



Rs. 30.00
ISSN-0566-2257

UNIVERSITY NEWS

A Weekly Journal of Higher Education

Association of Indian Universities

Vol. 60 • No. 41 • October 10-16, 2022

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#Let'sBeatCoronaTogether

Announcement

Special Issue of 'University News'

A **Special Number of the University News** on the theme 'Transformative Higher Education for *Atma Nirbhar Bharat*' is being brought out in the Month of **March, 2023**.

The **Special Issue** will cover the articles of eminent educationists on the aforementioned theme. Readers of the University News are invited to contribute to the Special Number by submitting papers/articles on the above theme by **October 31, 2022**. The papers will be published in the Issue subject to the approval of the Editorial Committee of the University News. The contributions are invited on the following Subthemes:

A. Internationalization of Higher Education

- International Student/Faculty Mobility
- International Collaborations in Research and Teaching
- Promoting Indian Higher Education Abroad

B. Transformative Pedagogies and Technologies in Higher Education

- Innovative Pedagogy and Lifelong Learning
- Blended Learning
- Personalized Learning through Edu-Technology

C. Transformative Curriculum for a Holistic and Multidisciplinary Higher Education

- Outcome-based Learning
- Academy-Industry-Society Interface
- Integrating Indian Knowledge System through the Multidisciplinary Teaching Learning Process

D. Research and Excellence in Higher Education

- Research Funding
- Promoting Quality and Relevant Research
- Linking Teaching and Research

E. Evaluation Reforms in Higher Education

- Continuous Assessment and Evaluation
- Using technology for Assessment and Evaluation
- Innovative Assessment Methods and Capacity Building of Faculty

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#Let'sBeatCoronaTogether

Dr. A P J Abdul Kalam: A Human Being Par Excellence

M S Kurhade*

We are all born with a divine fire in us. Our efforts should be to give wings to this fire and fill the world with the glow of its goodness.

Dr. APJ Abdul Kalam
(15th October, 1931- 27th July, 2015)

Bharat Ratna Dr. Avul Pakir Jainulabdeen Abdul Kalam, the former President of India was born to a little educated boatman Jainulabdeen in Rameshwaram (Tamil Naidu). The family of Jainulabdeen was of ordinary means. However, they were determined to give young Kalam, the best of proper education. As life unfolded itself, Abdul Kalam not only grew in years but also grew in stature to become one of the best scientific brains of not just India but of international repute. "He is one of India's most distinguished scientists. He was responsible for the development of India's first satellite launch vehicle, SLV – 3 of strategic missiles, weaponization, and building local capability in critical technologies. Held senior positions in ISRO (Indian Space Research Organisation) and DRDO (Defence Research and Development Organisation) and PURA (Providing Urban Amenities in Rural Areas) before becoming Principal Scientific Advisor to the Government of India, a cabinet rank. He had the rare honor of being the recipient of all three highest civilian awards of Padma Bhushan, Padma Vibhushan, and Bharat Ratna, besides receiving some 30 honorary doctorates from all over the world," (Penguin Books writes on him).

The rocket scientist that he grew up to be called propelled him to be the Bharat Ratna in India, which took immense pride in making him the 11th President of India on 25th July, 2002. In India where 80% of the population consists of Hindus, Abdul Kalam was the 3rd Muslim President. He conveyed what he had learned from the above three programmes based on his personal experience.

- Whenever there is a dream in life, that transforms into a vision and the vision takes shape as many missions.
- The necessity of high-level thinking to transform the vision into missions.
- Acquisitions of knowledge from all sources.
- Working and working without boundary conditions till the realization of the mission.
- Leader absorbs the failure and takes responsibility and gives the credit for success to his team while executing the mission.
- Teachers and educationists should create leaders with these qualities in their students.

The article is being published to commemorate the Birth Anniversary of the Former President of India, Dr. Avul Pakir Jainulabdeen Abdul Kalam.

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Avul Pakir Jainulabdeen Abdul Kalam stands out as a beacon of unmatched radiance, who is beyond politics and sectarian considerations, a true Bharat Ratna indeed! He personified and lived every inch of it for all the five years he was in office and until his last breath. As he was lecturing students of IIM at Shillong (Meghalaya) he collapsed and did not recover. That was an abrupt, unexpected and sad end of one of the finest sons of India. Surely India is poorer without him. Despite being a highly decorated man A.P.J. was humble to the core.

Despite having been born into a humble background, Dr. A.P.J. Abdul Kalam, by the sheer dint of application and hard work achieved the pinnacle of success. He was every inch a very proud Indian by his clean and exemplary life. According to S. Gurumurthy, a chartered accountant and well-known columnist “For ordinary Indian, Dr. Kalam represents all that a great man should have-humility, simplicity, honesty and transparency,” while RSS said, “He is a dreamer of great India.”

Having been born in Rameshwaram in a poor family with no educated peers at home, to have made strides academically is a measure of the intellectual prowess the young Abdul Kalam had. That he slowly and steadily grew the ladder of scientific attainments is there for all of us to see and the world has acknowledged his intellectual superiority. The award of Bharat Ratna is only the recognition of his contribution to the development of missiles in the realisation of his personal vision of the country that “only strength respects strength”. We must be strong not only as a military power but also as an economic power. Both must go hand-in-hand. He had the good fortune to have worked with three great minds, Dr. Vikram Sarabhai of the Department of Space, Professor Satish Dhawan, who succeeded him, and Dr. Brahm Prakash, father of nuclear material. He considered himself lucky to have worked with all three of them closely and considered it the great opportunity of his life.

Writing about himself Dr. Kalam writes in his epochal work of thoughts “Wings of Fire,” that he inherited honesty and self-discipline from his father, and from his mother, he inherited faith in goodness and deep kindness. He speaks about his three friends, all from orthodox Brahmin families, and also the respectful friendship between his father and the chief priest of the Rameshwaram temple, who was the father of one of his friends.

He had, at times, brush with an unpleasant situation that he never allowed growing into bitterness within him. Narrating an incident involving a Brahmin teacher, who asked him to go and sit on the back bench instead of the first bench, he was sitting with his friends. This greatly hurt him and his Brahmin friends. He recollects how the chief of the Rameshwaram temple, Laxman Shastry, asked bluntly, the teacher, to apologize or leave the school atmosphere by introducing intolerance among the impressionable minds of young children. This shows the sensitive side of Dr. Kalam and his acceptance of the culture of tolerance so early in his life. He remembers his science teacher, again an orthodox Brahmin, whom Dr. Kalam describes as a rebel, and how he took a keen interest in young Kalam’s studies. Normally good students are the favourites of teachers. Hence, it is obvious that Dr. Kalam was deeply interested in science from his school days. Dr. Kalam informs ‘one day he was invited by the science teacher for a meal at home, and how teacher’s wife refuses to serve the youngster at the first instance, and changes completely, the second time, after seeing the brahmanical rituals he observed while eating and after eating.’ They were all intimate details of an evolving youth coming to terms with the realities of his surroundings during his growing years.

He recounts what his father told him when he was set to leave for Ramanathapuram from Rameshwaram, “Our love will not bind you nor will our needs hold you,” and how his father consoled his grieving mother quoting Khalil Gibran “your children are not your children. They are sons and daughters of life longing for itself. You may give them your love but not your thoughts.” And Khalil Gibran was an Arab Christian. This shows his parents to be open-minded and young Kalam allowed himself to be mellowed in the mould of his parents. The goodness of his parents became his innate strength.

In Rameshwaram, he joins Schwartz High School, where he comes in close contact with Iyadutai Solomon, one of his teachers. According to Kalam’s teacher, Solomon instilled in him a sense of self-worth and inspired him to look at life confidently. He talks about his mathematics teacher Ramkrishna Iyer who praises him for his cent % marks in Maths saying ‘this boy is going to bring glory to his school and to his teachers, despite caning him on an earlier occasion.

In was in 1950, he joined St. Joseph’s College in Trichi and completed his B.Sc. There was nobody

in his family who could guide him. Flying always fascinated him, hence in pursuit of his dream he joined Madras Institute of Technology (MIT) for his degree in Aeronautical Engineering and completed his degree along with the project completion and training in HAL [Hindustan Aeronautics Ltd.] in 1958. Thus it took more than 27 years for him to complete his professional degree, which normally one can complete by the age of 22 years. However, the years he spent in school in Rameshwaram and Ramnathpuram, the college in Trichi and MIT, all moulded young Kalam into a disciplined, committed, kind, and sensitive human being, deeply committed to hard work to realize the dreams of his family. He was the most educated of his time in Rameshwaram. His close and sentimental association with all his teachers, be it his science teacher Sivasubramania Iyer in Rameshwaram, Rev. Soloman in Rameshwaram, Rev. Sequeira, Prof. Iyengar, Prof. Sastry in St. Joseph's in Trichi, Prof. Sponder, Prof. Pandalai, Prof. Rao and Director of MIT Prof. Srinivasan, left him deeply impressed in his young persona. As a disciplined, no-nonsense, and committed student, he was the dream student of all teachers. These very same qualities took him to unparalleled heights in his professional life.

Having joined his first assignment at Delhi's Directorate of Technical Development and Production of the Ministry of Defence in 1958 as a Senior Scientific Assistant, although he had dreamt of being a pilot with Indian Air Force, which he failed narrowly to get. Surely destiny had another plan for him.

During these post-independent years, most of our defense requirements were being imported. Hence import substitution was the challenge India had to overcome. Young Kalam inspired by a deep sense of nationalism always felt that its only strength that respects strength, hence, always felt that India must produce its own defense equipment.

Indigenous manufacture of a prototype of hovercraft, as a ground equipment machine, was planned at his work station and he was made the leader of the team. There was hardly any information, literature, or expertise available on hovercraft within India. The thought that if the Wright Brothers could envision and fly the first flying machine with only their years of cycle fixing background, an Aeronautical Engineer is surely better placed to experiment thought young Kalam.

When you are destined for bigger things, things happen providentially. V.K. Krishna Menon, the then Defence Minister of India came calling to see the hovercraft and had a ride on it. He confirmed that Kalam had "demonstrated that it could be done" and asked Kalam for a more powerful prime mover and call him for the second ride. Although bigger and better hovercraft was ready before schedule, the ride did not happen since VKK Menon was out of political office.

On the road to the highway bumps and humps are bound to happen. Comes along with Prof. MGK Menon of TIFR (Tata Institute of Fundamental Research) who takes the ride that VKK Menon had missed earlier. Young Kalam's destiny and probably that of India's defense capability changed forever. He gets appointed as Rocket Engineer with ISRO under the wings of Prof. Vikram Sarabhai. Soon Thumba rocket Launching Station was set up. Rest, as the cliché goes, is history. He built up from scratch India's first indigenously made Satellite Launch Vehicle [SLV]. During his association with ISRO, Abdul Kalam closely worked with Prof. Sarabhai, Prof. Satish Dhawan, and Dr. Brahm Prakash. As a manager of men, all these gentlemen were deeply impressed with the style of his project management. A former director of the Indian Institute of Science, Prof. Padmanabhan observed, "Dr. Kalam has an admirable quality of making junior scientists feel very important." Dr. Kalam has an extraordinary capability to think ahead and work with people with great enthusiasm. He can identify the strength of each individual was another comment by Dr. A.S. Pillai, Chief of R&D at the Ministry of Defence. "His humility is shocking" was one of the many, from a junior associate in a science project. He was immensely popular among his colleagues.

The first 100% indigenous effort of Satellite Launch Vehicle (SLV) succeeded on 18th July, 1980, after an earlier effort on 10th August 1979, had failed. Originally it was planned for 1974. But then, the kind of trial and tribulation of the entire team at ISRO with the involvement of some half a dozen government agencies, with some 250 engineers working continuously under demanding conditions of inelastic demand and uncertain supplies, snags, and delays was bound to be there. Fortunately, the government of the day, Mrs. Indira Gandhi, was very appreciative of the achievement of Kalam and his dedicated and committed team. In 1982, Kalam moved to DRDL in Hyderabad. It was from here that all the missiles, including Prithvi and Agni, were

conceived, planned, built, and successfully fired at the missile testing site at Balasore in Odisha. Kalam writes in his autobiography “Emergence of India as a self-reliant country in the field of guided missiles upset all developed nations of the world! Indeed, it was Kalam who, driven by the principle that a nation is greater than an individual and ‘strength only respects strength’ brought about the sea- change in the defense preparedness of the country. These were the single most important factors that catapulted him into a Bharat Ratna. The humble background he came from, and his personal growth trajectory, where discipline, hardwork, and commitment, coupled with no ego, no frills, simple nature, kindness, and dreaming big for his country made him a darling of his countrymen, who celebrated his being made the President of the country. He was the most respected and loved President of free India. His observation is that “I will not be presumptuous enough to say that my life can be a role model for anybody, but some poor child living in an obscure place, in an underprivileged social setting may find a little solace in the way my destiny has been shaped. It could perhaps help such children liberate themselves from the bondage of their illusory backwardness and hopelessness.” This was perhaps the most beautiful statement of his humility and genuineness. He was every inch modest to the core. Describing President Harry Truman, his biographer Merle Miller had remarked ‘Last human being to live in the White House a remark that would undeniably apply to President Kalam as well.

The country is certainly poorer without this model human being, who was beyond any narrow sectarian, religious and linguistic bigotry. Hope the spirit of this extremely unassuming gentleman lights our path in nation-building in the days ahead. The avalanche of goodwill that this diminutive man commands, is mind-boggling. It was as if he was another Mahatma after Mahatma Gandhi.

I will consider myself to be a greater teacher because I can lift the average to the best performance by way of my teaching. According to him, the teaching profession is indeed a great mission in shaping young minds with knowledge, nurturing creativity, and above all inducing values in evolving a good human being. Shaping the minds of the students depends on the teacher’s ability to teach and be a role model. He said that it is education that can transform children into enlightened citizens and the nation and world

need such enlightened citizens for a sustainable and prosperous future. His visualization for a dynamic school system:

- A school that radiates greatness through the teaching capacity of the teachers.
- A school is great because creativity is bubbling everywhere.
- A school is great because it cherishes the learning environment with a library, internet, e-learning, and creative laboratories.
- A school is great, because it creates, and generates students with confidence that ‘I can do it’ and ‘India will do it’.
- A school that promotes the best in learning around to all the students.
- A school is great because it has teachers who lead a unique way of life with purity and become role models for the students and develop them as an enlightened citizen.
- A school is great because it has the capacity to teach all students to succeed.
- A school that generates creativity among all students irrespective of whether they belong to the arts or science stream.
- A school is great, and generates alumni who cherish that they belong to this school.

The knowledge he said has three components, righteousness, creativity, and courage. That the combination of these characteristics can generate enlightened citizens. A look at the components of knowledge:

Righteousness

*Where there is righteousness in the heart,
There is beauty in the character.
When there is beauty in the character,
There is harmony in the home.
When there is harmony in the home,
There is order in the nation.
When there is order in the nation,
There is peace in the world.*

Creativity

*Learning gives creativity.
Creativity leads to thinking.
Thinking provides knowledge.
Knowledge makes you great.*

Courage

*Courage to think deferent,
Courage to invent,
Courage to travel into the unexpected path,
Courage to discover the impossible,
Courage to combat the problems,
And success is the unique qualities of the unique
quality of the youth.
As a youth of my nation, I will work and work with,
Courage to achieve success in all the missions.*

As teacher, he said, “You have to ensure that the system instills courage in the minds of the students. Hence, knowledge is equal to creativity + righteousness + courage.”

Great schools will have great teachers who love teaching and with great vision. The vision should be to make a beautiful school and generate righteous youth, happy youth who are professionally sound and morally upright. Hence, it should generate quality youth who are an asset to the nation. The student has to become a full-fledged responsible citizen for the nation who will be able to realize his dreams and not be frightened of any problem. He should be groomed to be physically fit, and academically sound with capacities for research and inquiry, innovation, use of high technology, and moral and entrepreneurial leadership. He should be emotionally mature and spiritually awakened. For nurturing such an individual, what is the role, and what should be the vision of the young teachers? Teachers should have a one-line statement of vision “my vision is to give to the students all round capability that is always creative, observant, aim to acquire knowledge continuously leading to the generation of an excellent performer with sterling character built with the unique tradition of the school.” In this process, the education system has to develop the five minds as described in the book “Five Minds” for the future by Howard Gardner.

