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Announcement

Special Issue of 'University News'

A **Special Number of the University News** on the theme '**Realizing Sustainable Development Goals through Higher Education Institutions**' is being brought out in the Month of March, 2022.

The **Special Issue** will cover the articles of eminent educationists on the afore mentioned theme. Readers of the University News are also invited to contribute to the Special Number by submitting papers/articles on above theme by **March 01, 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:

- *Realizing Sustainable Development Goals through Higher Education Institutions for Ensuring Equality and Sustainable Society or articles on SDGs 5,10,11 and 12.*
- *Realizing Sustainable Development Goals through Higher Education Institutions for Promoting Industrialization, Employment, Peace Partnership and Prosperity or articles based on SDGs 8, 9, 16 and 17.*
- *Realizing Sustainable Development Goals through Higher Education Institutions for Ensuring Clean Energy, Green Environment and Sustainable Ecosystem or articles based on SDGs 7,13,14 and 15.*
- *Realizing Sustainable Development Goals through Higher Education Institutions: Securing Basic Essentials of Well-being or articles on SDGs 1, 2, 3 and 6.*
- *Realizing Sustainable Development Goals through Higher Education Institutions: Ensuring Inclusive and Equitable Quality Education or articles on SDGs 4.*

Guidelines for contributors are placed on AIU Website. Manuscripts may be sent to the Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002 through E-mail: **ramapani.universitynews@gmail.com** with a copy to: **rama.pani2013@gmail.com/universitynews@aiu.ac.in** on or before **March 01, 2022**.

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Changing Dynamism of Business Education

R D Sharma*

With the adoption of outcome based new education policy of 5+3+3+4 in the country, focusing on the techniques of experiential learning by performing the creative activities for generating knowledge and its application experiments from the early age onward with need based orientation within the parameters of recent initiatives regarding start ups, make in India, skill development, entrepreneurship, inbuilt innovative exercises, self employment along with enough flexibility for exit and entry to the academic programmes of higher education that too within cafeteria approach, the nature and scope of business education is bound to be regularly reviewed and updated for maintaining its relevance to the current challenges of *Digital Bharat, Swachh Bharat, Sksth Bharat, Atmnirbhar Bharat* of locally significant global perspectives. Accordingly both ongoing conventional and professional courses of business education have to undergo tremendous structural changes of far reaching significance to make them much more useful to the vibrant job markets of visible dynamism vis-à-vis entrepreneurship needs as warranted. The most of the popular highly professional courses, relevant to corporate administrative and financial affairs, being run by the Institute of Chartered Accountants of India, Institute of Costs and Works Accountants of India and Institute of Company Secretaries of India, are being always taken care of appropriately as per feedback from various stakeholders by the respective statutory national regulating bodies. Similarly, the MBA programme is under the control and supervision of three agencies including AICTE, UGC and respective Universities/Autonomous Institutes. However, majority of the conventional and ever green star courses, which predominantly constitute the core of business education catering to the needs of about 40% of total students of higher education in the country like MA (Eco), M Com, B Com, BBA, BA (Eco), etc. are under the dual control and supervision of UGC and respective Universities/Autonomous Institutions. Here regulating procedures, processes and practices in connection with needed updates of these courses in both UGC and respective educational institutions are widely carried on through their various internal statutory bodies, as per prescribed periodical review exercise, comprising mainly experts drawn as per objectively laid down norms from the various academic institutions of the country vis-à-vis industry and government agencies.

Thus, this paper, being an outgrowth of on-the-job lifelong experience of teaching and research, confines to restructuring the courses of business education with need based contents wherein aforesaid subject experts i.e. faculty members in higher education institutions including both Colleges and Universities have major

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significant role to play in transforming the context, structure and relevance of the same to the given business environment, challenges to entrepreneurship, needs for innovative efforts and requirements of the job market. Due to fast changing perceptual dynamics of parents and their college and university going kids towards the needs of education in the context of current dynamism of life, the relevance of business education, and for that matter even the basic concept of education as such, has undergone a complete paradigm shift over a period of time, thus leading to the emergence of new education policy shifting from 10+2+3 pattern of learning to 5+3+3+4 pattern as well as from time bound rigidly defined time frame to flexible provisions of entry and exit in the academic programmes of higher education. In fact education is no more seen just as a time tested source of knowledge, wisdom and enlightenment to the students enabling them finally to become a good human being for getting comfortably adjusted in any walk of life they come across after completion of their formal education but primarily as the only most significant means to get job and most often government jobs due to its inbuilt lifelong job security. So much so that even children of many businessmen, industrialists, agriculturists and other people of different professional and vocational backgrounds too expect government jobs instead of getting engaged in their traditionally family owned business and occupations. Thus all this generated huge pressure for admission to various courses of higher education, resulting into increasing outgrowth of unemployable youth. As a matter of fact it is next to impossible for the governments to provide jobs to all these students after their aforesaid kind of education of routine and generic nature. Further, with the whole of the World becoming a small business village wherein goods and services manufactured anywhere are available everywhere at the doorsteps of the masses with highest quality and at lowest prices with utmost convenience, satisfaction, valid certification and best treatment to the ultimate customers, a very high demand for suitably skilled and duly qualified manpower capable of managing “cost-time-effort” effective output is a great opportunity to the business education fraternity. Therefore, all these conventional courses of higher education have lost their value to this kind of job market and dynamism of entrepreneurship due to the absence of duly equipped employable and innovative youth coming out of the educational institutions that are running

their courses in conventional mode. It is in this context a turnaround in business education within the changed scenario is required very badly and urgently to meet the fast changing requirements of business and industry of aforesaid global perspective in addition to jobs in government institutions and departments. In fact much more highly professional look is required there too in government institutions and their departments wherein the meritorious hardworking manpower with needed technical skill, experience and capability has to be given top priority in the recruitment and thus the students of business education are going to be irrelevant if they continue to be traditionally groomed and trained graduate without having relevant creative competence for need based innovations, entrepreneurship and employability.

Primarily, it is the teaching community only i.e. faculty members in business education, who has the needed potential, responsibility and opportunities to do the badly needed efforts of creating employability, entrepreneurship and innovative thinking among their students. It is in this context that the business education faculty members cannot expect this change only through conventional approach of their teaching, research and extension efforts. Similarly just policies and routine practices without regular monitoring and follow up actions by the front line managers in academics do not meet the objectives of needed entrepreneurship skill and employability to the youth. Moreover if teachers, just like over all working culture in many other sections of the society, also become materialistic, silent spectators and do not match their efforts to very attractive emoluments they draw, the given system will continue to be just pass time mechanism of generating huge social liability of unemployable and non creative youth. Consequently these young people not only get frustrated after completing formal education due to non availability of jobs matching to their given knowledge, inadequate or unplanned entrepreneurial skill but also fall into the trap of miserably misguided elements and indulge in their ongoing several unproductive, illegal and anti-social activities. Thus this ongoing process of criminalisation among youth everywhere will not end till their stay on campuses is innovatively channelised to be adequately and meaningfully productive in terms of overall wisdom, competitive spirit, their employability, innovative strength, and ability of entrepreneurship along with invaluable values of life.

Above all, the originally most significant and time tested basic purpose of education in broader perspective must not be drifted in any way i.e. the knowledge and enlightenment with enough moral and ethical values of life like truthfulness, honesty, sincerity, commitment to community & nation, and transparency ought to be imbibed at all stages of education right from primary to terminal ones, yet with much more care of equipping the youth in higher education for employability and entrepreneurship. Any stage in this expectedly interwoven system of regulations and practices must not remain loose in operation otherwise it would continue to take the learners to negative directions of very serious consequences very easily as negative approach moves automatically, even unknowingly, quickly and forcefully as compared to positive efforts in life till the same remains in casual stage. Further this situation gets worse with the ongoing culture of political interference in the functioning of the campuses which diverts the energies of the students from their innovative engagement, academic growth and career planning. The first hand experience of having witnessed loose moral, ethical and academic control of the teachers as well as the system on the students indicates that their students had gone out of normal and meaningful academic life cycle and career plans for which only the educational institutions are under obligation to work. Even in such situations the given system as such is also not strong enough to handle these misguided students. Consequently till about 35 years of their age such elements having unproductive stay on campuses remain aimless, indulging in cheap publicity as student activists and thus just spoiling their life by keeping themselves engaged in several illegal and unethical means of life. So much so that majority of these misguided elements get totally out of the right, fair and truthful track and even indulge shockingly in taking commissions for getting false and fraudulently concocted stories printed in yellow media with the help of similar elements of the system there too just to defame and harass innocent and honest public servants till they dance at their tune in exchange. It is just a trailer of blackmailing habits of these misguided elements on campuses, recent frequent violence in several universities and colleges does indicate complete picture as to how various teaching programmes in the given environment have gone out of track for the future of India and our youth trapped in this unholy vicious never ending circle. In several public universities and colleges such

misguided students having no innovative mind and creativity for settlement in life on time are reported to have been managing their stay in the hostels in violation of rules by misusing the loopholes of the system to carry on their nefarious designs through the network of like minded forces all around till they are evicted from campuses forcefully. Virtually, such misguided elements on campuses rarely succeed in life too till they mend their ways, however majority of such elements are seen entering politics due to known reasons and ongoing bad culture. Thus it is in this context very well planned efforts are required to channelise their energy from the very beginning by the system itself with the academic courses of activity based time bound learning as per vision of new education policy.

As a matter of fact all steps in various stages in the journey of education are equally significant for focused and time bound result. As stated above the courses, due to socio-political pressures for educating all those who so ever eligible for admission with the purpose to enlighten and make them knowledgeable in a general sense and thus keep them engaged in this exercise only till they get at least something else to do, have proved to be highly unproductive and thus just a liability in the changed scenario of cut throat competition in the job market. After completion of the course such students seek jobs despite the facts that they are unemployable as they took admission not for getting adequately equipped with knowledge and skill for the same but just for the sake of spending time unproductively on the campuses. It has been frequently seen that some of such elements do not leave campuses and go on seeking admission to course after course not for meaningful learning but just for staying on campus and thus developing pressure groups in the names of student activists for all kinds of dirty activities and polluting the entire academic environment against the interest of innocent and well meaning students as stated above.

It is in this direction that new education policy keeps the students involved throughout and thus leaves no chance for them to be out of track in life. In fact it requires blend of both top down and bottom up approaches within the premise of new education policy through active participation of the concerned quarters comprising all the three sets of educational institutions. In the given government system the bottom up sequence starting from Schools → Colleges → Universities → Regulating Bodies proves

very useful. Similarly top down process starts with national education policy framed after nationwide debate through MoE → Regulating Bodies → UGC → Universities → Colleges → Schools along with needed regular monitoring intervention by major stakeholders (primarily teachers, policy makers and parents). Therefore courses have to be purpose specific for acquiring required ability to pick up and learn the need based skill and knowledge through creative activity based learning exercises. For example for bright prospects of highly paid jobs, courses of study and syllabi have to be structured accordingly for good communication, required numerical ability, overall global awareness, digital compatibility, legal understanding, ability to remain morally and ethically sound all through along with rigorous subject specific training and learning for high degree of employability and entrepreneurial skill too.

