological University, Belagavi.

9. Peyyala, Anusha. **Experimental investigation of optimum insulation in VCR system with chlorodifluoromethane and mixture of difluoromethane and pentafluoroethane.** (Dr. N V V S Sudheer), Department of Mechanical Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

10. Praveen Kumar, M V. **Studies on the evaluation of mechanical and tribological wear properties of Al-SiC-graphite composites using powder metallurgy route.** (Dr. Seenappa), Faculty of Mechanical Engineering, Visvesvaraya Technological University, Belagavi.

11. Raffi Mohammed. **Fabrication, mechanical characterization and erosion wear response of e-glass fibre reinforced and particulate filled polymer based hybrid composites.** (Dr. B Ramgopal Reddy), Department of Mechanical Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

12. Thakar, Ram Ashabai. **Experimental investigation to improve performance of C I engine by means of waste heat recovery.** (Dr. S P Bhosle), Department of Mechanical Engineering, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

Production & Industrial Engineering

1. Rath, Debabrata. **Experimental investigation and predictive modeling of tool wear in turning of hardened steel.** (Dr. Kamal Pal and Dr. Sumanta Panda), Department of Production Engineering, Veer Surendra Sai University of Technology, Burla.

MATHEMATICAL SCIENCES

Mathematics

1. Chaithra, N. **Theoretical study of lubrication characteristics of bearing with non-Newtonian lubricants.** (Dr. Hanumagowda B N), Faculty of Mathematics, Visvesvaraya Technological University, Belagavi.

2. Ramesh, T. **Mathematical modeling of reactive and non reactive contaminate transport in the structured zone: A computational approach.** (Dr. S R Sudheendra), Faculty of Applied Science, Visvesvaraya Technological University, Belagavi.

3. Rao, Prashantha. **A study of generalized lattices.** (Dr. Shashirekha B Rai), Department of Mathematics, Visvesvaraya Technological University, Belagavi.

4. Rout, Bishnu Charan. **Heat transfer enhancement in nanofluids: A theoretical study.** (Dr. Satya Ranjan Mishra), Department of Mathematics, Siksha O Anusandhan University, Bhubaneswar.

5. Saraswathi, B Asha. **On the lattice of convex sets of a connected directed graph.** (Dr. Lavanya S), Faculty of Mathematics, Visvesvaraya Technological University, Belagavi.

MEDICAL SCIENCES

Dermatology

1. Kamboj, Parul. **Effect of metformin on IGF-1 mediated acnegenesis.** Department of Dermatology, Postgraduate Institute of Medical Education and Research, Chandigarh.

Medicine

1. Bhattacharya, Ujwal. **A study to compare the effectiveness of myofascial release technique with passive stretching in the treatment of plantar flexor spasticity in children with cerebral palsy within the geographical distribution of Kamrup District.** (Prof Nirmal Ch Bhattacharyya), Department of Allied Health Sciences, Srimanta Sankaradeva University of Health Sciences, Guwahati.

2. Deka, Kuldeep. **A study to access the physical fitness and perceived well-being of community dwelling elderly of Guwahati metro, Assam.** (Prof. Prasanta Kumar Bhattacharya), Department of Allied Health Sciences, Srimanta Sankaradeva University of Health Sciences, Guwahati, Assam.

Ophthalmology

1. Kamaljeet Kaur. **Immunodiagnosis of intraocular tuberculosis using immunodominant epitopes of mycobacterial proteins.** Department of Ophthalmology, Postgraduate Institute of Medical Education and Research, Chandigarh.

Pathology

1. Mansata, Anuj Vasantray. **Assessment of dermatoglyphics with periodontal disease dental caries and malocclusion among school children of Gujarat.** (Dr. Jyoti Chawda), Department of Pathology, Gujarat University, Ahmedabad.

2. Modi, Tapan Gunvantlal. **Gender determination from dental pulp tissue by microscopic methods (Detection of barr bodies and bodies using different forensic parameters.** (Dr. Jyoti Chawda), Department of Oral Pathology, Gujarat University, Ahmedabad.