- Disciplinary mind: Mastery of mind in different schools of thought including science, mathematics, history, and proficiency in at least one professional craft.
- Synthesizing mind: Ability to integrate ideas from different disciplines or spheres into a coherent whole and to communicate with others.
- Creative mind: Capacity to uncover and clarify new problems, questions and phenomena.

- Respectful mind: Awareness of and application for differences among human beings.
- Ethical Mind: Fulfillment of one’s responsibility as a worker and a citizen.

To develop these Five minds, one need not change the syllabus of the school. The culture of the school and vision of the school and the teacher’s way of life will imbibe these five minds among the students. He spoke of one integrated system of education, the system of learning, and the system of knowledge. The seeds of peace in the world have their origin in the righteousness in the heart of every individual. Such righteous citizens lead to the evolution of an enlightened society. Education with a value system has to be so designed that the righteousness in the heart is developed in young minds. That should be the mission of education. He quotes Dr. Radhakrishnan particularly for the benefit of students and teachers – “The sense of human need is there and the teacher can satisfy it by giving to the youth an idea of the fundamental power and worth of man, his spiritual dignity as a man, a supra-national culture and an all-embracing humanity”. He strongly believed that education which can transform children into enlightened citizens, and the nation and world need such enlightened citizens for a sustainable and prosperous future. Let us hear him say the tribute given by the great teacher Albert Einstein to his teacher: “The ideals which have lighted my way, time after time, have given new course to face life cheerfully have been kindness, beauty, and truth”. This transformation can only be brought about by a teacher who has a vision to transform, who has the ability to take risks against all challenges, who is a good listener, who is a good innovator, who maintains a cordial interpersonal or intrapersonal relationship and who has the ability to carry the parents, community, media and the stakeholders for accomplishing the vision of generating an enlightened citizen for the nation.

Dr. Kalam’s observation, “The nation is greater than the individual” is simply epochal in its sweep. This is the reflection of the deep commitment the man has, very qualities required for a person to occupy the post of the President of India.

If only William Shakespeare was to be there, he would, in all probability, have said,

*“This is the noblest Indian of them all,
His life is gentle, and the elements,
So mixed in him that nature might stand up,
And say to all the world This was a man.”* □

Learning Experiences during COVID-19: A Study of Netaji Subhas Open University

Anirban Ghosh*

The COVID-19 pandemic impacted the delivery of academic programmes at all levels across the globe. The impact has been felt not only by the institutions but also by students. The COVID effect also created new learning opportunities for students including distance learners and challenges for institutions to explore innovative ways of handling those challenges. The purpose of this research study is aimed to understand the experiences of learners during Covid-19 and how learners from Netaji Subhas Open University perceived the impact of Covid-19 on their learning. The other purpose of the study is to understand the experiences and the lessons learned by universities during the educational disruption in delivering their educational programmes. We hope this study report will help the educational leaders, stakeholders of Open Universities, and other higher education institutions to design and deliver effective academic programmes in the post-pandemic period effective implementation of educational programmes.

NSOU in Brief

Established in 1997 by West Bengal State Legislature Act XIX (1997) as the State Open University to impart education in the Distance mode, Netaji Subhas Open University (NSOU) has made a sustained mark in the education scenario with its avowed mission of “Reaching the Unreached”. The University started its functioning with effect from July 1998 Semester with the Bachelor’s Degree Programme in Arts & Commerce to provide an opportunity for higher education in the vernacular medium to various disadvantaged groups of aspiring learners. It is the tenth Open University in the country. With the recognition of apex bodies like the UGC, the Rehabilitation Council of India (RCI), and now the UGC-DEB, NSOU has emerged as a force to reckon with in terms of empowering a cross-section of society through education with its multiple options. Being the 1st State Open University, NSOU received

a grade-A from NAAC in 2021 in its first cycle. At NSOU over the years, we have been catering to a very heterogeneous learner base both in terms of age group and socio-economic background.

Strategic Plans Envisaged and Implemented during Pandemic

There is an effective ICT support system (AV lectures, digitized SLMs, SD cards, NSOU-OER) to supplement the teaching-learning process—this has considerably encouraged all kinds of aspirants willing to pursue higher education under this university. During the COVID-19 pandemic situation, the university implemented several initiatives to reach learners across the State. The important ICT-based activities are:

- Live Sessions through LMS
- NSOU OER Repository
- Mobile App for Online Learning
- SD Card for Offline Learning
- Digitized SLMs
- Web Radio-Muktak
- Web TV
- Online Placement Facilitation Service

The learning resources are made available through digital repositories like the NSOU-OER repository, LMS, etc. The learners can also watch the web TV as per the schedule prepared. In keeping with the present requirements, the University has customized the Koha software with its repository hosted on Cloud for seamless accessibility from anywhere, at any time to all the stakeholders. The SD card is provided to facilitate offline learning where internet connectivity is not available. The SD card contains audio-video lectures on the topic and also the course materials. The Village Knowledge Centers (VKCs) have been set up at rural LSCs to provide free internet facilities. The students may visit the VKCs for academic purposes and can take the advantage of free internet facilities. The Learner Facilitation Centres (LFCs) at three Regional Centres

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also provide internet facilities to the registered students.

During the pandemic, all the higher education institutions were closed and the university conducted all its teaching-learning activities through digital platforms viz. institutional LMS and Mobile App. In addition to the above digital arrangements, the university conducted online sessions (synchronous) for all disciplines of the undergraduate and postgraduate degree programme of the university. Approximately 610 hours per week were allotted for the LIVE sessions. Apart from digitized SLMs, the university provided important links to access academic resources from different repositories and online resources. The web radio -Muktak had been introduced where the bandwidth is limited for the internet. The audio-video lectures are broadcast as per schedule.

Students' Perceptions and Feedback on the Effect of the Pandemic on their Learning

Due to COVID-19, about 90% of the world's student population (UNESCO, www.unesco.org) was unable to attend classes and was required to stay at home. Thousands of students of Netaji Subhas Open University (NSOU) were also locked down at their homes to stop the spread of coronavirus as per guidelines issued by the government from time to time. There was a tremendous impact of the COVID-19 pandemic on health, education, and the economy all over the world. If we consider only the education sector from the school level to the university level, the effect would be immeasurable. All the sectors including the educational one faced immense difficulties in the continuity of their activities. It was inevitable to see that there would be a societal change in human behavior. In educational institutions too, the relationship between the teachers and the taught even between students was affected in the period of post -COVID closure. The regular classroom teaching was not possible before the pandemic. The opportunities/ avenues may be explored to overcome the challenges that we are facing in our daily life. One such opportunity is an Information Technology (IT). Judicious use of technology can help solve many challenges digitally and remotely. The home quarantine to combat COVID-19 has shown us the importance and potential of online learning to continue our academic activities. The digital platform may serve

the purpose of online teaching in this challenging time. Online education has provided a new way of learning to develop a student's mindset beyond classroom education. NSOU took a number of ICT (Information and Communication Technology) initiatives for continuing studies during this challenging time. This survey will help us improve the teaching-learning process of the University in a new academic environment, especially in the post-pandemic period.

Methodology

A structured questionnaire was designed to capture the views of the learners on different parameters relating to the teaching-learning process. During the lockdown period, we had to follow COVID protocols to combat the spread of coronavirus, and hence the HEI remained closed for almost 2 years. The present study intends to find out the learners' attitudes and perceptions of online learning carried out, especially during the lockdown period. The questionnaire/research tool was designed in such a way that all the relevant factors/parameters are covered to derive the students' needs and assess the student's satisfaction. To get the information, the research tool was circulated in a google form through the NSOU website.

Participants Profile

A total of 433 learners participated in the survey and submitted their feedback on different parameters. Out of 433 respondents, 69% belong to the age group of 20-30 years. It reveals that the majority of the learners are young and are interested to pursue higher education through open and distance learning systems. Out of the total respondents, 32% are female learners (Fig 1 and Fig 2).

The survey tool was circulated among the learners through the university website. The university operates across the state of West Bengal to cater to the needs of society. Fig 3 shows that more than 50% of respondents are from rural areas, 32% from urban and 17% from semi-urban areas. The university offers various types of programmes e.g. post-graduate level, undergraduate level, postgraduate diploma level, diploma level, and certificate levels. Fig 4 shows that out of the total respondents, 45% are postgraduate degree students, 43% are bachelor's degree students and 3% are postgraduate diploma students. It may be mentioned

Fig 1: Age-wise Distribution of Participants

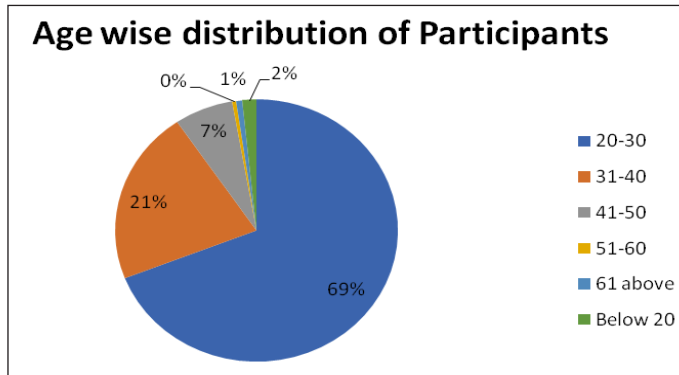
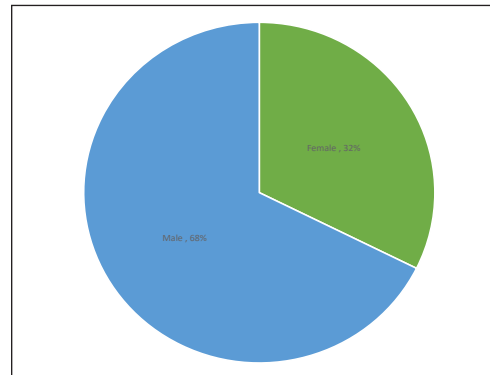


Fig 2: Gender-wise Distribution of Participants



that PG and UG are the most popular programmes at the university.

Access to Devices and Internet Connectivity

During the pandemic, the only mode of teaching was the digital platform. With the extensive use of the digital platform, the university developed the Learning Management System (LMS) to deliver educational content. All the online classes were conducted through LMS and Mobile Apps. The students, at the recipient end used to get all the educational content through electronic devices viz. smartphones, laptops, or other devices like desktops and PCs.

Table 1 shows that 90 % of semi-urban, 86% of rural, and 73 % of urban respondents used smartphones to access the LMS. Another 20% of urban students used Laptops/Tablets. Use of smartphones dominated among all the devices used by the students in the survey. The smartphone is the most popular device in the hands of students irrespective of their location viz. rural, semi-urban, and urban areas.

Table 1: The Device Used by Students' Location of Residence in Percentage

Location	The Device Used		
	Smart Phone	Laptop/ Tablet	Other Including Desktop
Rural	86.04	8.11	5.86
Semi-urban	90.41	4.11	5.48
Urban	73.19	20.29	6.52

Table 2: Status of Internet Connectivity by Students' Location of Residence in Percentage

Location	Internet Connectivity		
	Very Poor/Poor	Fair	Good/Very Good
Rural	24.3	23.0	52.7
Semi-urban	15.1	20.5	64.4
Urban	9.4	25.4	65.2

The educational content is delivered through electronic devices like smartphones, laptops PCs, etc. with the help of internet connectivity. So, internet connectivity in smartphones and other

Fig 3: Residential Status

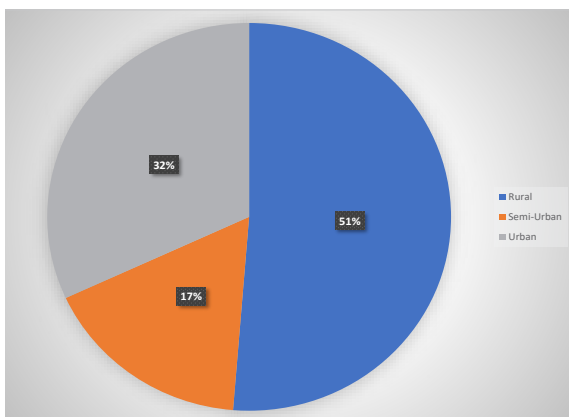
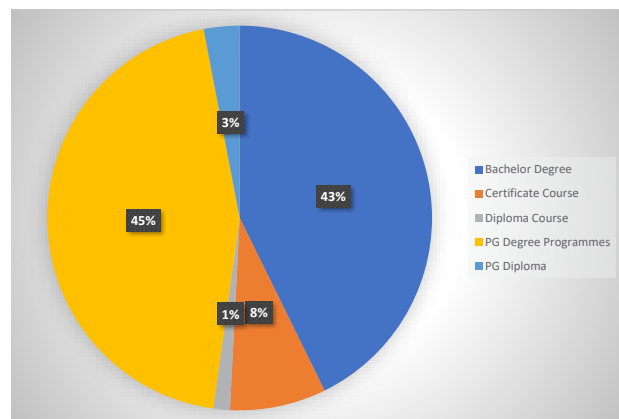


Fig-4: Programmes Enrolled



devices is a pre-condition to get academic content. Availability of internet connectivity becomes a major issue in a country like India. 91 % of urban, 85.5% of semi-urban, and 76 % of rural students found that connectivity is fair/good/very good. (Table 2).

Table 3: The Data Used by Students by Location of their Residence in Percentage

Location	The Type of Data Package Used		
	Mobile Data Package	Secured Wireless Connection	Others
Rural	95.05	3.15	1.80
Semi-urban	87.67	8.22	4.11
Urban	78.26	16.67	5.07

Internet connectivity may be obtained through various channels like wireless connection, modem, mobile data, etc. Table 1 shows that the majority of the students in the survey use smartphones for educational purposes. Table 3 illustrates the fact that the significant majority of students i.e. 95 % of rural, 88 % of semi-urban, and 78 % of urban use the internet through their mobile data. The majority of the respondents use smartphones and subscribe to mobile data packages to access the internet irrespective of their location.

Perceived Proficiency Levels in Using ICT for Learning

During the pandemic, the university redesigned the pedagogy with ICT and introduced ICT-integrated pedagogy to reach its thousands of students. This section highlights the proficiency levels in using ICT for learning.

Table 4: Students' Perceived Proficiency in Using ICT for Learning by their Gender in Percentage

Gender	Proficiency in Using ICT for Learning			
	No Experience	Require Help	Can Perform Basic Functions	Competent/Very Proficient
Male	9.29	27.86	17.86	45.00
Female	10.24	18.77	21.50	49.49

Table 4 shows that 45% of male and 50 % of female students reported that they are very competent in using ICT for learning. Again, 18% of males and about 22% of females can perform the basic functions of using ICT for learning. About 28 % of males and 19% of females expressed that they need help in using ICT for their studies.

Table 5: Students' Perceived Proficiency in Using ICT for Learning by their Age in Percentage

Age Group in Years	Proficiency in Using ICT for Learning			
	No Experience	Require Help	Can Perform Basic Functions	Competent/Very Proficient
< 30	10.46	20.92	20.26	48.37
31-50	8.20	24.59	20.49	46.72
>51	20.00	0.00	20.00	60.00

Table 5 indicates that 60 % of students above 51 years, 48 % of 30 years and below, and 47 % of students in the age-group 31-50 years felt competent in using ICT for learning. About 20% of students across all age groups can also perform basic functions.

Table 6: Students' Perceived Proficiency of Using ICT for Learning by their Location of Residence in Percentage

Location	Proficiency in Using ICT for Learning			
	No Experience	Require Help	Can Perform Basic Functions	Competent/Very Proficient
Rural	12.16	23.42	18.92	45.50
Semi-Urban	9.59	20.55	23.29	46.58
Urban	6.52	19.57	21.01	52.90

From Table 6, it can be noted that about 53 % of urban, 47% of semi-urban, and 46 % of rural students are competent/very proficient in using ICT. On average about 21 % of students require help in using ICT. About 12 % of students in rural and 7 % of urban reported that they had no experience using ICT for learning.