As already stated the most forceful role in this chain lies with teachers of higher education whose stay on the job is invaluable justified if their students come out of the institutions with high level of satisfaction, confidence, employability, entrepreneurial skill and strong moral & ethical values of life and get settled at the earliest just within the intervening period of last examination and declaration of result of their terminal degree or just after a reasonable gap within which one is required to clear other required competitive examinations and recruitment formalities. Apparently during and after completing higher education programmes, certainly other than medical, engineering, and many other professional courses wherein also similar exercise is accordingly always under active considerations at different relevant levels, many careerist students prepare for administrative, technical and competitive examinations like IAS, IPS, IFS, IRS, etc. as they at this stage are in a position to decide their course of action in accordance with their cherished goals, competence and career plans. However, coming back to business education, the critical role in equipping the students with needed knowledge, skill, confidence and high morale is of teachers in terms of their quality delivery in class and practical lab work based on purposely designed quality course structure, face to face interaction, innovative work exercises, monitoring and follow up action scheme & practices. The course contents, on the spot class delivery, regular monitoring and remedial actions as per academic calendar matching with the requirements

of the industry, employability, entrepreneurship and competitive examinations do succeed now when supported with matching infrastructure and working conditions. Courses of study and syllabi in the subject have to be structured as per market demand and interest of the students for all the four kinds of basic inputs required viz. (1) moral and ethical values to always remain transparent and truthful, (2) ability to compete for jobs in private and public sectors, (3) need based skill, knowledge and confidence for entrepreneurship & self employment and (4) ability to clear any of the competitive examinations for civil service etc. if they plan. Other things remaining the same, on the job training is the vital part of learning during pre-college, college and university programmes wherein academic institutions get required feedback and inputs for all around improvements during subsequent courses of action. Similarly various academic meets do become meaningful when adequately represented by the prospective employers including industry and government institutions, inspiring and motivational speakers, and top functionaries from those institutions where students remain associated for on the job learning. Further student visits to significant industrial units and places of vital lifelong significance and values to the overall wisdom and conduct of the students.

Neither single course nor multicourse approach will prove to be relevant everywhere and every time in the country and thus an umbrella concept of higher education within precincts of new education policy is useful here that too in the context of free or negligible fee based education system due to socio-economic compulsion of the society causing low enrolment and high dropout at all levels. It may not be out of place to mention that it is completely unrealistic and illogical to compare quality of business education in all the about 1000 Universities and 40,000 Colleges at par with that of top centrally funded highly privileged IIMs, IITs and top central universities as these iconic institutions are liberally funded that their even annual budget for just one/two programme/s for a very few students is much more than that of the entire budget of an averaged sized public university in the country catering to the needs of large number of students. Moreover state funded institutions are not yet free from many multi-cornered pulls and pressures in managing their affairs due to socio-political milieu. Thus these circumstantially underprivileged state academic institutions with peculiar objectives and

responsibilities are under pressures for “quality - cost - time - effort” effective education with limited financial support for too many students, thus contributing tremendously towards the cause of education of low income groups in the country.

It is in the context of aforesaid over all scenario, the business education needs to be taken up while updating course curriculum on continual basis as per basic principles and prerequisites of new education policy by the front line managers of academics i.e. faculty members. Operation of our education system invariably moves around academicians, educationists and subject experts drawn very objectively from the teachers only country wide. Though initial inputs of learning in business education do commence from pre-college programmes also yet students after schooling (of both ongoing 10+2+3 pattern or subsequently from 5+3+3+4 pattern) with non business education backgrounds are also free and competent to join the programmes of business studies in colleges and universities due to the well organised flexibility of entry and exit intentionally and meaningfully maintained. After schooling right from the entry of the students to higher education institutions till their exit from the same they remain active learners as per norms under the direct supervision of their teachers and mentors. Even their entry to these institutions is supposed to be handled meticulously as per the scheme prepared under norms collectively by the teachers themselves through statutory bodies in the given system in light of the background of the students suitable to the courses they seek admission. They undergo the courses of study and training duly approved by various academic bodies primarily represented by these teachers and experts from the industry, followed by the processes of examination, evaluation and declaration of their result for the award of degrees as per statutory provisions originally designed and moved as per the objectives of the programmes.

Thus aforesaid requirements for business education in the current atmosphere ought to be adhered to in all the phases of the programmes. Moreover, these courses of study and syllabi are always supposed to be modified and industrially updated to make them further useful and exciting

to the fast changing challenges of job market, entrepreneurial skill requirements, and innovative activities of local relevance and global outlook before the commencement of every session so that in this on-going chain of improvement new batch in turn too enters the system to get shaped, groomed and equipped accordingly with relevant updates. For example, about thirty decades or so the syllabus Business Statistics paper of M Com used to have basic statistical tools like central tendency, dispersion and correlations, etc. but now it has no place in the syllabus and the techniques and softwares currently used in the industry and public institutions like data purification and structural equations through SPSS, AMOS, SYSTAT etc are being taught. Similarly books of accounts are being taught to be prepared through Tally and busy softwares and no more numerical questions in income tax but students are taught to file income tax return online on the portal of income tax department. So is true with regards to all papers in all the academic programmes at all levels of education. This process of revision and updation has to be carried regularly as per changing needs in the practical life.

In fact timely updates in the academic programmes as stated above requires regular interactions among all stakeholders in the forms of workshops, project works, seminars, case studies and conferences, productive deliberations of statutory bodies so that the course contents, class delivery, lab work, written assignment tasks, evaluation, grading and infrastructure etc are accordingly improved and made need based for which teachers remain always in front line of the system for carrying on this academic agenda for better future of their students and the nation as a whole via-a-vis exhibiting their own output in this dynamically changing environment. During these academic meets specifically organised at regular intervals teachers get lot of feedback and inputs for further course of actions in keeping their academic programmes relevant and meaningfully productive. It is in this context all these ever challenging activities are linked with career prospects of the teachers i.e. the system works automatically within the principle of win-win statutory structure of participating and operational mechanism. □

Technical Education Fee Structure Reconsideration: A Pressing Priority to Safeguard the Technical Education System of Punjab

Manoj Kumar* and Sudhir Sharma**

Since the announcement of *Atmanirbhar Bharat Abhiyan* and 'Vocal for Local' by our Hon'ble Prime Minister Narendra Modi, different stakeholders and experts have been analyzing the various approaches to achieve this contemporary status for India. The lockdown has given technical institutions enormous opportunities to get into action in a focused manner, developing indigenous technologies and transferring them to industry for production. To hold our commitment of *Atmanirbhar Bharat Abhiyan*, it is imperative that we formulate a robust research and development-backed industrial ecosystem, with technical institutions. Hence, there is an urgent need for a technological and economical analysis of the stimulus in the context of technical institutions.

India has made incredible progress in professional and technical education over the last three decades. The institutional framework of higher education in India consists of Universities and affiliated Colleges. Currently, the technical education system in India comprises of Central Government funded institutions, State Government/State-funded institutions and private or self-financed institutions. During the past couple of years fast growth of infrastructure has taken place in the self financed/private institutions as compared to centrally funded and state funded institutions. In the state of Punjab two state technical universities along with few private universities are catering to the needs of technical education. Around 300 technical institutions are affiliated to these two state technical universities out of which 95% are private self financed institutions.

The major stumbling block in the development of these private self financed institutions particularly in the field of research and development facilities is their poor economic health. The only source of revenue for these institutions is the tuition fee collected from the students to meet all their fixed and

operating expense. These institutions don't have any financial support from AICTE, UGC, State or Centre Government. The salary bills and other operating expenses of the institutions are rising at the rate of 8-10% annually, hence doubled the spending of the colleges/ institutes during the last decade. Whereas, the only source of revenue i.e. tuition and other fees have not been revised since 2008. Implementation of revised pay commission (5th) in the state of Punjab further deepens financial crisis of technical institutions. This led to cuts on investments on research and other development activities. In this paper we explored the causes and devised the much needed system of fee revisions to safeguard the financial health of the institutions so that they can contribute to the bigger targets setup before these Institutions to make *Atmanirbhar Bharat*.

The Predicament

The regulations applicable to colleges affiliated to the Universities and operating on 'no grant-in-aid' basis (Regulation of Admission and Fees in Private Non-Aided Professional Institutions) are 'The University Grants Commission Regulations, 1999' whereby UGC regulate admission and levy of fees. As per these regulations the fees in professional institutions affiliated to State Government Universities shall be determined by a Committee called the State Level Committee. State Level Committee has to review the fee structure at an interval of three academic years. The procedure of fee revision, compulsorily include giving opportunity to the institutions concerned to furnish such material as they may consider relevant. Committees are also authorized to fix different rates for institutions located in rural areas and urban areas.

The public pleasing policies of the state government became an impediment to the working of these state fee revision committees; resulted in increase in fee of professional courses in affiliated technical institutions. Another reason of State Government's indecision in revising the fee is the inability to bear the additional burden which will create due to the increase in the share of the Government contributions to the concessional fees offered under different schemes of the state/centre Government.

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The Institution have given lots of representations to University/ AICTE and affiliating university and after continuous follow-ups regarding fee revisions the AICTE constituted a committee for fee revision under the chairmanship of Justice Shrikrishna, former justice supreme court of India. The purpose of this committee was to prescribe guidelines for charging the tuition and other fee for professional courses. The committee submitted the report in 2015 and AICTE notified the approved guidelines in approval process hand book 2017-18. Committee recommended the maximum tuition and development fee per annum for full time programmes according to the geographical location of the institutes. The cities are categorized into X, Y and Z types as per VI Central Pay Commission Classification of Cities. The prescribed fee are given in the table-1

But since the state fee revision committee for state universities and its affiliated colleges had not

adopted the said recommendations of central fee committee; the problem still persisted.

The Panacea

One of the challenges faced by the fee review committees in India is the determination of the unit cost of the education and linking it to the quality of graduating students. For this educational institutions need to spend more on faculty, infrastructure and research & development activities. The prescribed fee structure by the AICTE is taking into consideration parameters particular to geographical location of the institutes and accordingly prescribed the levy fee.