Pharmaceutical Science

1. Chouhan, Mahendra Kumar. **Evaluation of anticancer activities of ethnomedicinal plants from Western Ghats.** (Dr. Pramod H J), Department of Pharmaceutical Biotechnology, KLE Academy of Higher Education and Research, Belagavi.

2. Lourdes, Cota Damita. **Effect of hydro-alcoholic extract of terminalia Arjuna Bark and Arjunarishta in inflammatory bowel disease.** (Dr. Sanjay Kumar Mishra), Faculty of Pharmacy, KLE Academy of Higher Education and Research, Belagavi.

3. Shama, S Neelufar. **Phytochemical and pharmacological investigation of *Dillenia bracteata* and *priva***

cordifolia for their anti-atherosclerotic and anti-oxidant potential. (Dr. S Mohana Lakshmi and Dr. N Devanna), Department of Pharmaceutical Science, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

4. Sharannavar, Bhuvaneshwari R. **Solubility enhancement, system design for transbuccal delivery, in-vitro characterization and in vivo evaluation of lovastatin.** (Dr. Sunil S Jalalpure), Faculty of Pharmacy, KLE Academy of Higher Education and Research, Belagavi.

Physics

1. Gogoi, Pranjal. **The prevalence of musculoskeletal pain among school children and its association with physical fitness in the Guwahati urban society.** (Prof. Nirmal Ch Bhattacharyya), Department of Allied Health Sciences, Srimanta Sankaradeva University of Health Sciences, Guwahati, Assam.

PHYSICAL SCIENCES

Chemistry

1. Adusumalli, Koteswara Rao. **Sensitive spectrophotometric estimations of anti-retroviral drugs (HIV protease inhibitors).** (Dr. Anitha C Kumar), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Kiran, M S. **Metal nanoparticles synthesis from medicinal plants extracts and comparative study of their biological properties.** (Dr. Latha M S and Dr. Virupaxappa S Betageri), Faculty of Chemistry, Visvesvaraya Technological University, Belagavi.

3. Mishra, Nikita Swayamprakash. **Morphology, thermal properties and flame retardancy of fluorescent polyesters and aramids.** (Dr. Dilip V Vasava), Department of Chemistry, Gujarat University, Ahmedabad.

4. Panda, Pratap Kumar. **Assessment of pollution load of the river Salandi in Boula Nuasahi mining belt as well as in urban area at Bhadrak and its down stream and strategy for it's removal.** (Dr. Rahas Bihari Panda and Dr. Prasant Kumar Das), Department of Chemistry, Veer Surendra Sai University of Technology, Burla.

5. Pattnaik, Satyanarayan. **Experimental studies on the thermal and catalytic pyrolysis of waste plastics to value added products.** (Dr. Achyut Kumar Panda and Dr. Sachin Kumar), Department of Chemistry, Veer Surendra Sai University of Technology, Burla.

6. Prusty, Kalyani. **Preparation and characterization of carbohydrate based hybrid nanocomposite hydrogels for in vitro release of drugs.** (Prof. Sarat Kumar Swain), Department

of Chemistry, Veer Surendra Sai University of Technology, Burla.

7. Ramesha, D R. **Synthesis and pharmacological investigation of novel naphthofuran and its derivatives.** (Dr. K P Latha), Department of Chemistry, Kuvempu University, Shankaraghatta.

8. Vijayakumari, B. **A study on surface and ground water chemistry near estuaries mangroves of Godavari Region and quantification of antioxidants in some mangroves plants.** (Dr. M Subba Rao), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

Physics

1. Dey, Pijush Chandra. **Synthesis of a few pure and doped group II-VI semiconductor nanocrystals by Chemical route for the study of their optical and elastic properties and their applications.** (Dr. Ratan Das), Department of Physics, Tripura University, Suryamaninagar.

2. Ekbote, Anusha Narendra. **Structural and nonlinear optical properties of chalcone derivatives.** (Dr. Parutagouda Shankaragouda Patil), Faculty of Physics, Visvesvaraya Technological University, Belagavi.

3. Mishra, Sakti Prasad. **Study on synthesis and characterization of acoustic and microwave absorbing materials.** (Dr. Ganeswar Nath), Department of Physics, Veer Surendra Sai University of Technology, Burla.