Overall Concerns of Students During the Pandemic Period

The pandemic has disrupted and affected our lives in many ways. Due to the lockdown, all the sectors including the educational sector have been closed to stop the spread of the coronavirus. As a result, students are confined within their homes and movement has been restricted. In this situation, the students become stressed and may face psychological problems. We wanted to know the concerns of our students during the pandemic regarding their physical health, mental and emotional well-being, educational disruption, and financial aspects.

Table 7: Students' Concerns During Pandemic by their Gender in Percentage

Concerns	Male			Female		
	Most Important/ Very Important	Important	Somewhat/ Least Important	Most Important/ Very Important	Important	Somewhat/ Least Important
Physical Health	88.57	10.00	1.43	87.03	10.92	2.05
Mental and Emotional Well-being	85.00	14.29	0.71	87.37	10.24	2.39
Education Disruption	70.00	26.43	3.57	72.35	21.50	6.14
Financial Aspects	78.57	19.29	2.14	74.74	18.09	7.17

Table 7 shows that majority of the male students are very much concerned with physical health (89%), mental and emotional well-being (85%), educational disruption (70%), and financial aspects (79%). The female students also showed similar concern in these areas viz. physical health (87%), mental & emotional well-being (87%), educational disruption (72%), and financial aspects (75%).

In Table 8, different age groups have been considered to capture their views on important concerns during the pandemic. The Table shows that majority of students in the two age groups, viz. 30 years & below and 31-50 years report all four concerns as most important/very important. Among the three age groups, the students 30 years & below have expressed that they were very concerned regarding physical health (89%), mental & emotional well-being (87%), financial aspects (73%), and educational disruption (68%).

An attempt was made to look at the concerns of students by their location. Table 12 shows that irrespective of location, students were concerned about physical health mental/emotional well-being, education disruption, and financial aspects. There were some variations across the 3 locations, for example, 66.67% of respondents in urban areas reported educational disruption as the most important/very important concern, while the corresponding figure for rural and semi-urban areas was 71.62% and 80.80%, respectively.

Students Learning Experiences during Online Classes

Online classes emerged as the only way to reach students during the pandemic. But even prior to the pandemic, Netaji Subhas Open University had introduced online classes for the benefit of its students.

Table 8 : Students' Concerns During Pandemic by their Age in Percentage

Concerns	30 years (N=306)			31-50 years (N=122)			51 years and above (N=5)		
	Most Important/ Very Important	Important	Somewhat/ Least Important	Most Important/ Very Important	Important	Somewhat/ Least Important	Most Important/ Very Important	Important	Somewhat/ Least Important
Physical Health	86.93	11.44	1.63	89.34	8.20	2.46	80.00	20.00	0.00
Mental and Emotional Well-being	86.60	12.09	1.31	86.89	9.84	3.28	80.00	20.00	0.00
Education Disruption	73.20	21.90	4.90	68.03	26.23	5.74	60.00	20.00	0.00
Financial Aspects	77.45	18.30	4.25	72.95	18.03	9.02	60.00	40.00	0.00

Table 9: Students' Concerns during Pandemic by their Location of Residence in Percentage

	Rural (N=222)			Semi -Urban (N=73)			Urban (N=138)		
	Most Important/ Very Important	Important	Some-what/ Least Important	Most Important/ Very Important	Important	Some-what/ Least Important	Most Important/ Very Important	Important	Somewhat/ Least Important
Physical Health	83.78	12.61	3.60	91.78	8.22	0.00	91.30	8.70	0.00
Mental/ Emotional Well-Being	83.78	13.06	3.15	87.67	12.33	0.00	90.58	8.70	0.72
Education Disruption	71.62	23.42	4.95	80.82	15.07	4.11	66.67	26.81	6.52
Financial Aspects	75.23	18.47	6.31	76.71	19.18	4.11	76.81	18.12	5.07

Table 10: Students Learning Experience before and during/Post-pandemic Period in Percentage

Online Classes	Students Learning Experiences						
	How Often Students Engaged in Online Classes (N=433)						
	Yes	No	Not at All	1-4 Times a Year	1-4 Times a Month	1-4 Times a Week	Almost Every day
Conducted Online Classes Before Pandemic	42.26	57.74	29.33	25.17	13.63	13.63	18.24
Conducted Online Classes During/Post Pandemic	82.91	17.09	12.47	20.09	18.01	23.09	26.79

Table 10 shows that 42.26 % of the respondents opined that the university conducted online classes before the pandemic. But during that time, online classes were not popular as it is evidenced that 29.33% of students did not access these online classes. 25.17 % say that they accessed online classes 1-4 times a year and 18.24% accessed online classes almost every day. During the pandemic period, the entire teaching-learning was shifted to online mode. 82.91% of total respondents agreed that the university conducted online classes and 26.79% of the respondents accessed these online classes almost every day. The

weekly participation has also increased from the pre-pandemic period of 13.63% to 23.09% during/the post-pandemic period. The student's participation in online classes has increased significantly from the pre-pandemic to during/post-pandemic period.

The students of the university are scattered across the state of West Bengal. In this study, we have divided our students on the basis of their residence location viz. rural, semi-urban, and urban. Internet connectivity also depends on the location because, in India, the speed of the internet is not uniform in all

Table 11: Students' Engagement in Classes by Location during or Post-pandemic in Percentage

Programme Enrolled	Students Learning Experiences				
	How Often Students Engaged in Online Classes				
	Not at All	1-4 Times a Year	1-4 Times a Month	1-4 Times a Week	Almost Every day
Rural	14.41	20.27	17.57	21.62	26.13
Semi-urban	15.07	26.03	13.70	21.92	23.29
Urban	7.97	16.67	19.57	26.09	29.71

places, especially in rural areas. Around 45-55% of students engaged in online classes 1-4 times a week/ almost every day. A small percentage of students did not engage in online classes i.e., 14 % of rural, 15 % of semi-urban, and 10 % of urban students.

It was mentioned earlier that the university has integrated ICT into its pedagogy to deliver academic content, especially during the pandemic. With the help of technology-enabled pedagogy, the university reaches thousands of students. During the pandemic, the university used the digital platform extensively to implement ICT-integrated pedagogy. Table 12 details the learning resources and various platforms used to deliver academic resources. The Table shows that most of the students under the survey took

benefit of the digital form of course materials, audio-video lectures, lecture notes, and online submission of assignments. Students also appeared in the online examination during the pandemic. The university uploaded all types of notices/ information on its website. The students accessed this information online from their homes/ own locations without traveling to learner support centers. The respondents are well aware of the following online services provided by the university:

- Digital Library Resources.
- Academic Information on the Internet.
- University Learning Management System.
- University Repository of Educational Resources.

Table 12: Students’ Preferred Learning Resources for Learning during or Post-Pandemic

[VGE-Very Great Extent; GE- Great Extent; SE-Some Extent; OLE-Only to a Little Extent; NA-Not at all]

Preferred Learning Resources	Students’ Response in Percentage (N=433)				
	VGE	GE	SE	OLE	NA
Learned from print-based learning materials	42.03	27.94	19.63	6.47	3.93
Learned from e-SLM (text format) available on the university website	37.41	30.95	21.94	6.00	3.70
Accessed audio-video lectures from the university website	44.80	29.33	15.94	5.77	4.16
Accessed lecture notes, videos, e-books online from sources other than the university website	40.18	28.87	17.78	7.39	5.77
Completed and submitted assignments online	57.74	23.79	8.55	3.46	6.47
Attended examinations online	62.82	21.94	8.08	3.93	3.23
Accessed digital library resources	36.03	28.18	16.86	8.78	10.16
Searched for academic information on the internet	52.42	31.41	11.09	3.46	1.62
Used University Learning Management System	42.73	30.25	17.32	5.31	4.39
Accessed university repository of educational resources	42.73	29.33	15.70	6.47	5.77
Accessed online educational repositories and digital education platforms such as SWAYAM, NPTEL, Virtual Labs, e-PG Pathshala, and others	37.18	26.79	18.71	6.00	11.32
Enrolled in online courses, including MOOCs	39.95	25.64	13.86	5.54	15.01
Joined live online lecture/tutorial sessions	50.65	30.72	14.32	1.85	2.46
Received feedback on assignments online	42.03	27.94	12.01	4.85	13.16
Participated in online discussion forums for study-related purposes	39.49	30.02	15.47	6.00	9.01
Used email for academic purposes	50.12	27.25	12.01	6.24	4.39
Used social media for academic purposes	46.19	29.56	14.09	5.08	5.08

- Online Educational Repositories and Digital Education Platforms such as SWAYAM, NPTEL, Virtual Labs, e-PG Pathshala, and others.
- Online Courses, Including MOOCs, etc.

ICT-based services are now well accepted by students to continue their studies, especially in the pandemic and post-pandemic period.

Challenges Faced by Students in Learning during the Pandemic

It is true that all the educational institutions including the HEIs were closed for teaching-learning during the pandemic with no teachers or students allowed to attend on-campus learning activities. Many HEIs adopted the ICT-integrated pedagogy so that the students can continue their studies from their homes. The survey attempted to

look at the challenges faced by the students during the pandemic.

Table 13 presents certain challenges which students might have faced while continuing their studies during the pandemic. As per Table 13, the most important challenges from the perspective of students are:

- Internet Connectivity (57.74%).
- Sense of Isolation due to no in-person Interaction (42.03%).
- Conducting Laboratory Counselling/ Fieldwork (39.03%).
- Lack of Devices (37.41%).
- Lack of ICT Skills (36.26%).
- Inadequate Online Resources (36.03%).

Table 13: Challenges Faced by Students during their Learning in Pandemic Period

Challenges	Students' Response in Percentage				
	Most Important	Very Important	Important	Somewhat Important	Least Important
Internet connectivity issues	57.74	25.17	9.70	3.00	3.00
Lack of access to devices	37.41	33.72	13.63	5.31	7.85
Sense of isolation due to no in-person interaction with other students/tutors/ counsellors	42.03	29.79	15.24	6.47	4.39
Fatigue due to continuous screen time exposure	32.10	31.41	20.32	8.31	5.31
Inadequate ICT skills among students for learning online	36.26	30.95	18.48	6.00	6.00
Challenges in completing and submitting assignments	38.11	31.64	15.01	8.08	5.08
Difficulties in managing academic workload	30.72	31.41	23.09	6.69	5.54
Difficult to receive feedback on assignments	34.64	30.48	19.86	7.62	5.08
Difficulties with taking online/remote examinations	34.87	29.33	18.24	6.70	8.31
Lack of adequate learner support	35.10	30.25	19.40	7.62	5.77
Lack of motivation to learn	34.64	31.18	18.24	7.16	6.47
Difficult to concentrate for prolonged live online sessions	35.57	31.41	17.32	6.47	6.24
Difficulty in getting notifications regarding study	32.56	29.56	18.24	8.31	9.00
Absence of supportive environment for learning at home	32.10	30.95	18.24	7.85	8.55
Difficulty specific to course of study, for example, access to science laboratories, field work, etc.	39.03	27.02	17.32	7.62	6.24
Costly in terms of resources and the time and effort required.	33.03	28.87	18.71	8.55	8.08
Difficult due to inadequate ICT skills among teachers.	33.95	27.25	18.71	10.39	7.62
Lack of availability of quality online academic content.	36.03	27.71	18.48	8.78	6.93

- Difficulty in Taking the Online Examination (34.87%).

In addition to these challenges, the students also highlighted challenges like managing online workload, continuous screen time, lack of learner support, etc. There were many challenges faced by students across the State of West Bengal. An attempt was made to overcome these challenges through ICT-integrated pedagogy and by reaching the unreached with the help of ICT. Successful implementation of ICT-integrated pedagogy with proper guidance and training on how to access these ICT-based services may help achieve the desired outcome among students across the state, especially during the pandemic period.

Opportunities in Learning during the Pandemic

Various parameters were identified to measure the opportunities for learning during the pandemic. The university delivers its academic content through technology-enabled pedagogy which is found to be effective. The students under the survey expressed their views that technology-

enabled learning helped them to continue their studies and provided flexibility in learning. The respondents opined that the audio-video lectures and online study notes were very helpful to understand the concepts and also increased their IT skills. The majority of the respondents also agreed that technology-enabled learning gave them an opportunity to interact with teachers, with peers, and participate in the online discussion forum to clarify doubts, etc. So, technology-enabled learning opened up a new way of learning with personalized experiences on digital platforms. Almost 80 to 90 % of students were in agreement (SA/A) that each of the 13 items listed in the table-14 provided opportunities for learning.

Students' Preferences of Modes of Learning in the Online Learning Context

Different methods of imparting education during the pre-pandemic, pandemic, and post-pandemic periods may be considered to make education outcome-based, effective, and appropriate to the needs of the present society. The following methods of education are now available- traditional face-to-

Table 14: Student's Degree of Agreement on the Opportunities Provided by Technology -enabled Learning during Pandemic

Learning Opportunities Provided by the Technology -enabled Learning during Pandemic	Student's Degree/Level of Agreement on the Opportunities Provided by the Technology-enabled Learning in Percentage				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Helped to maintain continuity in learning	57.51	30.72	9.70	1.39	0.69
Offered flexible opportunities for learning	51.50	34.87	10.16	2.54	0.92
Enabled communication with peers and teachers	48.08	32.10	15.70	3.23	1.62
Provided multiple ways (audio, video, presentation, text) of learning the same material	53.58	32.10	10.6	2.77	0.92
Improved learning through self-assessment quizzes and activities	48.04	31.64	13.39	4.85	2.08
Provided opportunities for group assignments among students at different locations	46.19	33.03	12.24	5.54	3.00
Provided opportunities for regular feedback from teachers	44.80	29.33	17.09	4.39	4.39
Provided access to quality course content from different subject experts	44.80	34.87	14.78	3.00	2.54
Promoted participation in online platforms/forums for doubt clarification and discussion	47.58	34.18	13.16	2.77	2.31
Promoted my time management skills and self-discipline	45.50	33.72	15.01	3.70	2.08
Improved my conceptual understanding through self-paced learning	47.81	32.10	14.55	3.23	2.31
Made me more involved in learning activities	46.65	32.56	15.01	3.00	2.77
Improved my ICT skills	51.04	29.56	14.32	2.54	2.54

face classroom education (during pre-pandemic) and online education (during the pandemic/ lockdown period). It is restructuring the system to facilitate how and what we teach in the digital environment and support learning through digital tools. Online learning has enormous potential to deliver educational content to the desired target group. In synchronous learning mode, the students and teachers remain online and connect with each other in real-time. The real-time interaction (synchronous) with the students during the online classes gives immediate feedback to the students. In asynchronous mode, educational content like e-text, and video lectures are made available online and students can access those content at their convenience and interact through the discussion forum. Both the modes viz. synchronous and asynchronous have their own merits and demerits. In the first instance, though live interaction and instant feedback are possible, the time schedule may not permit all students to attend and internet connectivity may also be an issue so far as data consumption is concerned. The asynchronous mode through a discussion forum and short preloaded video/audio is helpful and inclusive in nature. Students can access the content at their own pace and time repeatedly. The learning environment is an important factor in both classroom and online teaching-learning activities at the delivery (teacher) and receiving (student) end. Online learning may be facilitated through LMS/ Zoom/G-Meet/WebEx etc. Learning Management System (LMS) may also be developed on different platforms like Moodle. The pandemic has shown the power and benefit of digital platforms for learning. Therefore, in the post-pandemic period, classroom teaching (on campus) and online teaching (off campus) may be synchronized for an effective pedagogy of the teaching-learning process.

Suggestions

Every system has some challenges whether it is traditional F2F classroom teaching or online teaching. Technology integration is a way to address issues like accessibility, inclusivity, and lifelong learning. Some of the challenges faced in this regard are i) the digital divide, ii) poor internet connectivity, iii) poor supply of electricity, iv) lack of training for teachers, and iv) language of the e-content, and so on. As per Table 15, the majority of the respondents (above 60%) suggested that special attention be given to each of these challenges.