In order to develop a more transparent and acceptable fee structure it required to link it with additional performance indicators to ensure quality in professional courses undertaken by private technical institutes. These performance indicators can be developed from various normative parameters

Table -1: Recommended Maximum Tuition and Development fee per annum for full Time Programmes by the National fee Committee

	Type X cities	Type X cities	Type X cities
Undergraduate Degree Programmes			05
4 Year Engineering Degree (B.E./B.Tech.)	1,58,300	1,50,500	1,44,900
5 Year Architectural Degree (B.Arch.)	2,25,300	2,13,500	2,05,050
4 Year Town Planning Degree	2,25,600	2,13,750	2,05,350
5 Year Applied Arts and Crafts Degree	2,25,600	2,13,750	2,05,350
4 Year Pharmaceutical Degree (B. Pharma.)	1,55,125	1,47,250	1,41,650
4 Year Degree in HMCT	1,55,125	1,47,250	1,41,650
Postgraduate Degree Programmes			
2 Year Engineering Degree (M.E./M.Tech.)	2,51,350	2,39,950	2,31,350
2 Year Engineering Degree (M.Arch.)	2,69,700	2,56,100	2,45,875
2 Year Town Planning Degree	2,69,700	2,56,100	2,45,875
2 Year Applied Arts and Crafts Degree	2,69,700	2,56,100	2,45,875
2 Year Pharmaceutical Degree (M.Pharm.)	2,27,500	2,16,100	2,07,500
2 Year Degree in HMCT	2,27,500	2,16,100	2,07,500
3 Year MCA	1,71,150	1,63,250	1,57,650
2 Year MBA	1,71,300	1,63,400	1,57,800
Diploma Programmes			
3/4 Year Diploma Engineering	97,350	92,375	89,100
3/4 Year Diploma Architecture	97,900	92,925	89,650
3/4 Year Diploma Town Planning	97,900	92,925	89,650
3/4 Year Diploma Applied Arts and Crafts	99,500	94,500	91,200
3/4 Year Diploma HMCT	98,000	93,000	89,700
3/4 Year Diploma Pharmacy	97,975	93,000	89,700
Post Diploma Programmes			
1.5-2 Year Diploma Engineering	97,800	92,850	89,550
1.5-2 Year Diploma Architecture	98,650	93,650	90,350
1.5-2 Year Diploma Pharmacy	98,650	93,650	90,350
1.5-2 Year Diploma Applied Arts and Crafts	100,250	95,300	92,000
1.5-2 Year Diploma HMCT	98,750	93,775	90,475

Type X/Y/Z cities as per VI Central Pay Commission Classification of Cities

suggested for ensuring quality in all spheres of professional education by National Board of Education (NBA). These normative parameters are quite comprehensive and accepted worldwide as a measure of quality technical education. The parameters on the basis of which the technical institutes are evaluated for NBA accreditation are:

- Organization and governance
- Financial resources
- Physical resources and facilities
- Faculty and staff
- Student intake quality
- Teaching – learning process
- Co-curricular and extra-curricular activities
- Student services & counseling
- Research & Development
- Industrial interaction

The normative parameters for linking with fee fixation are developed taking into consideration these points on a scale of 100. The details of which are given in table-2

Table -2: Normative Parameters for Linking With Fee Fixation

Sr. No.	Normative Parameters/ Performance Indicator	Weightage
1.	Vision, Mission and Program Educational Objectives	05
2.	Program Curriculum and Teaching –Learning Processes	10
3.	Course Outcomes and Program Outcomes	17
4.	Students’ Performance	10
5.	Faculty Information and Contributions	20
6.	Facilities and Technical Support	08
7.	Continuous Improvement	08
8.	First Year Academics	05
9.	Student Support Systems	05
10.	Governance, Institutional Support and Financial Resources	12
	Total	100

On the basis of performance of the institute in these normative parameters a facility index will be calculated for each department of the institutes which than can be further used to fix maximum fee limits for that institute. This system of fee fixation will give the liberty to fix deferent fee for different courses as per the facility index of respective department. This can be better understood with following example.

“Let’s assume that an institute scores 60 points out 100 points on above mentioned normative parameters. Accordingly a facility index assigned to that institute will be 0.6. In case the institute is located in category Y city the max fee prescribed as per table -1 for 4 years B. Tech. course is 150500/-. The revised limit for max fee for this institute can be changed taking into consideration the assigned facility index of 0.6 i.e. $150500 \times 0.6 = 90300/-$. This system of fee fixations will give comprehensive information about the quality of education and facilities provided by the institution to aspiring students.”

The proposed system of fee fixation will also boost the efforts of AICTE in improving the quality of technical education system. Students will pay according to facilities and services provided by the institutes. Institutes will be benefited by getting increased flow of revenue, motivation for creating better facilities hence beneficial to all the stake holders. The Government will also not be burdened as only quality institutes will be able to increase fee.

The Closing Annotations

Majority of private technical institutes in Punjab are self financed institutes and their main source of income are fee from students, bank loans and donations etc. However, a few accredited institutes are getting some grants from AICTE in the form of Seminar grant, travel grant etc. Many Institutes are barely able to manage funds for faculty staff salary, day to day activities and left no funds for research and development activities. Whereas fee structure of private and deemed universities is much higher than government universities and their affiliating colleges. Hence, it becomes very important to link the fee structure of all the technical education institutes with normative parameters based on facilities provided by the institutes and universities of the state as proposed in the preceding section. The proposed facility index based on the performance indicators will give a transparent fee structure acceptable and justifiable to all the stake holders and the technical institute will become able to contribute in *Atmanirbhar Bharat Abhiyan* in more effective way.

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4. National Board of Education (NBA) Regulations. □

Online Oral Examination: An Initiative by the Indian Institute of Teacher Education

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The COVID-19 pandemic has affected the global economy, culture, politics, lifestyle, health, environment, and above all education. The student population in countries like India where the student population comprises nearly one-third of the population has adversely affected the teaching-learning process especially assessment and certification. Each coin has two sides; likewise, this global pandemic has also positive and negative impacts. COVID-19 pandemic and reactions to it positively affected the environment as a result of reduced human activity. In the same way, many positive effects can be observed in the field of education. Now, people have accepted 'The New Normal'.

When the COVID-19 pandemic struck India in 2020, the entire education system swiftly switched from on-campus classes to online classes. Students began to learn on the internet, radio, and television via mobile and laptop devices from big cities to tiny villages. Developing teaching-learning tools and keeping their class lively and engaging have become difficult jobs for teachers in the digital context. In addition, the online evaluation and assessment process has become more difficult. When students have the option of taking tests from homes, they can readily copy answers. Students and the teacher could not even practise or learn how to create questions for an open book exam. Use of an open book test requires additional training that was not initially given as part of the procedure.

In January, 2022, because of the third wave of COVID-19 with the threat of Omicron and Delta variant, once again schools and universities had to revert to online mode. Most of the universities of Gujarat have postponed the semester-end examination. The main adverse effect of this decision will be reflected on the stretch of the upcoming semester and if the next semester will begin late, it will lead to late completion. In that situation, so many students will miss the opportunity to get placement in various

schools. So the Indian Institute of Teacher Education (IITE) decided not to postpone the exams.

During the third wave of COVID-19 online exam was the only solution to keep students safe by providing them the opportunity to give exams from home. To make this online examination valid and reliable the Vice Chancellor of IITE discussed this situation with stakeholders and the Academic council thereafter with the approval of the Academic council, IITE decided to conduct an online oral examination.

What is Online Viva-voce Examination?

Online oral examination refers to the Assessment and evaluation of the students' oral performance in the online mode. Each student and two evaluators had to join the Google meet for the online oral exam with the link provided to them by the university. The entire online viva-voce exam was recorded by the proficient IT team.

IITE purchased Google's teaching-learning upgrade version with 120 login ids. This license version allows conducting and recording 120 Google meetings at a time.

Validity of Online Viva-voce Examination

The validity of online oral examination refers to examining students regarding the content they are taught. Evaluation of the students should be done on the basis of the syllabus only. To make this online viva-voce examination a valid examination, Indian Institution of Teacher Education had taken enough care.

Each unit of course was divided into ten points to be asked. So if the course has four units, then ten points from each unit were prepared and the same was shared with the students and evaluators. Each unit was given 14 marks weight-age; there were a total of four units in each paper. So $14 \times 4 = 56$ marks were assigned to four different units and the remaining 14 marks were decided to give based on the performance of the students. This made a good representation of course content. They informed evaluators to ask questions according to the points provided to them only.

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Reliability of Online Oral Examination

To make this examination reliable and transparent, certain steps were taken. To increase the reliability of the examination number of questions to be asked was fixed. From each unit, the evaluator had to ask a minimum of three questions. If students cannot give answers to these three questions, the evaluator can ask more questions up to six. Further, in an online oral examination, an evaluator could ask follow-up questions and could check the depth of the student's knowledge. Further, the evaluators were informed to allow the students to select the unit to answer first to create a student-friendly environment.

As compared to other modes of online examination (Table-1), in online oral examination students could not copy the answers. And if the evaluator has doubt, that student is reading from another screen or any person is helping him/her to answer in that case, the evaluator can ask follow-up questions and application-based questions to assess the depth of the student.

To increase the reliability of the evaluation process, a panel of two evaluators evaluate the performance of the student. The selection of evaluators was done randomly. Even the students' batches were prepared randomly using ERP (University Data Management system). Further in the list of the students, only the enrolment number was mentioned, so the identity of the student was not declared. Evaluators to each batch are assigned randomly to make the evaluation process reliable and, for each paper, they assign a new evaluator panel to that group.

Every meeting is being recorded by the support IT team so that if after the announcement of the result, any student wants to go for reassessment, then the recording can be used and sent for reassessment. Thus, the entire process is made fully transparent and open.

Procedure of Online Oral Examination

IITE has a total of 59 affiliating institutions offering two-year B.Ed. programme in which more than 5245 students are enrolled. Center of Education, IITE offers various integrated programmes like B.A.-B. ED., B.Sc.-B.Ed., M.A./M.Sc.-M.Ed., B.Ed.-M.Ed., M.Ed., and M.A. Education. More than 750 students are enrolled in these programmes. Further, the total number of papers taught in these programmes is more

than 180. Successful completion of the Online Oral examination on such a large scale was a big challenge and IITE made it possible with macro and micro-level planning.

Under the guidance of the Vice Chancellor the entire team prepared the plan to make this initiative successful. Guidelines for the students and examiners were prepared and posted on the website for easy access.

Each unit of each course is divided into ten points to be asked. So if the course has four units then ten points from each unit are prepared and the same is shared with the students and Evaluators. This will help in making the process of examination valid. Each unit was given 14 marks weightage; there were total four units in each paper. So $14 \times 4 = 56$ marks are assigned to four different units and the remaining 14 marks were decided to give based on the performance of the students.

For conducting online oral examination Google Meeting platform was selected as the IITE has purchased the license of G-suite. It allows 120 users to create and record online video meetings. Each student allotted a 30-minute time slot for each paper of 70 Marks and 15 minutes for each paper of 35 marks.