4. Nagabhushan, S R. **Study on radon and thoron levels in working places and industries around Tumkur City.** (Dr. J Sannappa), Department of Physics, Kuvempu University, Shankaraghatta.

5. Rajesh, K. **Preparation and characterization of nanoparticles doped polymer composites.** (Dr. Vincent Crasta), Faculty of Applied Science, Visvesvaraya Technological University, Belagavi.

6. Smitha, M G. **Synthesis, characterization and transport studies of polypyrrole/nano composites.** (Dr. Murugendrappa M V), Faculty of Applied Science, Visvesvaraya Technological University, Belagavi.

7. Suresh, S. **Studies on background radiation levels in Uttara Kannada District.** (Dr. J Sannappa), Department of Physics, Kuvempu University, Shankaraghatta.

8. Thakur, Shilpa. **Calculation of energy band gap of Synthesized Zinc Oxide (ZnO) nanoparticles by sol-gel method.** (Dr. Rajender Kumar), Department of Physics, Career Point University, Hamirpur. □

**Dnyanprassarak Mandal's
College & Research Centre
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CORRIGENDUM

An advertisement for the teaching posts was published in the Navhind Times, Gomantak (Marathi) and University News on 26/07/2021. In the said advertisement, the posts of Assistant Professor (Contract Basis) for Chemistry under (B) may be read as follows:

1. ASSISTANT PROFESSOR
(ORGANIC CHEMISTRY)
01 Post (SC)
2. ASSISTANT PROFESSOR
(INORGANIC CHEMISTRY)
01 Post (General)

The other terms and conditions remain the same.

For details pertaining to posts, qualifications, pay scale and other service conditions, please visit the college website www.dmscollege.ac.in.

Date: 11/08/2021

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(Affiliated to Solapur University)**

WANTED

Application are invited from eligible candidates for the following **permanent Non-Grant** posts.

Sr. No.	Subject Designation	Total Vacant Posts	Open Post
1	Director of Physical Education	01 Full Time	01
2	Librarian	01 Full Time	01
3	Assistant Professor (English)	01 Full Time	01
4	Assistant Professor (History)	01 Full Time	01
5	Assistant Professor (Economics)	01 Full Time	01

- Note :
- 1) Apply giving full particulars **within 30 days** from the date of publication of this advertisement to the undersigned.
 - 2) For detailed information about posts, qualifications and other terms and conditions, please visit (University) website: su.digitaluniversity.ac

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PRESIDENT

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REQUIRED

Applications are invited from eligible candidates for the following post:

Sr. No.	Name of Post	Vacant Post	Unreserved (Open) Post
A	Principal	1	1

Conditions:

1. Educational qualifications, pay scales and service conditions are as prescribed by the Apex Body, Govt. of Maharashtra and Shivaji University, Kolhapur from time to time.
2. Appointment to the post of **Principal** will be for a period of 5 years from the date of appointment or upto the attainment of the age of superannuation of the candidate, whichever is earlier.
3. For the post of Principal, candidate should submit their API report at the time of Interview.
4. Please note that the recruitment procedure initiated by this advertisement subject to decision by Hon. Bombay High-Court, Aurangabad Bench on Writ Petition No. 12051/2015.
5. Applicants who are already in service should apply through proper channel.
6. Incomplete application will not be entertained.
7. Apply giving full particulars **within 15 days** from the date of publication of this advertisement to the undersigned.

Secretary
Shikshan Mandal, Karad

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- Basic & Applied Sciences
- Medical Sciences
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- Education
- Media & Communication
- Smart Agriculture

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Devrukh Shikshan Prasarak Mandal's
**NYA. TATYASAHEB ATHALYE ARTS, VED. S R. SAPRE COMMERCE
 & VID. DADASAHEB PITRE SCIENCE COLLEGE DEVRUKH,
 (AUTONOMOUS)**

TAL. SANGAMESHWAR, DIST. RATNAGIRI - 415 804

APPLICATIONS ARE INVITED FOR THE FOLLOWING **CLOCK HOUR BASIS** POSTS

FOR THE ACADEMIC YEAR 2021-22

AIDED

Sr. No.	Cadre	Subjects	Total No. of CHB Post	Post Reserved for
1	Assistant Professor	English	14	02-SC
2	Assistant Professor	Chemistry		01-ST
3	Assistant Professor	Mathematics		02-DT/NT
4	Assistant Professor	Economics		03-OBC
5	Assistant Professor	Commerce		01- EWS 05- Open

The posts for the reserved category candidates will be filled in by the same category candidates (Domicile of state of Maharashtra) belonging to that particular category only.