Table 15: Major Suggestions Provided by Students in Percentage

Suggestions	Students' Response in Percentage
Improve connectivity infrastructure	67.44
Improve access to devices	60.51
Provide more teacher training and capacity-building opportunities in ICT skills	61.20
Teacher training and capacity building in online and blended course development, delivery, and teaching-learning strategies	58.89
Guidelines on online/digital platforms, repositories, and educational resources	61.20
Strengthen quality assurance for online and blended learning	61.20

Future Directions Including Plans for Improving Distance Teaching and Learning based on the Experiences Gained during Pandemic

The advent of the digital age and the emergence of digital learning offer opportunities to develop new learning experiences outside the traditional system (F2F). Students of the 21st century may avail convenient methods to increase their knowledge and skills as per their needs. On digital platforms, students have more flexibility and choice as to place, time, and location of learning. Digital learning has the potential to extend learning opportunities in an equitable way. The judicious use of digital tools/ platforms in education can change the whole learning process facilitating pedagogical changes in course curricula. During the Covid-19 pandemic, educational institutions have taken several online initiatives to continue their teaching-learning activities and have embarked on a digital transformation process in the education sector at all levels.

The students of this generation are technology-savvy and have the flexibility as to the choice of courses as per their needs. The learning styles and attitudes of 21st century students have changed to a large extent as compared to previous generations of learners. The basic features of 21st century learning are i) technology-enabled, ii) anytime, anywhere learning i.e. learning at own pace and time. The online repositories of academic resources have opened a new horizon of learning. Considering the challenges and limitations as identified by the respondents under the survey, what we need is a

perfect blend of three modes (F2F, synchronous, asynchronous) of education that can address three Es- Excellence, Expansion, and Equity. The faculty is in a better position to decide the proportion of components for delivering a particular course keeping in mind the course objectives, course outcomes, target audience, and available IT infrastructure. Cross-border education is possible with the advent of new pedagogical designs and the integration of technology with traditional systems of education.

The Government of India is taking various initiatives to promote digital education under the 'Digital India programme'. This was launched in 2015 to make available to citizens improved online infrastructure, and Internet connectivity and to make the country digitally empowered. The UGC/CEC/ NITTTR has taken initiative to translate the e-content into different Indian languages to increase its reach. It is true that during the pandemic, without any formal training and planning, institutions had to shift from the traditional system to an online system of education to engage students in their studies. Substantial progress has been made in this regard and institutions have started to recognize the

importance of the digital platform in the education sector. Teachers of all levels are being trained in different forums to increase their competency in the digital environment through capacity-building programmes.

Conclusion

The successful implementation of blended mode (F2F and online/digital education) will have an impact in increasing the GER as well as in continuing lifelong learning for reskilling or retraining the existing workforce to remain relevant in the job market of the 21st century and fulfill the objectives set forth in the NEP 2020. The government policies and initiatives will help to promote a positive mindset in adopting blended pedagogy for the benefit of our students and society at large. The education system can be restructured and learning outcomes may be improved with the integration of technology and successful implementation of blended pedagogy.

Acknowledgment

The survey was conducted with the support of the Commonwealth Educational Media Centre for Asia, New Delhi. □

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Participation of Women in Higher Education in Punjab: Current Status, Challenges and Strategies

Anuradha Sekhri*

In the second decade of this century, there has been a steady growth of public sector investment in higher education. In contrast, the private sector accounts for more than 60 per cent of total higher education institutions in India.

The Private Institutions of technical and professional education are on a constant and aggressive expansion due to high demands for the workforce in the industry and global market, a huge mismatch between the demand and supply, and constraints of the government to make provision for accessibility to higher education for all the strata of the society.

Although there is an unprecedented spurt of private institutions primarily in the fields of engineering and technology, business and management, and pharmacy, according to the National Assessment and Accreditation Council (NAAC), AICTE, higher education institutions face acute problems in terms of shortage of dedicated academic faculty, required infrastructure, outdated and redundant curriculum unsuitable for market demands, lack of monitoring, etc. As a result, the percentage of employable graduates is very low, primarily because of the gap between the requirements of industry and the global market and the quality of output of higher education institutions. The need of the day is to focus on building qualitative competitiveness as the quality of education has a wide-range impact on employability and labour productivity.

Higher education plays a key role in society's progress and the economy's development. Besides, its major function is to:

- impact, create, and disseminate knowledge;
- foster creativity, and critical thinking, and promote analytical abilities to infuse life in teaching and learning;

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- enable students to make independent and informed decisions, and become responsible citizens of society;
- develop human resources for the promotion of social and economic growth and the creation of a knowledge society.
- Given the huge demand for higher education from all the strata of society, other pressures are causing concern concerning accessibility, equity, quality, and resources, as enumerated by Sudarshan and Subramanyan (2012):

Accessibility and Equity i.e., making provision for affordable, quality, and globally-relevant education for the aspiring youth from all the strata of society, i.e., economically underprivileged concerning the rural-urban, caste-class, gender, religion and region, etc., leads to a gap in the demand and supply.

Accessibility to Higher Education

There is a vast range of specializations in Science, Social Science, Arts, Humanities, Languages and Professional and Technical subjects. Table 1 reflects the data.

The enrolments of boys and girls in Universities and Colleges of Punjab, right from Graduate to Postgraduate level leading to M.Phil and Ph.D. courses, reveal that there are 148283 students on rolls.

In terms of percentages, only 4.8% of students in the age group of 18-23 years pursuing Higher Education in Punjab.

Accessibility of Girls in Higher Education

Going by enrolment figures in table 2 and table 3, the number of girls is higher in all courses except B.E./B.Arch./B.Sc./B.Tech. Courses where the percentage of girls is only 16.48% compared to 83.52% of boys in these courses. This means the accessibility of girls in Higher Education is at par with boys' education.

Table 1: Number of Recognized Institutions in Punjab, 2019

Year	Arts, Science, Commerce and Home Science Colleges			Engineering, Technology and Architecture Colleges			Medical College (Allopathic Only)			Teachers Training College (B.Ed.)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	173	103	276	100	3	103	9	0	9	144	42	186

Source: *Statistical Abstract of Punjab, 2020*

Table 2: Number of Students in Institutions of Punjab (by level), 2019

Year	Ph.D.			M.Phil			M.A.			M.Sc.			M.Com.		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	598	1033	1631	199	331	530	10364	23590	33954	2945	13734	16679	2014	6952	8966

Source: *Statistical Abstract of Punjab, 2020*

Table 3: Number of Students in Institutions of Punjab (by level), 2019

Year	B.Com./B.Com. (Hons)			B.E./B.Sc., (Eng.)/ B.Arch./B.Tech.			M.B.B.S.			B.Ed.		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	24174	29908	54082	8592	1696	10288	356	374	730	3237	18716	21953

Source: *Statistical Abstract of Punjab, 2020*

Table 4: Accessibility of Scheduled Caste Students in Higher Education

Year	Ph.D.			M.Phil			M.A.			M.Sc.		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	63	67	130	44	45	89	2130	4663	6793	465	1631	2096

Source: *Statistical Abstract of Punjab, 2020*

Table 5: Accessibility of Scheduled Caste Students in Higher Education

Year	M.Com.			Other (B.C.A., M.C.A.)			B.A./B.A. (Hons.)			B.Sc./B.Sc. (Hons.)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	257	647	904	3331	4932	8263	22214	24721	46935	3707	5512	9219

Source: *Statistical Abstract of Punjab, 2020*

Table 6: Accessibility of Scheduled Caste Students in Higher Education

Year	B.Com./B.Com. (Hons)			B.E./B.Sc., (Eng.)/ B.Arch./B.Tech.			M.B.B.S.			B.Ed.		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2019	3157	4397	7554	1736	416	2152	72	73	145	1251	3802	5053

Source: *Statistical Abstract of Punjab, 2020*

The gross enrolment ratio is 28.2% against 27.1% of All India Higher Education Institutions.

The major deterrent to the accessibility of all aspirants to Higher Education is perhaps mainly due to the High Costs of Private Institutions in all fields of education like Degree colleges, Teacher training colleges, and Professional and Technical Institutions.

Student Population in the Age Group (18-23 years) in Punjab Enrolled in Higher Education:

General Category 3078582
SC Category 1059085 (34%)

Accessibility to higher education is hindered due to the following factors:

- High cost of pursuing Higher Education in terms of financial and human resources;
- admission process.
- the potential of many Higher Education programs due to a lack of appropriate student support mechanisms.

- The lack of Quality Higher Education Institutions run by Private Organizations may be another reason that students in the age group (18-23 years) migrate to other states/other countries.
- poor employability.

These are factors responsible for the lack of equity and inclusion in higher education.

Challenges of Higher Education

The focus of NEP on Higher Education is on the following:

- Economic development and sustainable livelihood and economic development of the nation.
- Lack of emphasis on the development of cognitive, technical, and vocational skills, and or subject-specific skills to enhance the employability of the graduates.
- Lack of access to interdisciplinary allied courses to enrich their academic skills.

Table 7: Status of Employment

Year	Matriculate Freshers	Under Graduate	Graduate Freshers	Post Graduate	Graduate Engineers Freshers	Diploma Engineers Freshers
2017	78108	71379	18218	14812	1503	7504
2018	67950	71899	17858	6008	2361	8773
2019(p)	61615	66398	15478	6429	2933	9079
2020	58153	68457	17802	5782	5894	8864

Source: *Statistical Abstract of Punjab, 2020*

Table 8: Status of Employment

Year	Craftsman Trained ITI and Work Experienced	Doctor		Agriculture Specialist	Teachers		
		Allopathic	Others		M.Ed.	B.Ed.	PTI, CPED, D.PED & M.PED.
2017	22198	45	148	82	16244	366	1025
2018	23962	61	144	47	15808	512	1151
2019(p)	20785	51	93	25	13150	549	99
2020	19464	48	89	16	11898	525	896

Table 9: Accessibility to Higher Education in Terms of GER and Vision 2030, 2047

	Current Status			Vision					
	Male	Female	Total	2030			2047		
				Male	Female	Total	Male	Female	Total
General Category	25	32	28.2	30	38	35	40	50	50
SC Category	15.8	22.4	18.8	20	25	23	30	35	35

Source: *AISHE 2019-20*

The 21st Century Higher Education demands individuals to specialize in more than one area of interest and develop capabilities accordingly.

Table 10: Challenges and Strategies for Higher Education

Challenges	Strategies
<ul style="list-style-type: none"> Equity and Accessibility. 	<ul style="list-style-type: none"> To open State of Art Government/State Universities/ Colleges in districts with lesser educational facilities. Scholarships for economically disadvantaged students. Infrastructure and quality materials are available to all learners.
<ul style="list-style-type: none"> Development of cognitive skills. 	<ul style="list-style-type: none"> Revamping of curricular pedagogy, assessment, and student support services.
<ul style="list-style-type: none"> Leveraging technology for teaching learning at all levels. 	<ul style="list-style-type: none"> Provision for digital infrastructure. Enhancing e-learning platforms and digital repositories for addressing digital devices. Virtual labs. Teacher training for Blended Models of learning.
<ul style="list-style-type: none"> Skill enhancement 	<ul style="list-style-type: none"> Curricular framework with a provision for subject-specific skills required as per market demands. Focus on cognitive, emotional and social skills to cater to 21st-century skills.
<ul style="list-style-type: none"> For enhancement of employment. 	<p>For Industry</p> <ul style="list-style-type: none"> Reskilling of graduates/educated/trained personnel to meet the requirements of changing jobs. Collaborating with industry and training centres to skill people.
<ul style="list-style-type: none"> For Academia. 	<ul style="list-style-type: none"> Constant updating curriculum as per need and requirements of the industry collaboration with experts from the industry. Internships of students and visits to the industry to keep them updated with industry and employment trends. Opening of Skill University in the State.

Conclusion

Women's empowerment and education are development indicators. Women's education ensures

holistic and long-term development. It includes more equitable access to higher education, technical and vocational training, and research, each paying due consideration to quality assurance. In professional and technical courses, the enrolment of girls is much less in comparison to that of boys in these courses in Punjab. It is up to society and the government to create a safe environment and raise awareness about education through policy and media campaigns to empower women by increasing gender equality in technical education.

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National Education Policy –2020: An Overview

K Praveena*

National Education Policy-2020 (NEP) is drafted with a long-term vision of making India a Global Knowledge Superpower with a focus on inclusiveness, participation and holistic approach. NEP, 2020 is third in series since independence; the first two were introduced in 1968 and 1986, respectively.

The Indian government replaced a 34-year-old National Policy on Education, framed in 1986, with the New Education Policy of 2020. National Education Policy has been approved after a long brainstorming session with millions of suggestions and after 3-4 years of extensive deliberations. It is based on the pillars of Access, Equity, Quality, Affordability, and Accountability.

The draft of the new National Education Policy was submitted by the panel headed by the former ISRO Chief, Padma Vibhushan Professor K. Kasturirangan in December, 2018.

The National Education Policy, 2020 aims to shift towards more scientific approach to education. It will help to cater to the abilities of children in different stages of development. This includes cognitive development, social and physical development. The aspirational policy shares ideas to revamp education, teaching and assessment systems in schools, colleges as well as teacher's and professional-level training. When implemented, the policy will bring India at par with leading countries of the world.

The policy has raised public spending on education by the states to 6 per cent of GDP. Currently, India spends 4.6 per cent of its total GDP on education. The major highlights of the policy are presenting here.

School Education

The new policy aims for universalisation of education from pre-school to secondary level with 100 per cent Gross Enrolment Ratio (GER) in school education by 2030. Curriculum, pedagogy and learning should be holistic, integrated, inclusive, enjoyable, and engaging.

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With an emphasis on Early Childhood Care and Education (ECCE), the 10+2 structure of school curriculum is to be replaced by a 5+3+3+4 curricular structure corresponding to ages 3-8, 8-11, 11-14, and 14-18 years, respectively. Now the school structure has been divided into four parts. 3-8 age group is further divided into 2 groups 3-6 & 6-8. In 3-6 years early childhood care will be given importance. Age 6-8 years grade 1-2 called as foundation stage. Age 8-11 years grade 3-5 called as preparatory stage. Age 11-14 years grade 6-8 called as middle stage.

Vocational education will start in schools from the 6th grade, and will include internships and exams will be held only for 3rd, 5th and 8th grade which will test achievement of basic learning outcomes, and application of knowledge in real-life situations. The Grade 3 examination, in particular, would test basic literacy, numeracy, and other foundational skills.

Age 14-18 years grade 9-12 called is secondary stage in which assessment will shift to formative style which includes high order thinking skills, critical thinking, and conceptual clarity.

Infrastructure

Adequate and safe infrastructure, including working toilets, clean drinking water, clean and attractive spaces conducive to learning, electricity, computing devices, and internet, library and sports and recreational resources will be important to provide to all schools in order to ensure that teachers and students including children of all genders and children with disabilities, receive a safe, non-violent, inclusive and effective learning environment and are comfortable and inspired to teach and learn in their schools.

Board Examination

The class 10 and 12 examinations- referred to as board examinations - are likely to be held in two difficulty levels and students will be given a second chance at boards to improve their score. They will be free to take up courses regardless of the stream division of arts, commerce and science.

Board examinations will be made 'easier', as they will test primarily core capacities and

competencies rather than months of coaching and memorisation.

Board may, over time, also develop further viable models of Board examinations, such as – annual/semester/modular Board examinations; offering all subjects beginning with mathematics, at two levels; two parts examinations or objective type and descriptive type.

Progress Cards

The progress card will be a holistic, 360-degree, multidimensional report that reflects in great detail the progress and the uniqueness of each learner in the cognitive, affective, and psychomotor domains. The progress card will include self-assessment, peer assessment and teacher assessment.