There were two evaluators in each batch. IITE has its university management system named ERP system. With the help of this ERP system batches of students were created randomly according to the enrolment number. Total of 12 students were grouped in each batch. Students' batch list was published on the website. IT department of the university created 120 specific email ids to organize Google meetings with recording. Examination Schedule is prepared in such a way that every day maximum 120 batches of students can appear for the examination. A team of 12 technical assistants was prepared. Each member has to manage maximum 10 Google meetings each day. On the previous day of the exam meeting links were created and published on the website with students' batch list. Before one hour of the examination, i.e. at 8.00 am all the technical team members have to start the ten different meetings assigned to them. They first admit the evaluators and make them co-host and start the video recording. They help and support if any evaluator or student has any difficulty in joining the meeting.

Once the examination started at 9 am then the evaluators can admit the students one by one according

to the time slot allotted to them. All the meetings are recorded so that after the declaration of the result if any student is not satisfied with the result he/she can apply for reassessment. At the end of the examination, each evaluator submitted the mark sheet to the exam department through email.

Challenges

Online Oral Examination is an Innovative idea that was not implemented on such a large scale. Therefore the entire team has to create a new model, which needs accurate planning and readiness to face challenges.

Everyday minimum 75 and maximum 120 batches were conducting online oral examination and for that identification of two evaluators per batch, according to the course were difficult. For example, if in 90 batches exams are going to be conducted then 180 evaluators were needed.

Preparation of the exam schedule in such a way that in a minimum number of days exam can be completed was also a big challenge. Preparing an exam schedule for various integrated programs with

over 180 papers is complicated. Again, the everyday compilation of 240 mark sheets with limited staff was challenging. Conducting Online Oral exams for the subjects like Mathematics, Physics, etc. were quite challenging. Meticulous planning and proper logical structure is required.

Benefits of Online Oral Examination

The idea of online oral examination was like a boon in the pandemic situation. Almost all the learning outcomes related to knowledge, understanding, application and skill can be assessed through online oral examination too. Questions based on higher order thinking skills can be asked as well as can be assessed. The evaluator can ask the scenario-based and open ended questions to assess in-depth knowledge of the student.

Online oral examination helps to understand the students' interpersonal competencies and therefore can be judged appropriately. Confidence, Self-awareness, professionalism, presentation skills, etc. can be assessed in students.

Table-1: Comparison of Different Modes of Examination

Characteristic	Offline Exam			Online Exam		
	MCQ based Exam	Written Descriptive type Exam	Oral Exam	MCQ based Exam	Written/ Open Book Exam	Oral Exam
Suitable for a situation like COVID-19 pandemic	x	x	x	√	√	√
Economically viable	x	x	x	√	√	√
Commutation & Time-Saving	x	x	x	√	√	√
Human resources	x	x	x	√	√	√
Access of Evaluator	x	x	x	√	√	√
Written expression of the student can be assessed	x	√	√ (Such Que. can be asked)	x	√	√ (Such Que. can be asked)
Performance-based assessment can be done	x	x	√	x	x	√
Oral Expression can be assessed	x	x	√	x	x	√
Questions can be asked as per the situation	x	x	√	x	x	√
Follow up questions can be asked	x	x	√	x	x	√
Duplicity of answers can be avoided	x	x	√	x	x	√
Examiner can ask a variety of questions	x	x	√	x	x	√
Examiner can ask more clarification if required	x	x	√	x	x	√
Examiner can motivate student to give answers	x	x	√	x	x	√
In-depth assessment of the student is possible	x	x	√	x	x	√

Evaluators can ask follow-up questions to elaborate any answer and can ask a series of questions until the evaluator reached the limit of what the student knows which is not possible in the written examination. Unlike written examination especially in oral examination students ask for clarity if the question becomes unclear or ambiguous. The oral examination provides an opportunity to ensure that each student understands the questions being asked upon.

Online Oral examinations promote student's learning. When students have to present the responses orally they tend to prepare thoroughly because they cannot predict which kind of questions will be asked. Furthermore, to answer orally they need to develop an understanding of the content. Rubrics can be developed for accurate evaluation.

Oral examination contributes to develop students' verbal communication skills. It provides equal opportunity to *Divyang* students also. Some students may give better responses in the oral examination as compared to the written examination, particularly students having dyslexia or impaired vision.

In online oral examination students cannot copy answers as well as mass copy is also not possible.

Points to be Kept in Mind While Conducting Online Oral Examination

Online oral examination has many advantages as compared to written exams, open-book exams, or MCQ-based online exams. The following points should be taken care in order to make this process valid and reliable.

- Students should be provided detailed guidelines in written format regarding the exam pattern, and if they have any doubt it should be cleared.
- Evaluators should be provided the guidelines for examinations including the rubrics.
- Mock-examination practice should be provided in class.
- While conducting the online viva-voce examination the evaluator should take care of the students who have performance anxiety, speech disorders, or hearing problem. The evaluator should encourage such students to give proper responses. In the beginning, easy questions should be asked and gradually increase the difficulty value of the questions.

- All students should be given equal opportunity for displaying their knowledge.
- Oral Examination should be structured and planned. Pre-determined questions with follow-up questions in form of content points should be shared in advance with students and evaluators.

Conclusion

Students' evaluation is an important and integral part of the Education system. In this pandemic situation, IITE has made all the efforts to make this online viva-voce examination process transparent, valid and reliable. Further the entire examination system was *Atmanirbhar*. IITE has not hired any external agency to conduct this examination. The entire process was completely *Atmanirbhar*. Looking into the advantages of this exam pattern as compared to all other patterns, this is going to be used even after the world comes out of pandemic.

Online viva-voce examination cannot replace the age old assessment process but it is the best complementary method of assessment for evaluation.

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Chatbots in Education System

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With the changes happening around the world, the practices in the education system are also catching up the track. Information and Communication Technology (ICT) has enabled the education system to adopt these changes in a faster way and as a result today we are able to integrate the concepts and ideas like Technology Mediated Learning (TML), customized learning, Intelligent Tutoring System (ITS), Spaced Interval Learning (Spaced Interval learning helps students polish up what they have studied until then), unsupervised robotic assessments, virtual tutor assistance etc. in educational practices (Hephzibah, 2020). The TPACK model of ICT integration (Mishra and Koehler, 2006) also suggests that for developing good quality content, it requires a careful interweaving of all the three key sources of knowledge: technology, pedagogy, and content and hence use of technology is essential in education. ICT also plays a very critical role in not only achieving the Sustainable Development Goals (SDGs) but also addressing the issues of inclusion by giving equal opportunity to everyone to learn. Artificial Intelligence (AI) is being looked up as a potential ICT option to transform how education would operate. It can also help us to move from the stage of knowledge acquisition to knowledge creation (UNESCO, 2011). AI is currently used in education in the form of customizable content through adaptive learning programmes and software, tracking and monitoring diagnostics, automation of grading and even AI tutors. AI will continue to bring in new prospects for the enhancement of learning, new forms of learning and will also offer more adaptable lifelong learning pathways (UNESCO, 2011).

In a study carried out by Ritu and Hayley (2020), it was found that as high as 99.4 per cent of United States higher education stakeholders believe that AI will be instrumental in institution's competitiveness in the next three years and 15 per cent of them called AI a "game-changer," and at least 54 per cent of US higher education institutions have

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started to experiment with AI, while 38% have embraced AI as a core part of their business strategy.

Chatbots

The use of AI based Chatbots is on popularity. It all started with a basic question raised by Turing test (1950) that "Can machines think?" From the oldest chatbot Eliza to the latest voice based assistants like Siri from Apple, Alexa from Amazon, Microsoft's Cortana or Assistant from Google, today chatbots are being used in almost all fields to handle various routine/monotonous tasks (Hephzibah, 2020) and thus save the time for productive and creative tasks. The type of communication used by chatbot (text/voice based; facial based or robots) determines the interaction process that takes between the user and chatbot (Gracia, Fuertes and Molas, 2018). Chatbots are the software programmes or applications that has the ability to respond to users' messages by choosing correct expression from a pre-programmed schemes or using adaptive machine learning algorithms (Neff and Nagy, 2016; Gracia, Fuertes and Molas, 2018; Fichter and Wisniewski, 2017). Some bots have the ability to run automatically, while some perform commands when they receive specific input (Colace et al., 2018). Thus, chatbots have evolved over time and now some chatbots can include features like recognition and oral expression, detection of emotional state to communicate with a person or another chatbot and give the feel of presence of a real person (ZEMČÍK, 2019; Gracia, Fuertes and Molas, 2018). They are also emerging as a new interface, designed in such a way that they can replace or complement applications or visits to a website by enabling users to simply interact with help of chat (Knill, et. al. 2004). The advantage of using chatbots in education is that they can be made available 24 X 7 and have qualities like persistence, honest, reactive, friendly (Zoroayka, 2018 and Tsvetkova et. al, 2017). The compound annual growth rate of Chatbot Market is projected to increase by 34.75 per cent from 2019 to 2025 (Artificial Solutions, 2020).

Chatbots are also known by different names such as a talkbots, chatterbots, conversational AI bot, AI chatbot, AI assistant, intelligent virtual assistant, virtual customer assistant, digital assistant, conversational agent, virtual agent, conversational

interface etc. Chatbots have varying degrees of intelligence and higher the degree of intelligence higher would be its ability to respond satisfactorily.

What Can They Do in Education?