Reservation for the women will be as per University Circular Number BCC/16/74/1998 dated 10th March, 1998. 4% reservation shall be for the person with disability as per University Circular No. Special Cell/ICC/2019-20/05 dated 5th July, 2019.

Candidates having knowledge of Marathi will be preferred.

“Qualification, pay scale and other requirement are as prescribed by the UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No.Misc-2018/C.R.56/18/UNI-I dated 8th March, 2019 and University Circular No. TAAS/CT/ICD/2018-19/1241 dated 26th March, 2019 and revised from time to time.”

Remuneration of the above post will be as per University Circular No. TASS (CT)/01/2019-2020 dated 02nd April, 2019.

The **Government Resolution and circular are available on the website mu.ac.in**

Application with full details should reach the PRINCIPAL, Devrukh Shikshan Prasarak Mandal's NYA. TATYASAHEB ATHALYE ARTS, VED. S. R. SAPRE COMMERCE & VID. DADASAHEB PITRE SCIENCE COLLEGE DEVRUKH, (AUTONOMOUS), TAL. SANGAMESHWAR, DIST. RATNAGIRI – 415 804 **within 15 days** from the date of publication of this advertisement. **This is University approved advertisement.**

Sd/-
PRINCIPAL



**Dayanand Education Society's
 Dayanand Science College, Latur,
 Dist. Latur – 413512 (Maharashtra)**

WANTED

Applications are invited from the eligible candidate for the following posts in **Dayanand Education Society's Dayanand Science College (Aided), Latur**. This advertisement is published as per N.O.C. letter No. JDHENanded/NOC/2020-21/3397 dated 06.08.2021, received from Joint Director, Higher Education, Nanded. The posts of the following **Professors** are to be filled only **on Clock Hour Basis** for the academic year 2021-22. The candidate will be selected through a local Selection Committee.

Interested and eligible candidates should submit their application alongwith the required xerox copy of documentation to the office of the Principal, Dayanand Science College, Latur by mail (daya_scin1@rediffmail.com) or post to reach the undersigned by **28th August, 2021**.

Degree Granted			
Sr. No.	Subject	CHB Posts	Educational Qualification
1.	Marathi	02	M.A. Marathi Second Class (B+), SET/NET/Ph.D.
2.	Chemistry	02	M. Sc. Second Class (B+), SET/NET/Ph.D.
3.	Physics	08	M. Sc. Second Class (B+), SET/NET/Ph.D.
4.	Electronics	04	M. Sc. Second Class (B+), SET/NET/Ph.D.
5.	Botany	02	M. Sc. Second Class (B+), SET/NET/Ph.D.
6.	Zoology	04	M. Sc. Second Class (B+), SET/NET/Ph.D.
7.	Industrial Chemistry	02	M. Sc. Second Class (B+), SET/NET/Ph.D.
8.	Fishery	04	M. Sc. Second Class (B+), SET/NET/Ph.D.
9.	Microbiology	04	M. Sc. Second Class (B+), SET/NET/Ph.D.
Total		32	

Sd/-
Dr. Jaiprakash Dargad
Principal

Sd/-
Ramesh Biyani
Secretary

Sd/-
Laxmiraman Lahoti
President

SHIKSHAN VIKAS MANDAL'S

SHRI S. H. KELKAR COLLEGE OF ARTS, COMMERCE & SCIENCE,
Smt. Neerabai Jagannath Parkar Vidyanagari, Devgad, Dist. Sindhudurg, Pin – 416 613

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS
FOR THE ACADEMIC YEAR 2021-22