Medium of Instruction

Up to grade 5 mother tongue will be the medium of instruction. The NEP puts focus on students' mother tongue as the medium of instruction even as it sticks to the 'three language formula' but also mandates that no language would be imposed on anyone. The NEP only recommends the mother tongue as medium of instruction, and not make it compulsory.

Continuous Professional Development for Teachers

Teachers will be given constant opportunities for self-improvement and to learn the latest innovations and advances in their profession.

Platforms (especially online platforms) will be developed so that teachers may share ideas and best practices. Each teacher will be expected to participate in, say, 50 hours of CPD opportunities every year for their own professional development, driven by their own needs and choice. CPD opportunities will, in particular, systematically cover the latest pedagogies regarding foundational literacy and numeracy, formative and adaptive assessment of learning outcomes, individualised and competency-related pedagogies, such as experiential learning, arts-integrated, sports integrated, and storytelling-based approaches, etc.

Higher Education

NEP, 2020 aims to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3 per cent in 2018 to 50 per cent

by 2035 and aims to add 3.5 crore new seats to higher education institutions.

Common Entrance Examinations for Admissions to Higher Education

From school to colleges, it is advised that there should be a single gateway. The National Testing Agency (NTA) will conduct a Common Entrance Examination (CEE) for admissions to universities across the country. A common aptitude test, as well as specialised common subject exams in the sciences, humanities, languages, arts, and vocational subjects, will be held at least twice every year. It will allow "most universities to use these common entrance exams – rather than having hundreds of universities each devising their own entrance exams, thereby drastically reducing the burden on students, universities and colleges," the NEP read. It will not be mandatory and will be left to individual universities and colleges to use NTA assessments for their admissions. The National Scholarship Portal will be expanded to track the progress of students receiving scholarships.

No Separate Governing Bodies for Higher Education

Higher Education Commission of India (HECI) will be set up as a single overarching umbrella body for entire higher education, excluding medical and legal education. Public and private higher education institutions will be governed by the same set of norms for regulation, accreditation and academic standards.

Rationalised Institutional Architecture

The definition of the university will allow a spectrum of institutions that range from Research-intensive universities to teaching-intensive universities and autonomous degree-granting colleges. Affiliation of colleges is to be phased out in 15 years and a stage-wise mechanism is to be established for granting graded autonomy to colleges. Over a period of time, it is envisaged that every college would develop into either an autonomous degree-granting college, or a constituent college of a university.

Diminishing Compartmentalisation between Disciplines

Under NEP–2020, there will be no rigid separations between disciplines like arts, sciences, commerce etc; between curricular and extra-curricular

activities, between vocational and academic streams. Students can select subjects of their liking across the streams.

Multidiscipline Entry and Exit

Students can follow their passion through multidisciplinary course through multiple entry and exit.

Under the NEP, undergraduate degree will be of either 3 or 4-year duration with multiple exit options within this period. College will be mandated to give certificate after completing 1 year in a discipline or field including vocational and professional areas, a diploma after 2 years of study, or a Bachelor's degree after a 3-year.

The four-year programme may also lead to a degree 'with Research' if the student completes a rigorous research project in their major area(s) of study programme.

Government will also establish an Academic Bank of Credit (ABC) for digitally storing academic credits earned from different HEIs. So that these can be transferred and counted towards final degree earned.

Promotes Digital Learning

In a bid to ramp up digital learning, a National Educational Technology Forum (NETF) would be created. "E-courses will be developed in eight regional languages initially and virtual labs will be developed." It will be created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration and so on, both for school and higher education.

A rich variety of educational software will be developed and made available for students and teachers at all levels. All such software will be available in all major Indian languages and will be accessible to a wide range of users including students in remote areas and with disabilities. Teaching-learning e-content will continue to be developed by all States in all regional languages.

MERUS

Institutions called Multidisciplinary Education and Research Universities (MERUs) are to be set up at par with IITs and IIMs. National Research Foundation is to be created as the apex body to foster strong research culture across higher education.

Under the policy, National Assessment Centre called 'PARAKH- Performance review and analysis of knowledge for holistic development' has been created. The center will assess the students.

Top 100 colleges of the world will be allowed to set their campuses in India. Foreign universities will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India.

Promoting High-quality Research

Research and innovation at institutions in India, particularly those that are engaged in higher education, is critical. Evidence from the world's best universities throughout history shows that the best teaching and learning processes at the higher education level occur in environments where there is also a strong culture of research and knowledge creation; conversely, much of the very best research in the world has occurred in multidisciplinary university settings.

Research and Innovation (R&I) investment in India has been only 0.69 per cent of GDP. For the sake of comparison, the levels of R&I investment as a proportion of GDP in some other countries are: United States (2.8 per cent), China (2.1 per cent), Israel (4.3 per cent), and South Korea (4.2 per cent); i.e., all invest at least three times as much as a proportion of GDP.

In order to focus on research and promote research culture in all HEIs in an interrelated and coordinated fashion, there shall be a National Research Foundation (NRF) which would bring a quantum jump in funding and support for research.

The NRF will competitively fund research in all disciplines across the academic landscape: Science, Technology, Social Sciences, and Arts and Humanities. Successful research will be recognised, and where relevant, implemented through close linkages with governmental agencies as well as with industry and private/philanthropic organisations.

Teacher Student Ratio

The teacher-student ratio shall range from 1:10 to 1:20 depending on the programme. The teaching duties shall allow time for interaction with the students, conducting research, and other university activities. Faculty will be appointed to individual institutions and not be transferable across institutions, so that they may feel truly invested in,

connected to, and committed to their institution and community.

Promotion of Indian Arts and Culture

The promotion of Indian arts and culture is important not only for the nation but also for the individual. Cultural awareness and expression are among the major competencies considered important to develop in children, in order to provide them with a sense of identity, belonging, as well as an appreciation of other cultures and identities. It is through the development of a strong sense and knowledge of their own cultural history, arts, languages, and traditions that children can build a positive cultural identity and self-esteem. Thus, cultural awareness and expression are important contributors both to the individual as well as societal well-being.

Time for Implementation

Any policy is only as good as its implementation. Such implementation will require multiple initiatives and actions, which will have to be taken by multiple bodies in a synchronised and systematic manner.

The policy recommends the creation of a Rashtriya Shiksha Aayog (RSA), an apex advisory body for elementary to university education in India duly replacing the Central Advisory Board of Education (CABE).

The RSA shall be responsible for developing, articulating, evaluating, and revising the vision of education in the country on a continuous and sustained basis, in close collaboration with the corresponding apex bodies of States. It shall also create and continuously review the institutional frameworks that shall help attain this vision a Rajya Shiksha Aayog (RjSA) may be constituted in each State, headed by the education minister of the state with other members.

By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree.

Starting with the change in the name of the Ministry of Human Resource Development into the Ministry of Education, the policy will be implemented immediately in phases.

There are over 100 action points in the Policy. Implementation will be done in phases, based on time, region and types of institutions with Institutes

of Eminence (IoEs) and Central Universities taking the lead.

For instance, four-year undergraduate degrees with multiple entry-exit options will be introduced in the 20 IoEs from the 2020-21 academic year, while others continue with the existing three-year degree courses. Existing M.Phil students can continue until they complete their degree, although new admissions for the programme will not be accepted.

The National Testing Agency will introduce a pilot version of the common entrance test by December 2020, which will be used for admission to all IoEs and central universities in 2021.

Some Indian Institutes of Technology are working on developing the technical structure of the Academic Credit Bank, which will also be established by December, and become applicable to all new students joining central universities next year.

The National Foundational Literacy and Numeracy Mission which is to be implemented by 2025 will be launched by the end of this year. The National Council of Educational Research and Training (NCERT) will introduce the curricular framework for the new school structure, including early childhood care, by the next academic year.

Free breakfasts can only be considered in the next academic year if a budget allocation is made to cover it.

The process of converting affiliated colleges into degree granting autonomous institutions and then further into fully fledged universities is estimated to take at least 15 years, as the Centre will have to provide financial assistance for this purpose.

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Courage: The Real Key to Success

Nandan Nilekani, Chairman and Co-founder of Infosys and Chairman, EkStep Foundation delivered the Convocation Address at the 30th Convocation Ceremony of the National Law School of India University, Bengaluru on September 18, 2022. He said, “Systems have a way of swallowing the individuality of people. Slowly you speak its language, assume its fiction to be a reality, and become invested in its perpetuation. Your creativity and sense of 'why not' get lost. But by keeping the company of growth-minded people, following the stories of changemakers, and most of all, just doing it even at the risk of failure, you will bring your full potential to life. How you show up can change the world.” Excerpts

My acquaintance with this institution and its graduates began almost from the very first batch. Rahul Matthan of the batch of 1994 has been a person I've turned to for many a legal issue, particularly around technology and privacy; Deepika Mogilishetty of the batch of 1997 has worked with me over the last 13 years; Samuel Mani of the batch of 1998 was a senior Infosys lawyer while I served as the CEO; MS Srikar, also of the batch of 1998, was my Private Secretary when I joined the Government in 2009, and my trusted advisor and guide as I navigated the intricate corridors of sarkaar; and more recently, Arghya Sengupta at Vidhi, of the batch of 2008, Gautam John of the batch of 2002 who leads our philanthropic work and Sachin Malhan, also of the batch of 2002, who co-leads Agami. From them, I've followed the stories and broad arc of the growth of this institution. So when Sudhir invited me to be your convocation speaker, I felt some sense of familiarity to soften the nervousness of standing before you and the legal luminaries in attendance, and sharing something of *meaning*.

As I usually do, I turned to your history to better understand this institution. There I learned that when Padma Bhushan NR Madhava Menon founded this institution in 1986 - and inspired a new generation of NLUs - he aimed to create 'social engineers'. The term fascinated me because he could easily have left it at 'better lawyers' given that classic legal education needed a big overhaul. But he went further and conceived of social *engineers* - the second word being one that I am somewhat familiar with.

What did this term mean - this social engineer? Not easy to say four decades down the line, so let me use the Golden Rule of Statutory Interpretation a phrase you are no doubt familiar with. and say that an 'engineer' is someone who can design and build better structures and systems. And by extension, a *social*

engineer is one who can design and build better *social* structures and systems. To think that this man, in the mid-1980s, was conceiving a law school devoted not to creating able legal representatives and deal-makers within existing systems, important as they are, but to those who can instigate or create better systems made me appreciate his vision all the more. My tenuous act of interpreting this mission has some anecdotal support. At a public event in 2013, Menon identified Nupur Sinha of the batch of 1994, Executive Director and Founding Member of the Centre for Social Justice and Indian Institute of Paralegal Studies in Ahmedabad, and who really 'engineered' the concept of paralegals in grassroots justice systems, as his model graduate.

Part 1

Today that mission - of the institution and its graduates - is more important than ever.

The structures and systems that we depend on, are, for the most part, wholly inadequate for the needs of today. This is not to suggest that they never were, though some fall in that category, but that the world has changed so much and so fast that new approaches are sorely needed.

Today we can't imagine going to a bank branch and filling up forms in triplicate to get a small loan. On your phone, you can permit your bank to share salary information with a loan provider and avail of a reasonable-sized loan in minutes. Every month, you respond to the request for the EMI payment on your payment app, and that's how it's done. UPI processed over 6 billion transactions worth over Rs 10 trillion in August of this year.

Neither can we imagine waiting till 8pm for a story to break on a major news channel or the next morning's newspaper edition. The cycle of news

is now seconds, not hours. News is made across several different platforms by millions of creators. The media outlet Lallantop puts out video news snippets on their Youtube channel. Their bio says, *We talk about both Adele and Guddi the squirrel. We also review the latest releases of Netflix and watch Punjabi movies*. They have nearly 23 million subscribers.

So it's not just the reinvention of structures and systems inside Government that we are talking about but industry and civil society as well. The age of innovation is upon us - and we must recognise that this is not just an opportunity but a responsibility. The lack of effective systems and structures affects the poor and marginalised *the* most and widens the opportunity gap. If we do not rise to the occasion, the eventual price will be paid by all of society. The economist Karthik Muralidharan used this analogy recently that I like - imagine a plane; many of us in the upper and middle classes might be in the first or business class, with the poor and marginalised in the economy class. Still, it's one plane we're all in, and if it goes down, it takes everyone with it.

So how does one go about 'social engineering'? How does one actually design and build better approaches and systems and ensure their uptake in society? I'm afraid there is no proven script, and often those you think should know, do not. Yes, many books give you some piece of it, but in my experience, no formal education prepares you for the thing itself. Only by walking the path and failing a few times can you learn.

In the 2014 General Elections, I stood for election for the Bangalore South Lok Sabha seat. I had had a successful career at Infosys from 1981 to 2009, and then topped it with a productive stint in the Government at the rank of Cabinet Minister from 2009 to 2014. The fact that I had succeeded in two very different worlds - industry and government - had imbued me with hubris! Surely I could master this too. I lost the election. It was quite a blow to my self-confidence because it is such an extremely visible public rejection at scale! Suddenly everything I had done before was flipped on its head. The headline of the Financial Express the next day began - "Nandan Nilekani loses unique identity....." Seriously.

In retrospect, I dodged a bullet! I licked my wounds and thought more deeply about what I *did*

know- the effective use of technology at scale, building effective coalitions, and playing the long game.

Part 2

There have been many learnings in these numerous journeys. Still, the ones I've grown to respect the most are the 'HOW TOS' - the nitty-gritty of making a new idea stick, the art of taking people along, engaging and motivating people far more brilliant than myself, creating common ground for often competing perspectives, and the personal resilience to endure the inevitable ups and downs of making an idea become a reality.

Let me share a bit of a time—tested approach that has worked for me - I begin with making a good mental picture of what the end state could look like, and map the path from where it is to where it should be. Along with the early collaborators, I publish a white paper or strategy document so that the end goal is public and other enthusiasts out there can get involved. You never know where a great collaborator could come from! We try to create a positive coalition for change that is constantly bringing in new people and viewpoints. We create a compelling narrative of the change, as to why it is good, required, and urgent. Finally, things will change, we will make mistakes, and what determines what we do with our mistakes is the quality of leadership, so we surround ourselves with good leaders and partners who are dedicated to the mission, and *empower* them to lead themselves and each other in an environment of creativity and collaboration.

In 2015, I co-founded EkStep Foundation with Shankar Maruwada and Rohini, my wife - arguably also a political act. Ekstep aimed to leverage technology to improve literacy and numeracy for 200 million children in India. Initially, we thought of creating game-based learning experiences focused on teaching basic concepts of literacy and numeracy. Games playable on even the most affordable mobile phones to maximize their reach and accessibility. We thought of building these solutions. After several false starts, we realised that what was required was not the few great solutions we could build - but a *digital infrastructure* that could support many solutions by many others. This infrastructure would have to be flexible enough to deal with the diversity of language, culture, and content, and empower different stakeholders to repurpose it in their work. This was a big shift for us, but it was possible because of the approach that I detailed above.

As I reflect on it further, possibly the most profound learning through my journeys is this - whatever new approaches, systems and structures we seek to make, the fabric of new ideas *must enable citizens agency*. By 'agency' I mean a sense of control and power over one's life and an ability to not just have your voice heard but shape your realities and your future. We are a society still stepping out of colonisation - of mind, body and heart. We brace ourselves to receive something - from our employers, government, and society. We hope it will be good, but often it is bad. Most times, we are not connected to our power to do something, shape something, or even say something. For the young, this is toxic because this is how they are made, and a society that does not empower them to *act* gradually disillusions them. So all our new ideas must give people agency - agency makes ideas stick & grow. It is the most irreversible element of an idea.

We need this form of social engineering - this new leadership with the agency at its heart - to advance our law and justice systems urgently. We need better/orma/ systems, i.e. courts, prisons, police and legal aid, but also better *informal* systems where 9 out of 10 legal issues reside. We must go even further and design the new future systems - of business, government and society - to create minimal friction, design for diversity, and prevent issues from arising in the first place. Systems must be designed *for* trust and not the absence of it.