The aim of use of chatbots in education is not to replace the teacher but to reduce the burden of repetitive and low cognitive level tasks carried out by the teacher and thus increase her/his efficiency. In field of education the use of chatbots can be divided into those used with educational intention and those without educational intention. When used with educational intention, they can work as virtual assistants/virtual tutors; exercise and practice programmes etc. to improve productivity and hence they can be developed on the grounds of socio-constructivist approaches of learning (Gracia, Fuertes and Molas, 2018). Chatbots when used without educational intention can be used to answer FAQs related to various elements of the syllabus/course, can handle many repetitive questions raised by students regarding project guidelines, deliverables, deadlines, grades, etc. and thus work on the basis of behaviorist and cognitivist approaches of learning (Gracia, Fuertes and Molas, 2018, Pradana, Goh, and Kumar, 2018; Fleming et al. 2018). Ndukwe, Daniel and Amadi (2019) explored the scope of using Chatbots in providing automated assessment and foster engagement with students and claimed that a good inter-rater agreement was observed between the automated and the human grading. Han (2017) remarks that chatbots can be utilized to execute tasks like providing reminders, introducing new concepts, answering FAQ's and offering training to new employees. Chatbots can act as a means to provide virtual language practice to students anytime. Fryer and Carpenter (2006); Nghi et al., (2018) claim that in Foreign language learning, students felt more comfortable in conversing with the bots than with a student partner or teacher and also they created fun and excitement in them for learning. Zoroayka, 2018 claims that in higher education especially in online courses, where the instructors are often required to answer high number of emails which are to be answered in a time-bound period, the use of chatbots can be very useful. Chatbots can also engage students in classroom activities by providing them with interactive quizzes. Students can also ask take the help of chatbots to access information that is difficult to find in a Learning Management System (LMS) environment at any time and place (Clark,

2018). Chatbots can also be useful in hybrid courses that mix face-to-face classroom experiences with student self-directed learning online. In class, AI based chatbot applications can also take attendance and perform other administrative functions. Some institutions have begun to use AI to help grade tests and even assess some student work (Artificial Intelligence and Chatbots in Higher Education, 2020). Use of chatbots in teaching learning process can act like a programmed learning material which can direct the students to learning objects as per the ability of the learner. Lundqvist et al., (2013) claimed that the chatbot developed by them worked as an automated interviewer and was able to understand most users feedback with a 96.7% success rate. Thus, chatbots by asking students challenging questions can create curiosity among students and thus support their learning process (Oudeyer, Gottlieb, and Lopes, 2016). APA (Animated Pedagogical Agents) software agents guide users through virtual (computer-based) environments and are potentially beneficial for learning and decrease anxiety and also can act like social interaction schema that influence student motivation positively (Clark and Choi 2005; Gulz 2005; Atkinson 2002; Choi and Clark 2006; Domagk 2010; Frechette and Moreno 2010). Schroeder, et. al. (2013) reported a small, but positive and significant effect of using APAs on learning. However, studies by Van der et. al., (2015) and Heidig and Clarebout (2011) which explored the utility of APA in enhancing student motivation and learning concluded that effectiveness of APA in learning is still largely an open questions which needs to be explored much further and also the design of the APA to a great extent determines its effectiveness. Winkler and Soellner (2018) in their work through systematic literature review concluded that chatbots are still in the very beginning of entering the field of education and for them to be successful they should be designed by keeping the cognitive as well as emotional status of students. Colace, et al., 2018 asserted that the results of designing and experimenting the integration of chatbots in their university platform proved effective and such experiments have good perspective. David Kellermann (as cited by Dan Ayoub) developed a question bot which is capable of answering questions on its own, delivering video of past lectures, flag the questions of student for Teaching Assistants (TAs) to follow-up. Anne G Neering chatbot developed by Crown, et al., (2010) helped to combine learning and fun in teaching learning of the course content.

Are They Really Helpful?

Designing, developing and using the chatbots in education is still at very nascent stage. However, the development of chatbots whether they are rule based or machine learning based demands hard work and deeper knowledge about the content and stakeholders. The chatbots developed on the basis of rule based approach may not be efficient in answering questions, the pattern of which does not match the rules on which the chatbot is trained. Further, the Chatbots developed on the basis of machine learning based approach try to respond on basis of both the keywords and human language and hence are better in performance but tougher in development than chatbots developed on the basis of Rule based approach (Shridhar, 2017; and Kharchenko, 2017). Skerrett (2017) remarks that the response given by chatbot depends on the variables included during their development and hence all of them are not useful. It also needs to be noted that development of chatbots includes a cost factor and hence one needs to think twice before planning for using them. Molnar and Szüts (2018) claims that in many areas of education, chatbots can only be used to disclose supplementary information and cannot be used to solve or improve content related issues. They also assert that if chatbots are not designed effectively they can also increase frustration of users which arises due to unsuccessful communication. Gracia, Fuertes and Molas (2018) remarks that the acceptance of chatbots by education stakeholders and the ability of the chatbot to adapt to various contexts need to be explored further.

Conclusion

Chatbots could be involved in performing various tasks like design textbooks, deliver course content, develop test questions and evaluate the answers, monitor online discussions, and tutor students. The effectiveness of chatbots depends on ability, creativity, and imagination of its developer. However, there is still a paucity of research which can confidently declare about the impact of use of chatbots in education. Hence, there is a strong need to explore more in this area.

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ICT in Education and Blended Learning: Contemporary Practices in Indian Higher Education

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Information and Communication Technologies (ICT) has had a major impact on education in the twenty-first century (Núria Llevot-Calvet., 2018) (Schneckenberg, 2010) (Kumar, 2006). Globally, there is a growing consensus that Information and Communication Technologies, particularly the Internet, provide a new framework and huge prospects for economic, political, educational, and social development. Achieving social development goals requires access to new information technologies and new ways of accessing and using technology by those living in poverty. The World Summit for Social Development (United States 2004) recognised the need for educational institutions to provide such access. Ensuring equal access to education, information, technology, and knowledge is vital for increasing communication and student empowerment while safeguarding civil and political rights (2004).

The usage of ICT in higher education institutions, particularly in India, is more of an inevitability than an emerging trend, showing the institution's standard. Especially during the epidemic, when internet teaching, learning, and evaluation were required (Isaias, 2020). This is because ICT has long since superseded and may soon undermine traditional teaching-learning processes (Bach, 2006).

In recent years, the use of ICT has increased in India, notably with the Kothari Commission's recommendation to reinforce the use of technology in HEI academics. In the post-pandemic era, higher education has taken on a new meaning, focusing on skills acquisition, which corporations and professionals need. Unlike traditional teaching and learning techniques, ICT promises efficiency, accuracy, skill development, and transparency. It facilitates faster delivery and transaction of knowledge, keeping pace with the time and demand, more so with education seem to seek employment based on skills. Thus, adoption and integration of ICT is crucial in procuring access to information and new advances (Law, 2006).

ICT has emerged as one of India's most potent

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tools for addressing development and poverty issues (Venkatesh, 2020)(Bajpai). With ICTs in education, teachers, learners, and professionals may access and stake research resources from anywhere. Using ICT, we can improve and comprehend the learning process, collaborate across time and space, and address 'complex real-world challenges' (UNESCO., 2018). Increasingly, ICT tools are used in teaching. Many technologies, notably ICT, are now being accepted and integrated into our daily lives and educational institutions (Tomei, 2012). Globally, ICT has influenced teaching and learning practises (UNESCO, 2020).

Using ICT in our universities is increasingly crucial, especially after a pandemic. It's become a vital part of our instructional activities. Educators are increasingly employing ICT to teach students, a sign of progress in a highly competitive and 'globalised digital world'. Whether in the classroom, administration, or online, ICT has the potential to improve education. ICT can help teachers and students in the classroom. ICT improves individual, group, and societal learning. Teaching and learning may now take place "anytime, anywhere, especially with the rise of ICT" (Manichander, 2018, p. 34). Teachers and students can use ICT to improve classroom experience.

ICT has recently revolutionised education globally. ICT improves information and knowledge quality while increasing awareness. Educators increasingly see ICT as a tool to improve classroom quality, engagement, and flexibility. Lifelong learners can choose what, when, and where they wish to learn (UNESCO, 2020), Students can use ICT to collaborate with peers globally. Networking and communication equalisation are a key feature of ICT, according to a UNESCO report. Most countries priorities ICT adoption, integration, and implementation to improve teaching and learning (World development report 2018: Learning to realize education's promise., 2018).

Using ICT in the classroom teaches students how to work in the digital age. Traditional educational environments seem unsuitable for educating learners for level of employee. Without ICT, no educational

institution can prepare students for ‘the twenty-first century’ challenges in academics (Wright, 2008) (Erdem, 2019). Several researches have proven that ICT may considerably improve the educational process.

Wong, et al...(Looi C. W., 2019) state that technology can support face-to-face learning. Teachers can educate students with special needs by using computers, according to many experts (Gunter, 2014). Using ICT can help both professors and students improve their teaching. Lawrence (2012) claims that ICT can boost learned competence, motivation, and knowledge. ICT can help students learn and deliver information. Byrne (2013) says it depends on the curriculum, region, and class. ICT has shown benefits in various science education domains. For example, Reid states that employing ICT requires teachers to change and customise their own materials and practises (Manson, 2006).

Bosch, C., et al., (2021) stated that more the student learning centric pedagogy is, the more access to online resources is required to support students in managing their own learning. According to Amin, ICTs are supposed to supplement traditional teaching and learning (2018, p. 171). Integration of ICT with a new age curriculum is and will be the benchmark of progressive academic institutions which have long accepted hybrid learning (Gisbert, 2015). For Bolstad (2004), ICT is “any electronic or digital technology that allows people to obtain information, connect, or change the environment.” A type of education that uses ICT to improve, support, and optimise teaching and learning process (Looi C. Z., 2020). E-Learning incorporates the effective use of ICTs to learn. ICT tools thus provide impetus to e-learning.

However, earlier research (Kamei, 2016); (Koh, 2015), 2010; (Latwal, 2020) has highlighted some of the potential benefits of using ICT in education, notably in enhancing teaching and learning activities:

- allow learners to learn from experts across the world;
- provide opportunities for students to develop understanding and cultural sensitivity; through collaborating with students from different nations;
- facilitate the access to digital information efficiently;
- support student-centric and self-directed learning;
- produce a creative learning environment;

- enhance teaching and learning quality;
- provide problem solving and critical high-order thinking abilities development;
- encourage teacher-student communication;
- encourage student collaboration;
- instant feedback;
- allow things to be completed on time;
- communicate positive expectation;
- value different ways of learning and capacities;
- bridge social diversity;
- prepare students to develop the ‘21st century competencies; and
- support social development by sharing knowledge, enhancing democratic participation, access to government services, and social cohesiveness.

ICT is becoming more ingrained in teaching. Everyday interactions with Smart Phones, laptop, computer and programmable toys expose students to digital tools. Because research shows that early exposure to technology can benefit students, today’s youth live in an ICT-rich era.

In 2004, the Government of India launched the ICT@Schools scheme, combining two earlier schemes, Educational Technology 1972 and Computer Literacy and Studies in Secondary School (CLASS) 1984, to help secondary students develop ICT skills and learn through computer-aided learning, thus bridging the digital divide. (India, 2017). Online teacher training and professional development programmes are being employed by the Central and State Governments to ease some issues associated with in-person training such as time away from school, dilution of instructions and limited training scope and instructors covered. To make an online course useful for teachers, education institutes can integrate recorded expert sessions, practitioner perspectives, and classroom films.

As part of the new education policy 2020, ICT is emphasised for ‘community engagement’ and academic enrichment (NEP 21.6). It envisions technology enhancing educational endeavours. There will be apps, online courses/modules, satellite TV channels, online books, and ICT-equipped libraries and Adult Education Centres to make education more accessible through government and philanthropic initiatives (MHRD I., 2020)(21.10).

UNESCO assists its Member States in developing evidence-based ICT education policies and master plans. Ensure instructors have the abilities and competencies to use ICT to promote student outcomes and digital skills development. ICT can enhance and improve education. UNESCO, as the UN's chief educational body, leads international efforts to help countries understand how technology may help them achieve SDG (Sustainable Development Goals) (UNO, 2017).