SELF FINANCE

Sr. No.	Cadre	Subject	No. of Posts	Posts Reserved for
1	Assistant Professor	B. Voc. Hospitality & Tourism	02 F.T.	01 – SC, 01 OPEN
2	Assistant Professor	B. Voc. Health Care	02 F.T.	01 – SC, 01 OPEN
3	Assistant Professor	B.M.S.	04 F.T.	01 – SC, 01 – NT, 01 – OBC, 01 OPEN
4	Assistant Professor	B.Com. Banking and Insurance	04 F.T.	01 – SC, 01 – NT, 01 – OBC, 01 OPEN
5	Assistant Professor	B.Sc. I.T.	05 F.T.	01 – SC, 01 – NT, 01 – OBC, 02 OPEN
6	Assistant Professor	Organic Chemistry	03 F.T.	01 – SC, 01 – OBC, 01 OPEN
7	Assistant Professor	Analytical Chemistry	03 F.T.	01 – SC, 01 – OBC, 01 OPEN
8	Assistant Professor	Environmental Science	02 F.T.	01 – SC, 01 OPEN
9	Assistant Professor	Physics Electronics	02 F.T.	01 – SC, 01 OPEN
Total Posts			27	

Applicants who are already employed must sent their applications through proper channel. Applicants are required in account for breaks, if any, in their academic year.

“ Qualification and other requirement are as prescribed by UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No. Misc-2018/C.R.56/18/UNI-I dated 8th March, 2019 and University Circular No. TAAS/(CT)/ICC/2018-19/1241 dated 26th March, 2019 and revised from time to time.”

Application with full details should reach THE PRINCIPAL, SHIKSHAN VIKAS MANDAL'S SHRI S. H. KELKAR COLLEGE OF ARTS, COMMERCE & SCIENCE, Smt. Neerabai Jagannath Parkar Vidyanagari, Devgad, Dist. Sindhudurg - 416 613 within 15 days from the date of publication of this advertisement.

Sd/-
PRINCIPAL

SHIKSHAN VIKAS MANDAL'S

SHRI S. H. KELKAR COLLEGE OF ARTS, COMMERCE & SCIENCE,
Smt. Neerabai Jagannath Parkar Vidyanagari, Devgad, Dist. Sindhudurg Pin – 416 613

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS
FOR THE ACADEMIC YEAR 2021-22

AIDED

Sr. No.	Cadre	Subject	Total CHB Posts	Posts Reserved for
1	Assistant Professor	Botany	09	01 – SC,
2	Assistant Professor	Geography		01 – ST,
3	Assistant Professor	Commerce		01 – DT/NT,
4	Assistant Professor	Mathematics		02 – OBC,
5	Assistant Professor	Chemistry		01 – EWS, 03 – OPEN

The posts reserved for the Backward Class Candidates will be filled by the Backward Category Candidates (Domicile of the State of Maharashtra) belonging to the particular category only.

Reservation for the Women will be as per the University Circular No. BCC/16/74/1998 dated 10th March, 1998.

4% reservation shall be for the persons with disability as per the University Circular No. Special Cell/ICC/2019-20/05 dated 5th July, 2019.

Candidates having knowledge of Marathi will be preferred.

“ Qualification, Pay Scales and other requirement are as prescribed by UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No. Misc-2018/C.R.56/18/UNI-I dated 8th March, 2019 and University Circular No. TAAS/(CT)/ICC/2018-19/1241 dated 26th March, 2019 and revised from time to time.”

Remuneration of the above post will be as per the University Circular No. TAAS/(CT)/01/2019-20 dated 2nd April, 2019.

The Government Resolution and Circular are available on the website mu.ac.in.

Applicants who are already employed must sent their application through proper channel. Applicants are required to account for breaks, if any, in their academic career.

Application with full details should reach THE PRINCIPAL, SHIKSHAN VIKAS MANDAL'S SHRI S. H. KELKAR COLLEGE OF ARTS, COMMERCE & SCIENCE, Smt. Neerabai Jagannath Parkar Vidyanagari, Devgad, Dist. Sindhudurg - 416 613, within 15 days from the date of publication of this advertisement. This is University approved Advertisement.