Part 3

Two years ago, when the first wave of COVID-19 was raging, I shared a virtual stage with then NITI Aayog CEO, Mr Amitabh Kant, the Legal Affairs Secretary Mr. Mendiratta and some senior judges of the Supreme Court including Hon'ble Justice Chandrachud. This was a gathering organised by NITI Aayog and Agami. There we spoke about how India could be a pioneer in Online Dispute Resolution, i.e., resolving disputes through technology and ADR processes. In their own way, everyone pledged to back this movement and its main drivers-businesses, ODR providers, the government, and legal services authorities. Today, just two years down the line, over 16 million disputes have been on boarded through ODR systems. Creative collaborations between private ODR providers and the Legal Services Authorities have resulted in over a dozen online lok adalats. Over 100 companies and 40 government departments are using

ODR. An example I came across recently was the use of ODR by the non-profit Aajeevika Bureau to resolve nearly 3000 COVID-19 time wage disputes between migrant labour and their contractors.

ODR is a great example of social engineering for new approaches but with agency at its heart. To conceive it as merely the digitisation of ADR is to miss the shift entirely. After all - Who is assisting the resolution of the disputes? Thousands of newly trained mediators. Who is ensuring that the parties are taken care of through the process? Thousands of young case managers, most of them law students. Who is *really* choosing this better path and resolving the matter? The disputants themselves.

George Westerman from MIT said - *When digital transformation is done right, it's like a caterpillar turning into a butterfly, but when done wrong, all you have is a really fast caterpillar*. I'll adapt it to say, *"When digital transformation is done to give agency to all the actors, it is like a caterpillar turning into a butterfly, but when done just to automate a process, you'll get a fast caterpillar*.

We can *and should* imagine fundamentally new processes with citizens at the Centre and bring technology, community and human ingenuity to unleash a new era of the rule of law and meaningful access to justice.

An Era

- Where 250 million migrant workers feel secure in new jobs and homes, and have the knowledge and networks to get help if needed
- Where anyone with the skills and inclination to resolve disputes can learn the craft and reduce litigation from whichever part of the country they are in
- Where our institutions enter communities to meet people where they are - give them justice, and, most importantly,
- Where our young people feel empowered to create justice solutions and improve the systems that govern their lives.

So here we are in 2022. I'm speaking to a generation more likely than not to see, possibly through AI-augmented vision, the turn of the century. Can we take Madhava Menon's idea of the 'social engineer' and expand it somewhat? Because Menon still meant

it as social engineering *through the practice of the law*, and I see no reason to restrict it to that. Can we not just build better systems but *wholly new* systems and structures - whether in government, society or business? As the graduates of India's premier law school, can you begin journeys that will culminate in hundreds of new approaches that make a billion flowers bloom? Can this prestigious institution, the National Law School of India University, become a centre of excellence that can bring together all the actors - the judiciary, the bar councils, samaaj, sarkar, and bazaar - to do the research and *thought works* to imagine some of these new systems and structures and empower all the innovators out there?

Part 4

You have a legacy of bold innovation. Role models have walked in these corridors. In 2014, the late Shamnad Basheer, of the batch of 1999, won the Infosys Prize. He imagined that people from all walks of society should be a part of the justice system, and he engineered a path to it through his venture IDIA. By ensuring that young people from the Adivasi communities, from marginalized caste and class groups as well as persons with disabilities, entered and thrived in law school, he sowed the seeds for true social engineering. He died too young, but his work will make a million flowers bloom down the road. There are many other such role models around you.

You can begin the journey of social innovation or leadership from *wherever* you find yourself after law school - in industry, academia, at the bar, or in civil society. The key I have found is not to become a subject of the system. Systems have a way of swallowing the individuality of people. Slowly you speak its language, assume its fiction to be a reality, and become invested in its perpetuation.

Your creativity and sense of '*why not*' get lost. But by keeping the Company of growth-minded people, following the stories of changemakers, and most of all, *Just doing it* even at the risk of failure, you will bring your full potential to life. How you show up can change the world.

We are often asked to be changemakers for society or our nation - I may be guilty of doing the same thing. But really, we must do it for *ourselves*. Because I have consistently seen that those of us who make this choice and *show up - bringing empathy, helping to solve problems around them, and developing their leadership* - have more creative and fulfilling lives. By facing our fears and living with purpose we find our power.

Closing

Today, a lot of news can distract and distress you. News, social media and sometimes even our friends assail us with a case for hopelessness. A lot of it pertains to our laws and experience of justice. But I have learned that the quiet yet urgent building of a better future is an excellent antidote to drowning in the problems of the present.

Every day, I meet young people like you with bold dreams and ambitions. I am awestruck by their audacity and vision for change. Someone wants to restore the original ecology of the Nilgiris biosphere, another to enable lakhs of Indian workers to get access to global jobs, and another to simplify business for a million kirana stores. In the midst of these remarkable people, with their ideas and energy, I know I have found my community.

I hope that you can find yours. I wish you all the very best.



CAMPUS NEWS

Capacity Building Programme on Content Development

A three-day Capacity Building Programme on 'Content Development Using OER' was organized by the Center for Internal Quality Assurance, Central Library and School of Sciences, Uttar Pradesh Rajarshi Tandon Open University (UPRTOU), Prayagraj in collaboration with Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi, and Commonwealth of Learning, Canada, recently. The Inaugural Session started with the speech of the Programme Coordinator, Dr. R J Maurya, Deputy Librarian, UPRTOU. He introduced the theme and presented the outline of the three-day program of the event. After that, Prof. Ashutosh Gupta, Director, CIQA and SoS, UPRTOU, welcomed the President of the Session, Prof. Om Ji Gupta, Director, School of Management Studies, UPRTOU, Dr. Manas Ranjan Panigrahi, Sr. Program Officer, CEMCA New Delhi, Resource Person, Dr. Barnali Roy Choudhury, Assistant Prof. (Library Sciences), NSOU, Kolkata and all the participants of the event. Dr. Manas Ranjan Panigrahi highlighted the advantages of OER, and also said that the event will set out a roadmap for implementing the OER in the University.

The Presidential address was delivered by the Director, Prof. Om Ji Gupta. He said that the event on OER may provide opportunities for teachers and learners to grow sustainably. He highlighted that an effective learning education ecosystem should be imperative. Also, he put forward that we are in the process of revising and modifying the OER policy of UPRTOU as suggested by the previous workshop.

The inaugural session was followed by the technical session, which was taken up by the Resource Person, Dr. Barnali Roy Choudhury, CEMCA. The resource person gave an overview of the theme. She first talked about the concept of OER which included open educational resources that are digitized materials offered freely and openly for learners to use and reuse for teaching, learning, and research'. In her slides, she briefed the participants on different barriers to OER. She shared her view that knowledge should be in the public domain for the betterment of the educational ecosystem. She further enlightened participants

about the core concept of open access. There were 33 respondents who filled out their responses needed for the event as a pre-survey. As per the responses, there are 45.5% of participants in the age group of 30-39 years willing to know more about the OER.

Dr. Choudhury said that the relevance of OER is due to digitalization causes an overload of information, and increases the price of scholarly communication. Open means it is accessible by all 24*7 i.e. it must be accessible at any place, at any time, with all people, and must be simply programmed. Digital copies should be freely available in the public domain. She said that freely available and open access matter is when we can use our creativity and reuse acknowledging the author. She also said that the index is like your wardrobe. It helps in retrieving files. Machines cannot segregate our thought they process the command given by the user. She also focused on the copyright issue and said that copyright implies the concept note for the word used in the content. For achieving sustainable development in 2030 open access is needed. She differentiated the green OA and Gold OA. The self-published matter comes in green OA while the matter published by the publisher comes in Gold OA. Elaborating on to what extent we can use OER, she considered the points: reuse, revise, remix, redistribute, and retain. Focusing on the OER repository, she insisted on creating and using the OER for the public so that they had a broad base of knowledge. This must possess a cost-effective and time-effective mechanism, she further added.

The Technical Session was followed by a session on understanding the concept of open license and creative common license. Firstly, she briefly explained the umbrella term encompassing copyrights. After that, she opined that creative common is a non-profit organization that offers six licenses for sharing creative work. In order, to update knowledge regarding creative common, she said that all of the six licenses require attribution, to make sure the original author is credited for their work. She elaborated on the legal issues related to the licensing process. Any software had binary code which cannot be edited and secure code that can be edited. OER collaborates new tasks with the old tasks. She insisted that each piece of knowledge should be in the public domain, as knowledge is public property, not an individual property. In the Vedic age, guru transfers

their knowledge to their disciples. In the case of science experiments are based on the knowledge that guru gives to their scholars. She said the present time equality and equity are needed. Equality is giving people the same things without any discrimination while equity is giving people what they need. Equity is needed in the present knowledge world. She said that copyright is given to the original work. Social Media is also a place where we can use citations any self-generated idea had its own copyright.

Intellectual Property Rights (IPR) is all about, patents, copyright, trademark, design, and geographical indicators sharing the story behind the copy right she said after 1956 copyright came into existence so recognize and acknowledge the authors. Open license is to protect copyright holders right in environment where the content can so easily be copied and shared.

The session on 'Quality Issue of OER Following TIPS framework'. She practically demonstrated by the slides what is Mendeley software and how Mendeley help with citations and references. Besides in her presentation, she made it clear how to find OERs material from Google advance search and CC search. The home task was also given to the participants to find 5 domain-specific materials from the CC search.

Dr. Barnali Roy Choudhury continued the OER search with different strategies. She lucidly explained that search engine is an integral part of our daily life as it acts as the gateway to the whole world in the grip. She also demonstrated in her slides about different types of search engines and how we can find pertinent documents from different search engines. In her lecture on how to search the internet, she said that an unknown search is known as browsing. She said that we must search with the help of some special terms like Pdf, Word, commands, etc. This is a way of simple and precise search. For an exact search, we have to go to the search engine. An automatic index system is embedded in any computer, she added. Search engines consist of large databases which is been indexed by using crawl-less (Spider and Robots) to the internet in order to assist one in searching the web. We can use, parentheses, hyphens, slashes, periods, equal signs, apostrophes, and inverted commons, she told the participants.

In the next session, she highlighted how we can relevant our content using different search techniques. Also, she explained several OERs platforms and

repositories in her presentation. In order to update knowledge, she said that several images, videos, text, and even journals, etc. are available online within the creative common licenses.

In the practical session, she showed slides on how we could take CC images, videos, text, and even journals from different platforms and how we should give attributes through CC licenses. Later on, she provided complete clarity on the sources of OERs from a different frame of reference. Discussing the Boolean, she explained 'AND OR NOT' gates.

International Conference on Emerging Trends in Information Technology

The One-day online International Conference on 'Emerging Trends in Information Technology' is being organized by the Department of Computer Science, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh on November 22, 2022. The event aims at providing an effective platform for researchers from all over the world to showcase their original research work, have an effective exchange of ideas, and develop a strategic plan for balanced and inclusive growth of the country through IT in critical areas like cyber security, quantum computing, nano-technology, AI and expert systems, communication systems and networking, software engineering, high-performance computing, and other emerging technologies. The event will provide a platform for technical exchanges within the research community and will encompass regular paper presentation sessions, invited talks, keynote addresses, and panel discussions. The Tracks of the event are:

Sustainable Computing

Sustainable Computing: Green Computing, IoT Applications, Smart Cities, Renewable Energy, ICT sustainability, Green IT, etc.

High-performance Computing

High-performance Computing: Cloud Computing, Fog Computing, Big Data, Data Mining, Machine Learning, Artificial Intelligence, etc.

Software Engineering and Emerging Technologies

Software Engineering and Emerging Technologies: Industry 4.0, Model-driven Software Engg, Formal Software Verification and Testing, Machine Learning-based software testing and tracking, etc.

Communication Networks and Information Security

Communication Networks and Information Security: Wireless Ad-hoc Networks, Sensor Networks, MANETs, VANETs, FANETs, UAV Networks.

For further details, contact Coordinator, Dr. Neeraj Kumar Rathore, Head, Department of Computer Science, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh – 484887, Mobile No: +91- 9479333899, E-mail: icetit2022@igntu.ac.in. For updates, log on to: www.igntu.ac.in.

National Conference on Blended Learning Ecosystem for Higher Education

A three-day Conference on ‘Blended Learning Ecosystem for Higher Education in Agriculture’ is being hosted jointly by ICAR and the World Bank under National Agricultural Higher Education Project (NAHEP) and is organized by ICAR-Indian Agricultural Statistics Research Institute, New Delhi during December 12-14, 2022. The conference has been envisaged as a multi-partner global event to facilitate knowledge sharing, collaboration, and partnerships for the development of a state-of-the-art blended learning ecosystem for higher agricultural education in India. The Themes of the event are:

Strategies for Blended Teaching-learning.

- Blended Learning for Higher Education in Post-pandemic Era in the Context of National Education Policy-2020.
- Designing Effective Assessments for Online Learning Environments.
- Professional Development and Support for Online Faculty: Challenges and Opportunities.
- The Role of Emerging Technologies in Creating Immersive Learning Experiences.

Technologies for Blended Learning.

- Integrating Technology and Education: To Diversify Online Learning and Teaching
- Technology Considerations to Build for Platforms at Scale and Manage Different User Needs.
- Free open-source Tools and Technologies to be Leveraged.
- Learning Analytics: Tools and Possibilities.
- Developing, Designing and Implementing Extended Reality Within Learning Environments:

Reflection and Ethical Considerations for Implementation.

- Game-Based Approach for Teaching to Ignite Student Interest and Drive Outcomes in a Collaborative Environment.
- Sustainability in the Blended Learning Ecosystem
- Developing Sustainable Teaching and Learning Environments.
- Faculty and Instructional Designers: Learning about Successful Collaborations from Other Professions.
- Creating an Effective E-learning Culture: The Pedagogical Variations for Online Learning and Teaching
- Addressing Security and Privacy Issues and Concerns About the Use of Digital Platforms for Students.
- Systems Thinking in a Marketplace Design.
- Role of Hybrid Learning Environments in Peer-to-Peer Learning.

Building Stakeholder Capacities to Navigate in a Blended Teaching-learning Ecosystem

- Building Optimal capacities for Implementing Blended Learning on College Campuses.
- Networked and Self-Directed Approaches to Professional Development in Online Teaching and Design.
- Easy E-content Development Tools and Methods for Higher Education Faculties.
- Leading Change for Effective Faculty Development Programme.

Contemporary Curriculum for Agricultural Education

- Curriculum and Pedagogical Change for Successful Adoption.
- Faculty Preferences While Creating Courses for the Online Environment.
- Designing Effective Courses Online: Effective Pedagogy for Online Courses for College Faculty.

For further details, contact Coordinator, Dr. Anuradha Agrawal, Room No.- 508, Krishi Anusandhan Bhawan-2, Pusa, New Delhi-110012, Phone No: +91 11-25842535, E-mail: icble2022@icar.gov.com / nccaast.nahp@icar.gov.in. For updates, log on to: www.icar.org.in/events/

National Seminar on National Education Policy—2020

The One-day National Seminar on ‘National Education Policy: Role of Universities’ was organized by the Association of India Universities (AIU), New Delhi in collaboration with Woxsen University, Hyderabad (Telangana) on September 23, 2022. About 100 participants comprising 80 students and 20 staff members from various institutions attended the seminar. The objective of the seminar was to foster relations across different universities in countries, between government bodies and different educational institutes on National Education Policy-2022 and the role of universities. The welcome address was delivered by Dr. Beauty Pandey, Assistant Professor, Woxsen University. In her welcome address, Dr. Pandey described the purpose of the event and briefly explained the importance of the National Education Policy-2020 in the current Indian economy.

In her introductory address, Dr. Pandey welcomed the delegates, Chief Guests, Vice Chancellor and Vice President of the host university. It was followed up by the lighting of the lamp by the Chief Guests, Dr. C V Tomy and Dr. K Ramesh accompanied by the event Coordinators, Dr. Dayashankar and Dr. Beauty Pandey. The Vice President, Dr. Raul Rodriguez presented a gift to the Chief Guest, Dr. C V Tomy, and Vice Chancellor, Dr. RVR Krishna Chalam presented a gift to the Chief Guest, Dr. K Ramesh.