The Ministry of Education (MoE), Government of India emphasises the use of ICT in its educational transaction, providing impetus in education, learning and teaching, and evaluation process both in school and higher education. the ICT in school education is facilitated through introducing the ICT based applications and portals, such as Shala Siddhi, Shala Darpan, e-path Shala, Swachh Vidyalaya, school GIS, Digital Gender Atlas (Table-1). Considering the growing mobile use in education, government also launched ICT

based Mobile applications such as Shala Darpan, Saaransh portal (MHRD D. o., 2020).

The National Assessment and Accreditation Council (NAAC) makes higher education procedures more robust, objective, transparent, scalable, and ICT enabled by ensuring that they are in step with local, regional, and worldwide trends. It emphasises the need for institutions to be well-prepared to employ ICT. It intends to increase ICT use in higher education institutions by implementing ICT-enabled administrative processes and resource sharing and networking. It urges the institution to develop technology deployment policies and plans (ICT use).

To facilitate E-learning in social sciences, the National Mission on Education through ICT (NMEICT) has established a curriculum-based interactive multimedia portal called e-PG Path Shala. While e-Shod Sindhu provides current and archival access to over 15,000 core and peer-reviewed

Table -1: ICT Based Application in Schools

ICT Based Application	Description	Website
Shala siddhi	In India, the National Programme on School Standards and Evaluation (NPSSE) is known as Shala Siddhi. The National University of Educational Planning and Administration (NUEPA) designed it to help schools evaluate their performance more strategically and make professional improvements.	http://shaalasiddhi.nuepa.org/
Shala Darpan	Shala Darpan, is an ICT programme operated by India's Ministry of Human Resource Development, mainly designed to evaluate students' progression. This data is only available to students in public schools. The Shala Darpan Portal is being implemented by the Rajasthan Education Department.	https://rajshaladarpan.nic.in/
saransh	The Central Board of Secondary Education (CBSE) of India launched the Saransh web portal to promote ICT in schools.	saransh.nic.in
e-pathshala	ePathshala is a CIET and NCERT portal/app. The Ministry of Human Resource Development, CIET, and NCERT. introduced it in November 2015. It includes instructional tools for instructors and students. The portal includes NCERT textbooks for grades 1-12, NCERT audio-visual resources, journals, supplements, teacher training modules, and other print and non-print materials.	https://epathshala.nic.in//
School GIS	School GIS is a government web platform for monitoring school coordinates, village, taluka, and district information, and grading.	https://schoolgis.nic.in
Digital Gender Atlas	The Digital Gender Atlas was created to discover low-performing geographic regions for girls, particularly from marginalised groups including scheduled castes, scheduled tribes, and Muslim minorities.	https://www.india.gov.in/spotlight/digital-gender-atlas-advancing-girls-education

Table -2: ICT in Higher Education

ICT Application	Description	Website
swayam	Swayam (Study Webs of Active-Learning for Young Aspiring Minds) is an Indian MOOC platform launched by the Ministry of Human Resource Development (MHRD),(now Ministry of Education),	https://swayam.gov.in/nc_details/AICTE
swayamprabha	The SWAYAM PRABHA is a group of 34 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 satellite	https://swayamprabha.gov.in/
National digital library	The National Digital Library of India (NDLI) is a virtual repository of learning resources that offers a variety of services to the learning community.	https://ndl.iitkgp.ac.in/
e-PG Pathshala	e-PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC.	http://epgp.inflibnet.ac.in/
shodhganga	The Shodhganga@INFLIBNET is powered by DSpace, an open source digital repository software developed by MIT in collaboration with Hewlett-Packard (HP).	https://shodhganga.inflibnet.ac.in/
e-shodhsindhu	INDIA'S SHODH SINDHU provides universities, colleges, and centrally funded technical institutions with access to e-resources.	https://ess.inflibnet.ac.in/index.php
e-yantra	e-Yantra is a Ministry of Education-funded robotics outreach programme based at IIT Bombay.	e-yantra.org
FOSSEE	The FOSSEE (Free/Libre and Open Source Software for Education) project encourages academics and researchers to use FLOSS tools.	https://fossee.in/
Spoken tutorial	Spoken tutorial is a MoE, GoI. project on ICT education to encourage Open Source Software literacy in India.	https://spoken-tutorial.org/
Virtual lab	The Virtual Labs project is an initiative of the Ministry of Human Resource Development (MHRD) of India (NMEICT).	https://www.vlab.co.in/
vidwan	A premier database of scientists, researchers, and other faculty members from top academic institutions and other R & D organisations in India.	https://vidwan.inflibnet.ac.in/
Shodh siddhi	e-National ShodhSindhu's Steering Committee (NSC) has established a programme "ShodhShuddhi" which provides access to Plagiarism Detection Software (PDS) to all universities/institutions in India.	https://pds.inflibnet.ac.in/

journals and several bibliographic, citation and factual databases in different disciplines from many publishers and aggregators to its member institutions, we can imagine the inclusion of ICT in higher and school education in India

ICT in School Education

GOI, in its endeavour to introduce ICT in education, started the applications such as shala siddhi, e-pathshala, and other, facilitating ICT enabled access to learning, teaching and evaluation.

Despite many claims by educational technology companies, agencies, and the government, the reality in India's 1.30 million schools, 611 universities, and 31,000 colleges is quite different. More so with the imbalance in income, poverty, access to food and education as being the challenges for the people, the buzzword of development become meaningless (Hemalatha, 2020).

As per the AISHE's report 2020, which enlists 1043 Universities, 42343 Colleges, and

11779 standalone Institutions, there are 396 private universities, and 420 universities are rural. There are 522 General, 177 Technical, 63 Agriculture & Allied, 66 Medical, 23 Law, 12 Sanskrit, 11 Language Universities, and 145 Other Universities. Uttar Pradesh, Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, Tamil Nadu, Madhya Pradesh and Gujarat have the most colleges. The number of colleges per lakh eligible population (aged 18 to 23) varies from 7 in Bihar to 59 in Karnataka. Only 10 per cent of colleges are exclusively for women, yet 60 per cent of colleges are in rural areas. Only 2.7 per cent of colleges provide Ph.D. programmes, while 35.04 per cent offer graduate programmes. 32.6 per cent of institutions only provide one curriculum, with 84.1 per cent privately owned. 37.4 per cent of these private colleges exclusively provide B. Ed. (Ministry of Education, 2020)

In India, 78.6 per cent of colleges are privately operated, while 65.2 per cent are privately aided. Andhra Pradesh and Telangana have almost 80 per cent private unaided colleges, whereas Chandigarh has 8 per cent. 16.6 per cent of Colleges have fewer than 100 students and only 4 per cent have over 3000.

In India, the Gross Enrolment Ratio (GER) in higher education is 27.1, based on the 18-23 age group. The male population has a GER of 26.9, while the female population has a GER of 27.3. Compared to the national GER of 27.1, it is 23.4 for Scheduled Castes and 18.0 for Scheduled Tribes. Scheduled Casts students make up 14.7 per cent of the total enrolment, while Scheduled Tribes students make up 5.6 per cent. Other Backward Classes account for 37 per cent of students. Muslim minorities account for 5.5 per cent of students, while other minorities account for 2.3 per cent (2020).

Without a doubt, ICT as an essential necessity in education proves to be beneficial in information access and learning. However, given the socio-economic geography, lack of funds, and privatisation of institutions, ICT enabled teaching presents more challenges than solutions. In a country where most education is delivered in a regional language and English is taught only as a second language, implementing comprehensive ICT in education could be unproductive. Considering the aforementioned statistics, which show that most students (32%) choose to study in the Arts faculty, and the institutional infrastructure associated with ICT, blended learning

Table-3 Percentage of Institutions having ICT Related Infrastructure

Infrastructure	University	College	Standalone
Theatres	49	21	21
libraries	94	99	98
Laboratories	85	82	93
Conference Halls	94	79	81
Computer Centres	81	86	92
Connectivity NKN	55	23	23
Connectivity NMEICT	40	22	22
Skill Development Centre	66	53	54
ICT cell	NA	NA	NA

Source: AISHE19-20 page 33.

can aid in the acquisition of educational skills and competence.

Complete Adoption of ICT in Indian Education: Some Barriers

Although Information and Communication Technology (ICT) has the potential to alter Indian education, there are several problems and challenges that must be addressed before we can adopt ICT education in schools and educational institutions. Internal and external hurdles stand in the way of ICT adoption. The following are some of India's internal barriers to ICT integration:

- Lack of qualified teachers- Fewer dynamic instructors and technocrats are trained in ICT. This underlines the need for frequent quality ICT training for instructors participating in ICT education.
- Inadequate infrastructural support and resources- Inefficient training modules, computers, study materials, software, infrastructural availability, inadequate expertise regarding incorporating ICT in courses, technological issues, lack of administrative aid, and poor curriculum fit are obstacles in ICT adoption.
- Most instructional software produced globally is in English. Most web information is in English. English proficiency is low in underdeveloped countries, especially outside of urban areas, limiting the educational benefits of ICT.

- A lack of awareness of the role of ICT in improving education is a common occurrence in developing countries. Teacher attitudes and views are also obsolete. They are oblivious, dogmatic, and unwilling to evolve. Incorrectly believing that ICT is primarily made for children, they doubt its effectiveness and utility in the classroom.
- Time constraint: Instructors frequently get extra duties. They also teach other subjects. They lack time to create and apply educational technology.
- Education institutions have limited financial resources to maintain and upgrade ICT equipment. Budgetary constraints severely limit government endeavours. Rural school ICT projects are not self-sustaining. When government or private sector initiatives expire, students must maintain equipment. Students from low-income families are unable to afford maintenance and computer costs.
- Lack of ICT service centres and trained technicians in schools. Technical support workers, whether school-employed or contracted, are essential to a school's ICT use. Without on-site technical help, technical failures cost time and money. Lack of timely technical help severely impeded the use of ICT in the classroom.
- Internet and resource issues Rural schools typically lack ICT resources such as supporting infrastructure, uninterrupted electricity, multimedia, projectors, scanners, smart boards, and so on. Despite its importance in ICT, internet is absent in most classrooms. High internet provider fees and slow or inconsistent access weaken the meaning and impact of ICT.
- Lack of interest among the stakeholders: Lack of interest among stakeholders, local management, teachers, and parents, is a key hurdle to ICT programs in education. With most institutions privatised, stakeholders are unwilling to fund ICT and other technological projects.

Blended Learning as a Contemporary Practice in HEI in India

Blended learning is the 'buzzword in emerging training world' (Thorne, 2003). Blended learning in higher education shows how blended learning embraces traditional ideals of face-to-face teaching while incorporating online learning best practises,

helping learners and teachers improve teaching-learning across disciplines (Garrison, 2008). Blended learning, particularly in education, allows trainers and staff developers to combine online and conventional learning methods. It is a blend of classic and innovative learning strategies that could improve classroom experience for both students and teachers.