Sd/-
PRINCIPAL

GATE 2022

GRADUATE APTITUDE TEST IN ENGINEERING

Organising Institute: Indian Institute of Technology Kharagpur, Kharagpur - 721302
Contact No.: 03222-282091, Website for information: <https://gate.iitkgp.ac.in>

Online applications are invited for GATE 2022 examination. Admissions to postgraduate programmes (Master's and Doctoral) with Ministry of Education (MoE) and other Government Scholarships / Assistantships in Engineering / Technology / Architecture / Science / Commerce / Arts are open to those who qualify GATE, subject to fulfilling the admission criteria of the admitting institute. The GATE score is also used by some Public Sector Undertakings (PSUs)/ Govt. Organisation for their recruitment. GATE 2022 score will be valid for THREE YEARS from the date of announcement of results. GATE Examination is a Computer Based Test (CBT).

GATE 2022 examination will be conducted in selected cities and towns which are distributed across 8 zones in India.

The following candidates are eligible to appear in GATE 2022: A candidate who is currently studying in 3rd or higher year of any undergraduate degree program OR has already completed any government approved degree program in Engineering / Technology / Architecture / Science / Commerce / Arts.

Disclaimer: GATE is NOT an admission ensuring examination. Qualifying in the GATE examination does NOT guarantee admission / scholarship. Admission to any institute is fully dependent on the admitting institute's criteria for educational qualification. Similarly, GATE qualification does not assure a job, as it depends on the recruitment procedure of the concerned employer. GATE committee is NOT liable for any legal obligations related to admission / job.

GATE 2022 examination will be conducted for the following papers: Aerospace Engineering (AE), Agricultural Engineering (AG), Architecture and Planning (AR), Biomedical Engineering (BM), Biotechnology (BT), Civil Engineering (CE), Chemical Engineering (CH), Computer Science and Information Technology (CS), Chemistry (CY), Electronics and Communication Engineering (EC), Electrical Engineering (EE), Environmental Science and Engineering (ES), Ecology and Evolution (EY), Geology and Geophysics (GG), Geomatics Engineering (GE), Instrumentation Engineering (IN), Mathematics (MA), Mechanical Engineering (ME), Mining Engineering (MN), Metallurgical Engineering (MT), Naval Architecture and Marine Engineering (NM), Petroleum Engineering (PE), Physics (PH), Production and Industrial Engineering (PI), Statistics (ST), Textile Engineering and Fibre Science (TF), Engineering Sciences (XE), Humanities and Social Sciences (XH), Life Sciences (XL).

Maximum Two papers in GATE 2022: A candidate may appear either in ONE or TWO subject paper(s). For candidates who choose TWO papers, the combination must be selected from the approved list of combinations and subject to the availability of infrastructure and date. Even if a candidate is appearing for TWO Papers, the candidate should fill ONLY ONE application form. Duplicate application or Multiple application with or without combination papers will be rejected and paid fee will not be refunded.

Important Dates for Application Submission:	Opening Date of online registration / application portal	30th August, 2021 (Monday)
	Closing Date of REGULAR online registration / application	24th September, 2021 (Friday)
	End of EXTENDED period for online registration/ application (with late fee)	1st October, 2021 (Friday)
Dates of Examination:	5th, 6th, 12th & 13th February 2022. Two sessions (forenoon and afternoon) on each day.	
Application Fee: (Per Subject Paper)	For examination centres in India, the application fee is ₹750/- for female candidates, ₹750/- for SC/ST/PwD candidates and ₹1500/- for all other candidates. Additional fee during extended period is ₹500/-. The application fee has to be paid ONLINE. The application fee once paid SHALL NOT BE REFUNDED.	
Application Process:	All candidates must apply ONLINE. For details, updates and application, visit https://gate.iitkgp.ac.in	



Further details can be obtained by accessing any of the GATE zonal websites

Chairperson, GATE, IISc Bangalore Bengaluru - 560012 Website: http://gate.iisc.ac.in	Chairperson, GATE, IIT Bombay Powai, Mumbai - 400076 Website: https://gate.iitb.ac.in	Chairperson, GATE, IIT Delhi Hauz Khas, New Delhi -110016 Website: http://gate.iitd.ac.in	Chairperson, GATE, IIT Guwahati Guwahati - 781039 Website: http://iitg.ac.in/gate-jam
Chairperson, GATE, IIT Kanpur Kanpur- 208016 Website: http://gate.iitk.ac.in	Chairperson, GATE, IIT Kharagpur Kharagpur -721302 Website: https://gate.iitkgp.ac.in	Chairperson, GATE, IIT Madras Chennai -600036 Website: http://gate.iitm.ac.in	Chairperson, GATE, IIT Roorkee Roorkee-247667 Website: http://gate.iitr.ac.in