Dr. Raul Roriguez addressed the participants and spoke about the importance of NEP-2020 and its impact on higher education institutions. He also informed students regarding Woxsen’s endeavors in adhering to the NEP-2020 and bringing India to the world.

Dr. RVR Krishna Chalam spoke about the need for more than just a high Intelligent Quotient (IQ) in today’s competitive world and how the need for a multidisciplinary course is needed. He also spoke about the ERS (Ethics Responsibility Sustainability) model of Woxsen University and the importance of a creative support system for diversity in career choices.

Dr. C V Tomy spoke about the ‘Innovation, Incubation, and Entrepreneurship’ required to start a startup. He spoke about the types of startups, and why Type-II startups are much needed in the developing world. He also spoke about the requirements of a Type-II startup namely infrastructure, support of early-stage risk sharing, continuity of financing over the lifetime of a firm, and connectivity both internally and with the world. A few other requirements for such a startup are human capital; basic research support; changing social norms toward risk and failure; and a stable and favorable regulatory, legal, and tax environment. Dr. Tomy detailed the National Innovation and Startup Policy (NISP), its vision, and its aims. He said that the vision of the National Innovation and Startup Policy (NISP) includes, helping every entrepreneur in the country; make their startup journey less lonely, more connected, and more memorable; find mentorship, connect to partners, pursue funding, and reach new users; and establish online and offline channels to Educate, Inspire and Connect.

Dr. Ramesh spoke about the National Education Policy-2020, its need in the current Indian economy, the support needed by students to pursue entrepreneurship, the education commissions that led to the formation of NEP-2020, and its highlights which are global knowledge superpower; four pillars – access, equity, quality, and affordability; educate-encourage- enlighten; from sorting and selection to human development; and *Vishva Guru*.

Dr. K Ramesh also highlighted the ‘Impact of NEP-2020 on Higher Education’ which included excellence and innovation; independent self-governing institutions; light but tight regulations; research and teaching; International Development Program (IDP); and Multidimensional Educational and Research University (MERU). He concluded by stating that the various Commissions such as GEC, NAC, HEGC, NHERC, NETF, etc. would be merged into a single Commission called the Higher Education Commission of India (HECI) and the highlight would be on liberal arts, the ladder of leadership, similar standards for all and excellence-accountability.

The Deans of all Schools of Woxsen University namely, Dean, School of Liberal Arts and Humanities, Dr. P.V. Satya Prasad; Dean, School of Law, Dr. Venugopal Ettamena; Dean, School of Business, Dr. Bhanu Sree Reddy; Dean, School of Arts and Design, Dr. Adity Saxena; Dean, School of Architecture and Planning, Ar. Abhijit Shirodkar; and Dean, School of Technology, Dr. Kiran Ravulakolla took the stage to share their opinions on the importance of the National Education Policy-2020 in higher education.

The panel discussion was delegated by the Dean, School of Technology, Dr. Kiran Ravulakolla. The following points emerged from the open house interaction with the delegates which comprised Deans from all Schools, Chief Guests, and two students from the School of Business:

- It should not be ignored that the option to ‘quit’ your degree midway might negatively impact practical subjects like architecture.
- The lack of resources needs to be acknowledged and planned for when it comes to seamless education for all.
- It is imperative that governments acknowledge the urgency of implementing the National Education Policy with effect.
- The reform in the educational system being followed also means that the inclusion of necessary life skills and the teaching of languages such as Parsi is imperative.
- The challenges of implementing such a reformative policy are numerous and need to be tackled by a unified force of government bodies. □

Guidelines for Contributors

To submit the manuscripts for publication of articles, the contributors need to follow the guidelines given below:

- A. Articles submitted for the Journal should be original contributions and should not be under consideration for any other publication at the same time. A declaration is to be made by the author in the covering letter that the paper is original and has not been published or submitted for publication elsewhere.
- B. Manuscripts including tables, figures and references should be around 3000-4000 words for articles, 2000 – 5000 words for Convocation Addresses, 1000 words for Book Reviews and 600 words for Communications.
- C. All the manuscripts should typed in double-space with 12 point font and ample margin on all sides on A 4 size paper.
- D. The cover page should contain the title of the paper, name, designation, official address, address for correspondence, contact phone/mobile numbers and e-mail address of all the authors.
- E. One author should be designated as the corresponding author.
- F. Notes, if any, should be given as Endnotes not as Footnotes.
- G. Figures include relevant captions, tables include titles, description, source etc.
- H. Figures and table citations in the text match the files provided
- I. Manuscript has been ‘spell checked’ and ‘grammar checked’
- J. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. The full reference should be listed at the end in alphabetical order running the following style:

- **Books**

Miles, M., and Huberman, M., (1994). Qualitative Data Analysis. London: Sage.

- **Articles**

Over, R.(1982). Does research productivity decline with age?
Higher Education, 11, 511-20.

- **Chapter in a Book**

Rendel, M. (1986). How many women academics 1912-1977? In R. Deem (ed.), Schooling for Women’s Work. London: Routledge.

- **Article Retrieved from Website**

Mazumdar, T (Year, Month, Date Published). Article Title. Retrieved from URL.

Dr. S Rama Devi Pani

Editor, University News

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THESES OF THE MONTH

SCIENCE & TECHNOLOGY

A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of August-September, 2022)

AGRICULTURAL & VETERINARY SCIENCES

Agronomy

1. Pandya, Abhilasha Mahendrakumar. **Perception of agripreneurs and farmers about social entrepreneurship in South Gujarat.** (Dr. O P Sharma), Department of Agronomy, Navsari Agricultural University, Navsari.

Fruit Science

1. Jayantilal, Christian Hetal. **Response of foliar spray of nutrients on flowering, fruit set, yield and quality of Sapota CV Kalipatti.** (Dr. R V Tank), Department of Fruit Science, Navsari Agricultural University, Navsari.

Plant Pathology

1. Khambhu, Chirag Virambhai. **Standardization of rearing methods of stingless bees (*Tetragonula laeviceps*).** (Dr. H V Pandya), Department of Plant Pathology, Navsari Agricultural University, Navsari.

2. Nandeesh, C V. **Anthracnose [*Colletotrichum lindemuthianum* (Sacc and Magn) Briosi and Cavara] of green.** (Dr. L F Akbari), Department of Plant Pathology, Junagadh Agricultural University, Junagadh.

3. Patel, Amitkumar Thakorbbhai. **Biodiversity of soil oribatid mites (ACARI: Oribatidae).** (Dr. Abhishek Shukla), Department of Plant Pathology, Navsari Agricultural University, Navsari.

Veterinary Sciences

1. Sangha, Navrose. **Foidscope based diagnosis of tumors in animals in comparison with conventional microscope.** Department of Veterinary Pathology, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana.

2. Sarangi, Samikshya. **Age related gross, histomorphochemical ultrastructural and immunohistochemical studies on mammary gland of buffalo (*Bubalus Bubalis*).** Department of Veterinary Anatomy, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana.

BIOLOGICAL SCIENCES

Biochemistry

1. Syed, Vaziha Tahaseen. **Epidemiology and pathophysiology of proteinuria in diabetes and metabolic syndrome.** (Dr. Peddi Kiranmayi), Department of Biochemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

Biotechnology

1. Ravi Kumar, S. **In vitro production of phytochemicals and screening of anticancer property of *Bridelia scandens* wild.** (Dr. V Krishna), Department of Biotechnology, Kuvempu University, Shankaraghatta.

2. Sheikh, Mahejbin Altaf. **Molecular diversity and enzymatic potential of actinomycetes from the sea water of Alang near Bhavnagar Coast.** (Dr. S P Singh), Department of Biotechnology, Saurashtra University, Rajkot.

Botany

1. Abhijit, H U. **Studies on diversity and distribution of grass species in Central Western Ghats Area of Karnataka.** (Dr. Y L Krishnamurthy), Department of Botany, Kuvempu University, Shankaraghatta.

2. Bai, D Shashikala. **Studies on processing and value addition technology in foxtail millet.** (Dr. Rajeshwari N), Department of Botany, Kuvempu University, Shankaraghatta.

3. Krishnaveni, Sripathi. **Antimicrobial activity of cattle urine and its effect on plant growth of *Gossypium hirsutum* L.** (Prof. M Mamatha), Department of Botany, Telangana University, Nizamabad.

4. Potharaju, Raju. **Ecological and phytoplanktonic studies of Medchal Lake in Telangana.** (Dr. M Aruna), Department of Botany, Telangana University, Nizamabad.

5. Radha Devi, G M. **Phytochemical fingerprinting and molecular characterization of *Costus***

pictus D.Don. (Dr. T G Umesh), Department of Botany, Bangalore University, Bangalore.

6. Vinu, K. **Enumeration and bioprospecting of endophytic fungi in *Wendlandia thyrsoides* (Roth) Steud and *Lobelia nicotianifolia* Roth ex Schult of Chikkamagaluru, Karnataka.** (Dr. M Krishnappa), Department of Botany, Kuvempu University, Shankaraghatta.

Life Science

1. Gupta, Sanjeev Kumar. **Biochemical studies among fatty liver patients with respect to occupation and life style factors.** (Dr. R J Verma), Department of Life Science, Gujarat University, Ahmedabad.

Zoology

1. Krishnappa, S. **A Comparative study of groundwater pollution Kolar District, from different sources in Karnataka.** (Dr. S Ramakrishna), Department of Zoology, Bangalore University, Bangalore.

2. Pal, Ranjana. **Response of mammals to biotic and abiotic drivers, upper Bhagirathi Basin, Uttarakhand, Western Himalaya.** (Dr. S Sathyakumar), Department of Wildlife Science, Saurashtra University, Rajkot.

EARTH SYSTEM SCIENCES

Environmental Science

1. Singh, Anil Pratap. **A study on plastic waste management in Aizawl City Mizoram.** (Dr. Angom Sarjubala Devi and Prof. H Lalramnghinglova), Department of Environmental Science, Mizoram University, Aizawl.

ENGINEERING SCIENCES

Civil Engineering

1. Patel, Jagannath. **Study of performance of pervious geo-polymer concrete using industrial waste in ambient curing.** (Dr. Ashoke Kumar Rath and Dr. Dillip Kumar Bera), Department of Civil Engineering, Kalinga Institute of Industrial Technology, Bhubaneswar.

Computer Science & Engineering

1. Arundhati, Priya. **Approximate computing: Software approach in program analysis and optimization.** (Dr. Santosh Kumar Pani), Department of Computer Science & Engineering, Kalinga Institute of Industrial Technology, Bhubaneswar.

2. Basu, M Trinath. **Enhancing security within open stack- open source cloud computing system.** (Dr. J KR Sastry), Department of Computer Science &

Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

3. Dutt, Inadyuti. **Bio-inspired intrusion detection system using resource-consumption based techniques.** (Dr. Samarjeet Borah and Dr. Indra Kant Maitra), Department of Computer Application, Sikkim Manipal University, Gangtok.

4. Eluri, Nageswara Rao. **Application of machine learning algorithms on medical data for feature selection and extraction.** (Dr. Kancharla Gangadhara Rao), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

5. Majumder, Jayeeta. **Pixel value differencing based image steganography using cryptographic techniques.** (Dr. Chittaranjan Pradhan and Dr. Debasis Giri), Department of Computer Science & Engineering, Kalinga Institute of Industrial Technology, Bhubaneswar.

6. Suma, P. **Efficient routing strategies to improve the quality of service in mobile adhoc networks.** (Dr. Md Ali Hussain), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

7. Sumitra, Kurella. **Modified metaheuristic algorithms for efficient feature selection in big data.** (Prof. K Gangadhara Rao), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

Mechanical Engineering

1. Chauhan, Hullash. **Study on mental stress of agri farmers by sustainable engineering.** (Dr. Suchismita Satpathy and Dr. Ashok Kumar Sahoo), Department of Mechanical Engineering, Kalinga Institute of Industrial Technology, Bhubaneswar.

2. Gupta, Sandeep Kumar. **Chemico mechanical study of Portland Limestone Cement (PLC) development in Indian scenario.** (Dr. Megha Bansal and Dr. B N Mohapatra), School of Applied Sciences, Manav Rachna University, Faridabad.

3. Kedar, Shridhar Ashok. **Experimental investigations of hybrid solar ground water desalination system using evacuated tube collector and compound parabolic concentrator.** (Dr. G Murali and Dr. A K Bewoor), Department of Mechanical Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

MATHEMATICAL SCIENCES

Mathematics

1. Dash, Biranchi Narayan. **Approximations**

of definite integrals of real and complex valued functions. (Dr. Prasanta Kumar Mohanty and Dr. Manoj Kumar Hota), Department of Mathematics, Kalinga Institute of Industrial Technology, Bhubaneswar.

2. Mohanty, Minakshi. **Constructive approaches for numerical solution of ordinary differential equation.** (Dr. Saumya Ranjan Jena and Dr. Satya Kumar Misra), Department of Mathematics, Kalinga Institute of Industrial Technology, Bhubaneswar.

3. Samantaray, Snigdha. **On difference double sequences spaces and their applications.** (Dr. Laxmipriya Nayak and Dr. Pinakadhar Baliarsingh), Department of Mathematics, Kalinga Institute of Industrial Technology, Bhubaneswar.

4. Vasava, Jayeshbhai Balvantbhai. **Some investigations on prime and distance antimagic labelings.** (Dr. S K Patel), Department of Mathematics, Gujarat University, Ahmedabad.

MEDICAL SCIENCES

Audiology

1. Babu, Mereen Rose. **A comprehensive and comparative analysis of speech in maxillectomees and mandibulectomees.** (Dr. B. S. Premalatha and Dr. Rajshekar Halkud), Department of Speech and Hearing, Bangalore University, Bangalore.

2. James, Madhumita. **Study of anxiety, depression, activities and participation in persons with tinnitus with and without hearing loss.** (Dr. Arun Banik), Department of Audiology and Speech Language Pathology, Maharashtra University of Health Sciences, Nashik.

3. Makar, Sujoy Kumar. **The impact of tinnitus management protocol on severity of tinnitus, psychosocial variables and quality of life of patients having tinnitus with sensorineural hearing loss.** (Dr. Geetha Mukundan), Department of Audiology and Speech Language Pathology, Maharashtra University of Health Sciences, Nashik.

Ayurveda

1. Belge, Raman Shankar. **Comparison of effects of three different vanga bhasma preparations on antimicrobial activity: An in-vitro study.** (Dr. Rameshwar Pandey), Faculty of Ayurved, Maharashtra University of Health Sciences, Nashik.

Dentistry

1. Satpathy, Anurag. **Preparation of biomimetic textured membranes for periodontal regeneration.**

(Dr. Tapash Ranjan Rautray), Department of Dental Sciences, Siksha O Anusandhan University, Bhubaneswar.

Homoeopathy

1. Kaustubh, Pramod Tamhane. **Recent trends in the concept of psychosomatic phenomenon in the clinical practice.** (Dr. Uttareshwar R Pachegaonkar), Faculty of Homoeopathy, Maharashtra University of Health Sciences, Nashik.

Radiotherapy

1. Maninder Deep Kaur. **Effect of mHealth on the quality of life in breast cancer survivors: A randomized controlled trial.** Department of Radiotherapy and Oncology, Postgraduate Institute of Medical Education and Research, Chandigarh.

PHYSICAL SCIENCES

Chemistry

1. Deepa, S. **Development of electrochemical sensor for some neurotransmitters at different modified electrodes: A voltammetric study.** (Dr. K Vasantakumar Pai and Dr. B E Kumaraswamy), Department of Industrial Chemistry, Kuvempu University, Shankaraghatta.

2. Madhushree, M R. **Development of advanced organic electrode materials for aqueous and non-aqueous rechargeable lithium - ion batteries.** (Dr. G S Suresh), Department of Chemistry, Bangalore University, Bangalore.

3. Murthy, I Sreenivasa. **Stereoselective total synthesis of (+)- cephalosporolide D and synthesis, anti-cancer evaluation of imidazo-pyridine derivatives.** (Dr. R Ramesh Raju), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

4. Pai, K Usha S. **Phytochemical and pharmacological evaluation of cleome viscosa linn.** (Dr. Yadav D Bodke), Department of Chemistry, Kuvempu University, Shankaraghatta.