Academics and educators must evaluate whether digital platforms are credible alternatives or, at best, complementary. Higher education must ensure valuable and liveable experience of learning to ensure efficient yet human face of learning. In the era of higher education industry 4.1, an over-reliance on ICT-based machine learning can weaken the creative spirit that institutions value. Blended learning allows for incremental digital transition without removing the live learning experience.

In a world of rapidly developing technology, people's communication, learning, and thinking styles are evolving. Blended learning is a rapidly growing trend in worldwide education (00). It is a blended method of teaching in which teachers must combine traditional classroom skills with new skills generated by ICT learning demands.

In the early 2000s, it became a popular instructional concept. Blended learning appears enticing since it preserves old learning methods while incorporating modern technologies. En route, it provides for a compromise in integrating modern technologies into instruction, following the trend of the twenty-first century.

Blended learning is founded on the idea that learning is a continuous process, where the teacher employs tools to support and facilitate learning activities. Combining several ways of delivery can optimise programme, time, and cost (Garrison and Kanuka 2004; Nazarenko 2015). ICTs support blended learning. Also, students and teachers can use cognitive explanatory tools to create a dynamic learning environment with many options (Tseles, et. al., 2011).

To conform with the NEP's new teaching-learning educational process, the UGC stressed blended learning in its document (page 8). blended learning offers additional flexibility and can be used in programmes that combine traditional learning with technology. It is preferred by all stakeholders: teachers, students, parents, and policymakers. Blended

learning helps smooth the transition from classroom to computer. Thus, research reveals that is the “best of both worlds” learning method. Globally, many learning platforms have adopted blending learning as a popular learning modality (9).

As digital technologies emerge and become increasingly important in teaching and learning at all levels, from K-12 to higher education, the NEP-2020 proposes the usage of blended learning approaches. The NEP-2020 acknowledges the importance of face-to-face learning while boosting digital learning and education.

Multiple national studies have proven that implementing blended learning enhances student achievement and satisfaction because it promotes good relationships and self-directed learning. This approach preserves traditional learning methods while enhancing them with ICT. Blended learning increases student engagement, teacher-student interaction, and student ownership of learning. It is adoptive with its flexible time management. It helps all pupils, rich or poor, study better. It provides a more flexible teaching and learning environment that promotes experiential learning (21).

ICT implementation requires a staged approach (Faber, 2017, p. 189). Wang (2005) used ICT Implementation Process model to enable ICT in HEIs. However, the approach does not consider concerns like socio-economic inequality or finance. The model outlines five contextual elements that affect processes and products in each implementation stage: user community, organisation, technology being adopted, task, and organisational environment. Yildiz (2020) claims that ICT alone does not boost organisational output. They should incorporate human abilities, talents, direction, and a proactive attitude. Increasing output requires these attributes plus ICT.

According to the definition, HRM is a strategic, comprehensive, and unified approach to employment, growth, and well-being of people working in organisations. Employee relations, well-being, and safety are all addressed. Adopting this technique with right strategy backed by finances in ICT, HRM, particularly in India, seems faraway.

Today, there are few skill frameworks that specify the aptitudes, dispositions, and attitudes required

to succeed in diverse communities and professions. Despite the GoI's reduced role in higher education management and its expectations from corporate sectors to infuse blood into demoralised Indian education, ICT, in its want of complete implementation, can prove inefficient. Bourne (2018) stresses the importance of global competences, intercultural interaction, and understanding (p. 248). These skills are envisioned to characterise the modern workforce, but because of inefficient structural development and absence of fundamental support system in India, these skills are challenging to develop.

According to the National Institute of Educational Planning and Administration, one out of every five Indian schools lacks computers (NIEPA). Public schools (only 18.7%, or 243,000) have mostly escaped the ICT revolution. Through the National Mission on ICT in Education (NMEICT), 390 universities and 14,578 colleges in India now have internet access (ICT: Magical opportunity to leapfrog Indian education, 2019).

ICT-enabled teaching ignores conventional learning's role in shaping personality and character. In a culturally diverse environment like Indian schools, comprehensive ICT adoption may appear useless. Ilana Snyder advises about enforcing corporate agendas into education. She says:

I am not a 'technology booster' ... dedicated to pushing technologies into the education sector. That job is being done effectively by governments and administrators, often in direct collaboration with corporate interests. Such powerful forces do not need any help. In contrast, I believe teachers need to approach the technologizing of education with caution, understanding and scepticism. Effective education should always be the priority, and technologies must remain in the service of that priority (p. 43).

The gradual privatisation of schools in the UK and the USA has allowed Microsoft, Apple and other firms to become more involved in education. Companies like these have promoted computers as symbols of social distinction, signifying modernity, intellectual superiority, and other traits. However, despite the government schools and colleges' lukewarm response to the high-potential ICT revolution, ICT education companies are flooding the market with teaching-learning technology like interactive. Experts predict that the Indian ICT in

the education market will reach Rs.570,000 crore (\$100 billion) by 2014(ICT: Magical opportunity to leapfrog Indian education, 2019).

The education discourse employed to support the representation of corporate interests in education made it look like school communities' interests were the same as corporate interests. This is because their educational ICT solutions “empower teachers, thrill students, and allow everyone to attain their full potential (Snyder, 1996).” Marketing assertions that items will meet the needs of key stages and SATs are used to sell products. In this “public-private collaboration,” the absence of critical conversation ensures that the private is far stronger than the public. Teachers, parents, and students are all exposed to these post-event pressures and practises.

The pedagogy of learning can only be the transformation of learning in a more holistic way, which the blended learning mode does. Learning is not only a technique adoption exercise, as the pure ICT votaries propose. Over-reliance on charts, maps, and graphics can lead to educational hyper-reality due to the likelihood of “The function of visual and hypermedia representations of information visibly overlaying reality.” In the classroom, there is a scarcity of high-quality critical literature on ICT (Ellis, 2001).

Conclusion

In higher education, ICT is undeniably an effective alternative to traditional face-to-face teaching and learning methods. However, given the current socio-economic and other variables, India has a long way to go before fully adopting ICT in education. Blended learning complements Indian education better than comprehensive ICT adoption. The research shows that because of India's geographical and sociological variety, and an unwilling workforce to adopt new technology, a completely globalised and digitised online learning paradigm is incompatible.

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HANDBOOK ON ENGINEERING EDUCATION (2016)

The 12th Edition of “**Handbook on Engineering Education**” is primarily meant for students seeking admission to Engineering/Technology/Architecture programmes at the undergraduate and postgraduate levels. It contains State-wise information on 1050 colleges/institutes/ university departments in the country. The information of Institutions in the Handbook includes: Year of establishment of Institute/ Department/ name of its Principal/ Director; probable date of Notification/last date of application; Number of seats available in each Engineering/ Technology branch; seats for NRIs/Foreign students; Eligibility; Application procedure; State-wise Common Entrance Test Rules for B.E/B.Tech/B.Arch courses; Fees; Hostel facilities, etc. Also given is ‘Faculty strength’, commencement of Academic Session, and System of Examination. Brief details of Post-graduate courses are also included.

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Universal Education is the Necessity of Self-sufficient and Self-sustaining Nation

Ajay Kumar (IAS), Defence Secretary, Ministry of Defence, Government of India delivered the Convocation Address at the 40th Convocation Ceremony of the Dayalbagh Educational Institution on February 12, 2022. He said, "Find discipline and remain dedicated towards your end goal. There will be moments of despair and panic. These are moments that you need to overcome. And nothing and no one can stop you from scaling most arduous heights. Go and embrace the challenges and take a leap forward. Swami Vivekanand said that the aim of education is to manifest in our lives the perfection which is already there in us. This perfection is the realization of the infinite power in our inner self. Let me exhort you what he said, "Arise, Awake, Stop Not Till the Goal is Reached." Be clear about the goal which should always be dictated by the ethos of 'Service to the Humanity and Nation First'." Excerpts

I am truly delighted to be amongst all of you today. 12 Feb 2022 adds a glorious chapter in the rich history and traditions of Dayalbagh Educational Institute as you all graduate today, defying the odds posed by the global pandemic of COVID-19. My heartiest congratulations and best wishes to you all on your graduation day. As I stand on this podium, I see in front of me multitudes of faces all bright and eager, full of hope, energy and optimism. I see a wave of nervous energy just waiting to be unleashed. From here on you all will move into various fields. Some may go for management, some for higher studies, some will opt for going in for jobs while some may choose public service. Whichever field you choose to go into, remember one thing: Don't walk the road charted out by someone else, make your own road. Dare to dream and dare to follow your passion.

My heartfelt felicitations to the faculty, administrative and support staff who are tirelessly serving for the organisational cause. It's also time that we all thank those illustrious senior members of Dayalbagh family who have retired or may not present amidst us. People who have served in the years gone by to transform this University from a fledgling institution in the 80s, to a formidable force today. The force that has grown in size and stature, keeping pace with the contemporary educational challenges and training environment of modern India, a unique blend of "Tradition and Technology". Being amidst you today has also made me reminiscently revisit my alma-mater IIT Kanpur, a land that not only gave me nostalgic memories of life time but also made me what I

am today. I have learnt that one would never be capable enough to repay for the gratitude one owes to his school, college or country. The Chetwode Motto at Indian Military Academy, Dehradun is "The Honour, Safety and Welfare of your country come first always and every time." I think every institution and every person could be guided by this motto.

It has been a time of great churning and flux and it has indeed been a year which has tested all of us at unprecedented levels. Often stretching us to breaking points and yet as a country and as a people who are born into glorious uncertainties, we have emerged stronger, more resilient. As some of you may well know in May 2020, I also tested positive for COVID-19. I had followed all the precautions, maintained distance, worn a mask, sanitized at regular intervals, had shown up for work every single day because the enemy doesn't go on sick leave you see. Covid was a time of reflection for me. I have been a marathon runner. To be a successful marathon runner in addition to putting on your running shoes and simply hitting the tarmac, it is important to focus on discipline both of the mind and the body. Running a marathon is not about speed. It is about reaching a challenging goal. You go through panic, disillusionment, rock-bottom feelings before seeing the silver lining. Mental fortitude, focus and resilience are qualities which hold a marathon runner in good stead. I have learnt that not giving up at a time of despair and persisting with discipline even in darkest moments will invariably lead you successfully to your goals.

I have learnt to question status quo if it is not correct. We need not be afraid of change or a contrarian viewpoint. I want you to dream big, invert the pyramid, question status quo, ask for your rightful place under the sun because if not now then when? The synchronisation of MANSAA, VACHAA, KARMANAA (the mind, the speech and the action) guide us if things are correct or not. When these are synchronized life becomes a symphony and a joy. On the contrary, we will come across a number of situations where these are at variance. We say one thing and do totally different. We say we are now independent India. But our minds are still ruled by the British, even after 75 years of independence. Did you notice something new in this year's "Beating the Retreat" ceremony of Delhi on January 29. Will you believe that till last year we were still playing tunes which had British/Scottish legacy? All the tunes played by the military bands this year were Indian tunes. A small step in nation's journey but a leap in unshackling the fetters of colonial legacy. We see incongruence in MANSAA, VACHAA, KARMANAA all the time. Strive for consistency among them and you will find answers to difficult problems. You will find new innovating remedies where old cures were not working. Do not be afraid of giving up stereotypes and dogmas which have outlived their relevance.