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INDIAN INSTITUTE OF SCIENCE BANGALORE



Joint Admission test for Masters 2022

ABOUT JAM

Joint Admission test for Masters (JAM) 2022 will be held on February 13, 2022 (Sunday) for admission to M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, M.Sc.-M.S. (Research)/Ph.D. Dual Degree M.Sc.-M.Tech. Dual Degree and other Post-Bachelor's Degree Programmes at IITs (Bhilai, Bhubaneswar, Bombay, Delhi, Dhanbad, Gandhinagar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Kharagpur, Madras, Mandi, Palakkad, Patna, Roorkee, Ropar, Tirupati, and Varanasi) for the Academic Session 2022-23. JAM 2022 score will be used by IISc Bangalore for admission to the Integrated Ph.D. programmes. JAM 2022 score will also be used by other institutions like NITs, IEST Shibpur, SLIET Punjab, and IISERs for admission to their programmes. JAM 2022 is open to all nationals. However, foreign nationals will be required to satisfy the rules and regulations of the admitting Institute(s) pertaining to foreign students for admission.

JAM 2022 is being organized by IIT Roorkee. All correspondence related to JAM 2022 must be addressed to Organizing Chair, JAM 2022, GATE-JAM Office, IIT Roorkee, Roorkee, Uttarakhand-247667.

TEST PAPERS AND MODE OF EXAMINATION

JAM 2022 will have seven test papers, namely, Biotechnology (BT), Chemistry (CY), Economics (EN), Geology (GG), Mathematics (MA), Mathematical Statistics (MS) and Physics (PH) each of three hours duration. For all the test papers, JAM 2022 examination will be conducted in ONLINE mode only. A candidate can appear in either one Test Paper or two Test Papers subject to the restrictions of test schedule given below and by paying an additional fee for the second test paper.

Date & Day	Session	Test Paper Code
February 13, 2022 (Sunday)	Forenoon	BT, MS, PH
	Afternoon	CY, EN, GG, MA

EXAMINATION CITIES & TOWNS

Agartala, Agra, Ahmedabad, Ahmednagar, Akola, Alappuzha, Aligarh, Amravati, Asansol – Durgapur, Aurangabad, Bareilly, Belagavi / Belgaum, Berhampur, Bengaluru, Bhopal, Bhubaneswar, Bidar, Bilaspur, Chennai, Coimbatore, Cuttack, Dehradun, Dhanbad, Dibrugarh, Dimapur-Kohima, Ernakulam, Faridabad, Ghaziabad, Goa, Gorakhpur, Greater NOIDA, Gulbarga / Kalaburagi, Gurugram, Guwahati, Hassan, Hisar, Hubballi, Hyderabad, Imphal, Indore, Jabalpur, Jaipur, Jalandhar, Jalgaon, Jammu, Jind, Jodhpur, Jorhat, Kalyani, Kannur, Kanpur, Karimnagar, Kharagpur, Kolhapur, Kolkata, Kollam, Kottayam, Kozhikode, Kurukshetra, Lucknow, Madurai, Mangaluru, Mathura, Meerut, Mohali, Moradabad, Mumbai, Mysuru (Mysore), Nagpur, Nanded, Nashik, New Delhi, NOIDA, Palakkad, Patiala, Patna, Prayagraj (Allahabad), Puducherry, Pune, Raipur, Rajkot, Ranchi, Roorkee, Salem, Sangli, Satara, Shillong, Shimoga, Siliguri, Solapur, Srinagar, Surat, Thiruvananthapuram, Thrissur, Tiruchirapalli, Tirunelveli, Tirupati, Vadodara, Varanasi, Vatakara, Vijayawada, Visakhapatnam, Warangal.