5. Pansuriya, Vrajlal Bhikhubhai. **Synthesis of novel peptide derivatives of heterocyclic compounds and their therapeutic applications.** (Dr. Hitesh Parekh), Department of Chemistry, Gujarat University, Ahmedabad.

6. Priyadarshini, Barsharani. **Synthesis and characterization of Mgo, Zn-doped Mgo, Mg-Doped ZnO Nanoparticles: Adsorption and dielectric properties.** (Dr. Tapas Ranjan Sahoo and Dr. U P Singh), Department of Chemistry, Kalinga Institute of Industrial Technology, Bhubaneswar.

7. Ray, Samapika. **Study of explore inclusion complexations and assorted interactions of some industrially and biologically significant molecules in diverse systems.** (Prof. M N Roy), Department of Chemistry, University of North Bengal, Darjeeling.

8. Shekharappa. **Amino acid derivatives and back bone modified peptides: Novel synthetic strategies for synthesis of N^β Boc amino alkyl isothiocyanates, N^α-protected amino nitriles, N^β-protected amino alkyl isonitriles, α-isocyanato esters and N^α -protected amino Weinreb amides.** (Dr. V V Sureshbabu), Department of Chemistry, Bangalore University, Bangalore.

9. Srinivasulu, Chinthaginjala. **Studies on chemical synthesis of amino acid conjugates and amino acid derivatives: Synthesis of N^β- protected amino sulfenyl and sulfonyl methyl formamides, carbodiimide tethered amino acid conjugates, N^α-protected amino hydroxamic acids and β-amino bromides.** (Dr. V V Sureshbabu), Department of Chemistry, Bangalore University, Bangalore.

10. Thakarda, Jaydevbhai Amrutbhai. **Functionalized gold nanostructures for catalysis and sensing.** (Dr. Prasenjit Maity), Department of Chemistry, National Forensic Sciences University, Gandhinagar.

11. Venkateswararao, J. **Synthesis, structural, optical electrical properties of wide band gap oxide.** (Dr. G Subrahmanya Sastry), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

12. Yazala, Jyothsna Pragathi. **Synthesis and anticancer evaluation of 1,2,4-thiadiazole, 1,2,4-triazole, 1,2,3- triazole, 1,3,4,- oxadiazole and**

chalcone derivatives. (Dr. R Ramesh Raju), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

13. Yogesh Kumar, G R. **Transition metal - catalyzed cascade reactions: Synthesis of nitrogen containing heterocycles via free radical reaction mechanism and their characterization.** (Dr. Noor Shahina Begum), Department of Chemistry, Bangalore University, Bangalore.

Physics

1. Gohil, Hardik Prahladbhai. **Investigations on magnetoelectronic and magnetotransport behaviours of nanostructured manganites.** (Dr. P S Solanki), Department of Physics, Saurashtra University, Rajkot.

2. Pennabadi, Sailaja. **Spectroscopic studies of Dy³⁺, Sm³⁺, Er³⁺ and Nd³⁺ ion activated oxy chloro boro tellurite glasses for visible, NIR laser and optical fiber applications.** (Dr. Mahamuda Shaik and Dr. A Srinivasa Rao), Department of Applied Physics, Koneru Lakshmaiah Education Foundation, Guntur.

3. Reddy, Kasu Siva Rama Krishna. **Spectroscopic investigations on alkaline-earth boro tellurite glasses doped with Dy³⁺, Sm³⁺, Nd³⁺ and Er³⁺ ions.** (Dr. Koneru Swapna and Dr. A Srinivasa Rao), Department of Physics, Koneru Lakshmaiah Education Foundation, Guntur.

4. Shwetha, M. **Properties and structural studies of rare-earth doped lithium - zinc-phosphate glasses.** (Dr. B Eraiah), Department of Physics, Bangalore University, Bangalore.

□

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**MADANSINH MOHITE-PATIL SCIENCE
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 Tal: Mangalwedha, Dist: Solapur, Pin Code : 413 305
 Ph. No. (02188-221616/221919/295216)
 (Affiliated to Punyashlok Ahilyadevi Holkar Solapur University)

WANTED

(Permanent Non-Grantable)

Applications are invited from eligible candidates for the following Permanent Non-grantable posts.

Sr. No.	Subject/ Designation	Total Vacant Post	Open Post	Reserved Category Posts
A)	Principal	01	01	--

Note: -

- For detailed information about posts, qualifications and other terms and conditions, please visit (University) website : su.digitaluniversity.ac.
- Please note that the recruitment procedure initiated by this advertisement shall be subject to the out of the Writ Petition No. 12051/2015 pending before the Hon. Bombay High Court, Aurangabad branch.

Place : Mangalwedha
 Date : / / 2022

Secretary/President
 Shivratn Shikshan Sanstha, Akluj, Tal. Malshiras,
 Dist. Solapur


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RECRUITMENT CELL

Advt.No: PU/RC/Administrative-NT/2022/42 Dated: 21-09-2022

RECRUITMENT OF ADMINISTRATIVE POSITIONS

Online Applications are invited from the eligible candidates for the various Administrative positions (Regular/Tenure basis).


For details of the posts, minimum eligibility criteria, experience, general instructions, terms & conditions etc., visit the University website: recruitment.pondiuni.edu.in.

The Last date for submission of online application is **21.10.2022 at 5.00 PM (IST)**. The Last date for receipt of print out of Hard copy is **26.10.2022**.

Off-line applications will not be entertained under any circumstances.

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School of Life Science & Biotechnology (SOLB) • Biotechnology • Microbiology • Biochemistry	School of Medical Sciences (SOMS) • Pharmaceutical Technology • Allied Health Sciences	School of Law & Justice (SOLJ) • Constitutional Law • Corporate Law • Criminal Law • International Law • Energy Law • Cyber Law • Intellectual Property Law
School of Smart Agriculture (SOSA) • Agriculture	School of Engineering & Technology (SOET) • Computer Science & Engineering • Computer Applications • Mechanical Engineering	School of Business & Economics (SOBE) • General Management • Accounting & Commerce • Economics & Finance • Operations & Supply Chain Management • Business Analytics • OB & HRM • Quantitative Methods
School of Education (SOE) • B.Ed. • Education		

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Other Non-Academic Positions: • Assistant Registrar / Deputy Registrar – Academic, Admin & HR with relevant University experience • Sports Officer – This is a Residential Position in AU Campus. Incumbent should have Masters in Physical Education with 5 to 7 years of relevant experience.	Academic Positions Mandatory Education Qualifications: • 60% marks or 1st Div. / 1st Class marks - in Class X, Class XII, Graduation from reputed / recognised educational Institutions. • 55% marks in PG • NET / SET qualified • PhD is desirable • Excellent Communication Skill in English (both verbal & written) • Tech savvy (working knowledge in MS Office & LMS) - For Education we are also looking for M.Ed	Adamas University Help Line Details Office of the Registrar Email ID: recruitment@adamasuniversity.ac.in Contact No. +91 8240033652 Adamas Knowledge City, Barasat - Barrackpore Road, P.O. - Jagannathpur, District - 24 Parganas (North), Kolkata - 700 126, West Bengal, India
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Advt.No.1/2022
Date: 10.10.2022

Registrar



Kala Academy Goa's College of Theatre Arts
(A Grant-in- Aid Institution affiliated to Goa University)

Adil Shah Palace, Old Secretariat Complex,
Panaji – Goa 403001
Ph. No. 0832-2420450/51

Applications with full bio-data are invited from eligible and qualified candidates (Indian Citizen) for filling up the post of PRINCIPAL on full time tenure basis in Kala Academy Goa's College of Theatre Arts

Applications should be received **within 20 days** from the date of Publication.

For Essential Qualifications, requirements and other details, kindly check the college **website: www.kagcta.ac.in**

No TA or DA will be paid to answer the interview.

Sd/-
(Gangaram alias Satish Narvekar)
Acting Principal

Date : 19/09/2022

Jai Jiwan Jai Kisan Shikahan Prasarak Mandal, Kandhar
**SWAMI RAMANAND TEERTH COLLEGE OF
EDUCATION, BALANTWADI**
Post. Ghodaj, Tq. Kandhar, Dist. Nanded

Applications are invited for the post of Perspectives in Education, Pedagogy Subjects, Health & Physical Education and Performing Arts to be filled in Jai Jawan Jai Kisan Shikshan Prasark Mandal Kandhar's Sanchalit Swami Ramanand Teerth College of Education (B.Ed.), Balantwadi, Post. Ghodaj, Tq. Kandhar, Dist. Nanded (Permanent Non-Granted). Eligible candidates should submit their application along with all necessary documents **within 15 Days** from date of publication of this advertisement by registered post only.

Sr. No.	Position	No. of Post	Nature	Reservation
B.ED.				
1	Perspective in Education	11	Regular	Open - 04 SC - 01 VJA - 01 NTC - 01 OBC - 03 EWS - 01
2	Pedagogy Subjects (Math, Science, Social Science, Language)			
3	Health & Physical Education			
4	Performing Arts (Music/Dance/Theatre) Fine Art.			

NOTE : For details information about post Qualification and other terms and conditions, please visit University **website : www.srtmun.ac.in.**

Secretary
J.J.J.K.S.P.M. Kandhar

Jai Jiwan Jai Kisan Shikahan Prasarak Mandal, Kandhar
SHARADCHANDRA PAWAR LAW COLLEGE,
Puyani-Wadi Shivrasta, Opp. D-Mart Puyani,
Nanded, Dist. Nanded

Applications are invited for the following Subjects in Sharadchandra Pawar Law College, Puyani-Wadi Shivrasta, Opp. D-Mart Puyani, Nanded, Dist. Nanded. (Permanent Non-Granted). Run by Jai Jawan Jai Kisan Shikshan Prasark Mandal Kandhar's, Dist. Nanded (MS). Eligible Candidates should submit their application along with all necessary documents **within 15 Days** from date of publication of this Advertisement by registered post only.

Sr. No.	Position	No. of Post	Nature	Reservation
1	Law (Full Time)	19	Regular	Open - 07 SC - 02 ST - 01 OBC - 04 VJ-A - 01 EWS - 02 NT-B - 01 NT-C - 01
2	English (Full Time)			
3	Political Science (Full Time)			
4	Librarian (Full Time)			
5	Director of Physical Education (Full Time)			

Note : For details information about post Qualification and other terms and conditions, please visit University **website : www.srtmun.ac.in.**

Secretary
J.J.J.K.S.P.M. Kandhar

Shri Aillak Pannalal Digambar Jain Pathashala's
Kasturbai College of Education, Solapur
(Jain Minority Institution)
Seth Walchand Hirachand Marg, Ashok Chowk, Solapur

APPOINTMENT

Applications are invited from eligible candidates for the post of:

Sr. No.	Designation	Vacant Post	Open Post
1	Principal	1	1

- 1) Education Qualifications, Pay Scale and Service conditions are as per NCTE, Punyashlok Ahilyadevi Holkar Solapur University, Solapur and Govt. of Maharashtra Rules. For details, visit www.kcebed.org
- 2) Appointment to the post of Principal shall be for a period of 5 years from the date of appointment and joining or upto the attainment of the age of superannuation of the candidate, whichever is earlier.
- 3) Those who are already in service shall apply through proper channel.
- 4) Prescribed application form is available in the office on payment of Rs. 500/- in cash or by post Rs. 600/- D.D. and should be in favour of The Secretary, S.A.P.D.J Pathashala, Solapur.
- 5) Apply **within 30 days** from the date of advertisement.
- 6) Please note that the recruitment procedure initiated by this advertisement subject to final decision by Hon. Bombay High-Court, Aurangabad Bench, on Writ Petition No. 12051/2015.

Hon. Secretary
(S.A.P.D. Jain Pathashala, Solapur)

Date :



Jalna Education Society, Jalna

WANTED

Applications with full particulars are invited for the post of **Principal** for R. G. Bagdia Arts, S. B. Lakhotia Commerce & R. Bezonji Science College, Jalna.

Name of the Post	No. of Post	Category	Qualification
Principal	01	Open	1) Masters Degree with atleast 55% Marks. 2) Ph.D. with Equivalent published work & research guidance.

Conditions :-

- 1) A minimum score as stipulated in A P I based on P B A S for Professors/Principal as developed by Govt. of India. State Government & Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- 2) Candidate should have minimum experience of 15 years of Teaching/Research/ Administration in University/Colleges or Institutions of Higher Education.
- 3) Pay Scales as per rules & norms laid down by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad/State Govt. of Maharashtra and UGC rules.
- 4) No T. A./D. A. will be paid to candidates called for interview.
- 5) Candidates already in service should apply through proper channel.

Note :

- 1) The post of Principal shall be a tenure post. The term of appointment shall be for five years with eligibility for reappointment for one more term only after a similar selection committee process.
- 2) The envelope containing application form should be superscribed by "Application for the post of Principal & should be sent to the Secretary, Jalna Education Society, C/o J. E. S. College, Jalna-431203.

Application should reach with certified copies of necessary documents **within 15 days** from the date of publication of this advertisement.

P.R. BAGDIA
CHAIRMAN

S.G. BHAKKAD
SECRETARY

**Fatorda Salesian Society's
DON BOSCO COLLEGE OF ENGINEERING
Fatorda, Margao, Goa 403 602
(Approved by DTE, Govt of Goa, AICTE, New Delhi &
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Qualification: As per UGC guidelines.

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- Knowledge of Konkani
- Knowledge of Marathi shall be desirable

NOTE:

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The envelope containing the application in prescribed format should be clearly **superscribed** with the Post applied for. Incomplete applications and applications received after closing date and time will not be entertained.

Dr. Neena Panandikar
Principal

Fr. Kinley D'Cruz, sdb
Director



**Shri Vetaleshwar Shikshan Sanstha's
Latur College of Pharmacy**

Gurunathappa Bavage Knowledge City, Hasegaon, Tq. Ausa, Dist. Latur
Approved by AICTE New Delhi, Govt. of Maharashtra & Recognized by DTE Mumbai
Ph. 02382-268163, Fax No. 02382-268163

Email: lcophasegaon2015@gmail.com, website: www.lcophasegaon.net

WANTED

Applications are invited for the post of Professor, Associate Professor and Assistant Professor to be filled in Latur College of Pharmacy, Hasegaon, Tq. Ausa, Dist. Latur (Permanent Non-Grant) run by Shri Vetaleshwar Shikshan Sanstha, Hasegaon. Eligible candidates should submit their application along with all necessary documents **within fifteen days** from date of publication of the Advertisement by registered post only.

Sr. No.	Post	Subject	Total Posts	Post Reservation
1	Professor	Pharmaceutics	07	Open-03, SC-01, ST-01, OBC-01, EWS-01
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacognosy		
		Pharmacy Practice		
		Regulatory Affairs		
2	Associate Professor	Pharmaceutics	11	Open-04, SC-02, ST-01, VJ(A)-01, OBC-02, EWS-01
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacognosy		
		Pharmacy Practice		
		Regulatory Affairs		
3	Assistant Professor	Pharmaceutics	09	SC-02, ST-01, VJ(A)-01, NT(C)-01, OBC-03, EWS-01
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacy Practice		
		Regulatory Affairs		
		Regulatory Affairs		

2. Salary and Allowances:-

Pay scales as per the UGC, PCI, New Delhi & Swami Ramanand Teerth Marathawada University, Nanded rules from time to time.

Note:-

1. Prescribed application form, qualification and experience is available on the University website (www.srtmun.ac.in).
2. No T.A. /D.A. will be paid to attend the interview.
3. Eligible candidate those who are already in services should submit their applications through proper channel.
4. All attested photocopies of certificate and other relevant documents should be attached with the application form.
5. Reservation for ladies and Physically Handicapped as per norms.

Address for correspondence:

The Principal,
Latur College of Pharmacy,
Hasegaon, Tq. Ausa, Dist. Latur-413520

Sd/-
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