Note: The JAM 2022 Committee may add and/or drop any place as an examination city/ town at its discretion.

INFORMATION BROCHURE & APPLICATION PROCEDURE

The information brochure and all other news related to JAM 2022 will be updated time to time on the website: <https://jam.iitr.ac.in>.

A candidate can register and apply ONLINE for JAM 2022 from August 30, 2021 to October 11, 2021. The application fee can only be paid online. The Application fee is non-refundable. The details are given below:

GROUP/CATEGORY	FEE DETAILS	
	One Test Paper	Two Test Papers
Female and SC/ST/PwD*	₹ 750/-	₹ 1050/-
All others	₹ 1500/-	₹ 2100/-

*Persons with Benchmark Disability

TEST PAPERS AND AVAILABLE ACADEMIC PROGRAMMES

To know about the JAM test papers and the available academic programmes at various Institutes, please refer to the JAM 2022 website <https://jam.iitr.ac.in> or the JAM websites of the respective institutes.

ELIGIBILITY REQUIREMENTS FOR ADMISSION

In the qualifying degree, the aggregate marks or CGPA/CPI without rounding-off (taking into account all subjects, including languages and subsidiaries, all years combined) should be at least 55% or 5.5 out of 10 for General / OBC(NCL)/EWS category candidates and Foreign Nationals, and 50% or 5.0 out of 10 for SC/ST and PwD category candidates (if CGPA/CPI is on a different scale, it would be linearly mapped to a scale on 10).

Note: Proof of having passed the qualifying degree with required eligibility, as specified by the admitting Institute, should be submitted by September 30, 2022. Reservation policy is applicable as per the Government of India norms.

MINIMUM EDUCATIONAL QUALIFICATION(S) FOR ADMISSION

Please refer to JAM 2022 website: <https://jam.iitr.ac.in> or the JAM websites of the respective institutes.

JOINT ADMISSION PROCEDURE

Admission to the above-mentioned academic programmes in IITs for the Academic Session 2022-23 will be made on the basis of all India merit list of JAM 2022. Candidates who qualify in any test paper of JAM 2022 shall be eligible to apply for admission to all the academic programmes corresponding to that test paper, provided they also satisfy the minimum educational qualification and the eligibility requirements as specified by the institute(s) in which the admission is sought. After the declaration of JAM 2022 results, qualified candidates should apply online to the Organizing Institute (IIT Roorkee) specifying their preferences for the programmes for which the admission is sought. **Candidates should note that being in the merit list of any test paper neither guarantees nor provides any automatic entitlement for admission.** Further, details regarding admission, prescribed fees etc. will be updated on the JAM 2022 website.

Organizing Chair, JAM 2022

GATE-JAM Office, Indian Institute of Technology Roorkee, Roorkee - 247667, Uttarakhand
 Phone: (01332) 284531, Email: jam@iitr.ac.in, Website: <https://jam.iitr.ac.in>



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Times Higher Education World University Ranking 2021	1000+
QS Asia Ranking 2021	551-600
QS Indian Universities 2020	78
NIRF 2020	100-150



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Ph.D Scholars	1000+
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Research Projects	500+
Center of Excellence	07
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H-index (SCOPUS)	95
MoUs	140+
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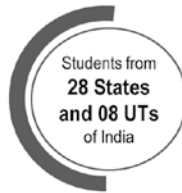
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*Centralized admissions by Government of Gujarat through ACPC



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- Centre for Skill Development and Capacity Building
- Centre for Corporate Training
- Human Resource Development Cell

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- The Maharaja Ranjitsinh Gaekwad Institute of Design (MRID)
- Institute of Fashion Technology
- Water Resource Engineering Management Institute
- Institute of Interdisciplinary Studies

Institute of Leadership and Governance

- Centre for Theological Studies
- Centre for Indic Studies

Office of Career Advancement for Students (OCAS)

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- Career Counselling & Training & Placement Cell
- Students' Internship & Mentorship; Students' Apprenticeship
- Centre for Start-up & Innovation

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- Computer Center
- University Health Center
- Directorate of Students' Welfare
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- Office of Alumni Affairs & Donors Relation
- Office of Corporate Affairs
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- NSS, NCC, ACC

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