I have learnt that innovation is ingrained in India. I am reminded of the time when the Tsunami hit the coastal regions. We gave GPS to fishermen to be able to safely find their way back. In under a week they started using GPSs to track where the maximum catch of fish was. There's ingenuity and innovation in the way we live, breathe and work. We live in a country of over a 1.4 billion people when every opportunity is fought for, when you're taught the value of frugality and innovation right from the day you are born, when you understand privilege, you truly also know how to make the most of every opportunity. I admire how we have been able to deal with scale. In IT we learnt that with increasing scale, the complexity of problem increases not linearly but exponentially. So is true in real-life. When we first conceived of Aadhaar, the world scoffed at us. We built world's largest biometric ID database at lowest cost. And the world is asking how? Today the world is adopting the Open architecture based India Stack whether it is digital ID system or digital payment system or Cowin architecture. Covid has

shown how innovation oozes in our society. From a country which did not even have testing labs or PPE kit making, in real time, we made ventilators, testing kits, Covid drugs, multiple vaccines. Many of you would have seen the now famous DRONE SHOW which was held at Delhi on 29 January last month during 'Beating the Retreat'

Ceremony near Rashtrapati Bhawan at Delhi. It is a bunch of innovative youngsters like you who made this swarm of 1000 drones and made India only the 4th nation in the world over to be able to manage a swarm of 1000 Drones. When I gave them this challenge three months back, they were only able to fly 100 drones. The scale and speed confirms that innovation and ingenuity is embedded in us and we only need to uncover it.

Last year we saw 44 unicorns in India, the largest in any country of the world. For all I know, I have a unicorn in the making in the audience!!! All you need is to remember to build for scale and rise for the future, my friends. And do not forget when you build for scale, you build in India not only for India but for the world!

As a career bureaucrat who has been in the middle of unpredictability and uncertainty I have to always be prepared for the unexpected. Therefore, it matters to me immensely how to deal with problems in real time. And I have learnt that the only way to address a problem is to just do it. The story goes, a famous trapeze artist was instructing his students on how to complete a performance on the high bar. After finishing his talk, he asked his students to demonstrate what they had learned. One of his students stood looking up at his precarious perch, pictured himself falling, and become completely frozen in fear. "I can't do it. I can't do it." he gasped. The instructor put his hand on his shoulder and said: "Throw your heart over the bar and your body will follow." I am an engineer by training and Engineers are the doers by profession. And possibly that is where I realised the importance of just doing it. There will be times when you will feel overwhelmed with multiple challenges with limited time and resources to deal with them. The trick is to take the first step. It takes you one step closer to the destination. When there is a big problem, dealing with it one at a time keeps reducing the size of the problem. Brick by brick and you can build a tower.

I have learnt that it is not the information but what you derive from that information that makes all the difference. The world of today which you enter into is very different from when I was a student. The skill set that you require has changed dramatically over the years and even more dramatically during the Covid period. In a post Covid world you inherit a world where technology has been truly democratized. That means that each one of you has the ability to create an impact in the world. You have more access to information than we could've ever imagined. What I'd like you now focus on therefore is making meaning. How do you make sense of this information? You need to guard against fake news and propaganda. Avoid unverified perceptions. To sift through this the loads of information, you need to experience India, understand what makes it work. At DEI you have been blessed with a tradition of preserving the environment, you have learnt coexistence in harmony with nature and also making a useful contribution towards societal responsibilities. If you do are successful here, you can make it work anywhere in the world. The kind of impact that you can create today in India is an opportunity that a select few get even across 50 or 100 years.

I have learnt the importance of collaborations in the new world. The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production. Now this Fourth Industrial Revolution is building on the Third. While the digital revolution that has been occurring since the middle of the last century, what is special is that this revolution is characterized by a fusion of domains and technologies that is blurring the lines between the physical, digital, and biological spheres. In this fusion of domains we need to enhance collaborations, we need to learn to engage with stakeholders who have a different point of view; People who challenge us, people who question us. Apple, a company which is well loved and often a dream destination for a lot of young hopefuls, prioritised not just its processing power but also aesthetics, fonts and its user interface. Imagine selling a way of life based on design and fonts. We have long been accused of working in silos. Engineers treat humanities and liberal arts

as add-on. I hope to see Quantum physics meeting English Literature and creative arts and there is no reason why we will not have an Apple from India.

I have learnt that life is not a sprint. It is a marathon. Unlike sprint where you're counting on bursts and peaking in a limited time, life is like a Marathon. It is about testing your body to its limit and pushing both the human mind beyond pain towards endurance and stamina and a lot of it is about sustained sessions of practice, of repeatedly doing what is boring, of ensuring you find a rhythm. Find discipline and remain dedicated towards your end goal. There will be moments of despair and panic. These are moments that you need to overcome. And nothing and no one can stop you from scaling most arduous heights.

I have learnt to admire the confidence of New India. Just look around. When the pandemic hit the world, the world wrote us off. But it is India which is today acclaimed for not emerging victorious but also saving other countries and populations across the world. India is among the countries that are at the forefront of creating future-oriented technology policies and is demonstrating innovative ways to harness the power of technology. It is India which is bold, confident and second to none. It is an India which believes it can be Vishwa Guru. The New India believes that we are entering Amrit Kaal. We are a nation whose time has come and no one can stop us. Neeraj Chopra made history when he won the first ever track and field Gold Medal for India in Tokyo Olympics and the message to New India is "FENK JAHAN TAK BHALA JAAYE, DONO TARAF LIKHA HO BHARAT SIKKA VAHI UCHHALA JAYE....." Global power structures have shifted. There is no single big super power. Things were changing even before the pandemic but because of the pandemic today India has the ability to take the lead. When I grew up there was the glitter of The American Dream and a gold rush to the US from India. Things have changed. Today it is the time of The Indian Dream. This is therefore your time to shine. We have much to celebrate and lots to achieve and this is the best time to be in an India of today. The global future will be shaped by you living your Indian dream, you owning your agenda and writing a new chapter in this new epoch of India.

Let me conclude. It is really an exciting phase of life for you all. Stepping from the secure world of college campus to the real world full of unlimited possibilities and vista of opportunities. The words of Hon'ble Prime Minister which he said last week seem relevant to sum up what I have tried to share. The Prime Minister said and I quote, "There is a possibility of a new world order post COVID-19. Today the world's perspective of looking at India has changed. The world wants to see a stronger India. It is imperative for us to take the country forward at a rapid pace.It is very important for us to make a Self-Reliant and Modern India. You all are the bravest, brightest and blessed to have defeated the pandemic to come out with flying colours. Go and embrace the challenges and take a leap forward. Swami Vivekanand said that the aim of education is to manifest in our lives the perfection which is already there in us. This perfection is the realization of the infinite power in our inner self. Let me exhort you what he said "Arise, Awake, Stop Not Till the Goal is Reached". Be clear about the goal which should always be dictated by ethos of "Service to the Humanity and Nation First".

Mark my words that this century belongs to India. I see that India is on cusp of achieving the greatness. Changes are coming in slowly but surely, and these changes are being brought about ...Not by people of my generation ...but YOU.....yes , by the bright , brave new generation that YOU represent... my young friends .I see amongst you Entrepreneurs, Scientists, Researchers, Public servants and Industry Leaders. And I see the Future of India in you. I see that YOUR ideas, YOUR hard work and YOUR enthusiasm is what will rewrite the destiny of this great nation. It is YOUR energy that will drive the changes which are coming to this Country in this century. With these I would now bid adieu to you, my dear friends. I exhort you to go forth and grab your destiny as it awaits you.

Thank you Management, the Faculty and each one of you for giving me this opportunity to be with you all this afternoon. It has really been stimulating. These treasured moments and lifelong memories may inspire you in your bright future. My heartfelt gratitude to the entire DEI family. All the best. God Speed.

JAI HIND

AIU Publication

on

REIMAGINING INDIAN UNIVERSITIES

'Reimagining Indian Universities' edited by Dr. (Mrs) Pankaj Mittal and Dr S Rama Devi Pani is a collection of essays by some of the greatest thinkers in the field of Indian higher education. Each essay in the book examines one or more of the critical topics and provides solutions and methods to overcome the issues involved in them. It provides new solutions and methods in the form of reforms and innovations to elevate Indian universities to world-class top-ranking levels. The book aims at providing a roadmap to government as well as the universities to gear themselves towards becoming more responsive to the present and future demands of higher education. Generating a corpus of new ideas that are significant for reimagining, reforming and rejuvenating Indian higher education system, Book is 'must read' for all those who are interested in reforming Indian Higher Education System.

The release of the book in the Annual Meet of Vice Chancellors 2020, coincides with the launch of New Education Policy. The Foreword for the Book was written by the then Minister of Education Shri Ramesh Pokhriyal 'Nishank'.

PP: 372, Unpriced. Available at AIU Website: www.aiu.ac.in

CAMPUS NEWS

National Seminar on Innovations in Teaching-learning and Evaluation Process

One-day National Seminar on 'Innovations in Teaching-learning and Evaluation Process in Affiliated Colleges' was organized virtually by the Internal Quality Assurance Cell of Nanded Education Society's Science College, Nanded, Maharashtra, recently. The inaugural function started with the welcome of dignitaries by Dr. Roopa Sangvikar. Organizing Secretary, Dr. Vibhati Vasanttrao Kulkarni presented the brief introduction of the seminar. Principal, Dr. D U Gawai extended his warm welcome and introduced the college to the delegates, inaugurators and the resource persons of the event. The Chief Guest, Dr. Udhav V Bhosle, Vice Chancellor, Swami Ramanand Teerth Marathwada University, Nanded congratulated and conveyed his best wishes for the seminar.

Dr. Venkateshji Kabde, Chairman, Nanded Education Society, Nanded honored the presidential chair of the seminar. In his speech, he said that teaching, learning and evaluation is continuous process and education should aim at fulfilling the societal needs for that we have to learn new techniques and adopt new ideas and transform ourselves according to the changing time.

The Technical Session was conducted by the key speaker, Dr. S Sankar, Advisor, IQAC Cluster and the former Principal, Akkineni Nageswararao College on the topic 'NAAC: Revised Accreditation Framework for Online Assessment and Accreditation'. He explained every minutes of the revised process of the online Assessment and Accreditation. He insisted on the need of objective, ICT based, dynamic and robust education systems.

Dr. Peeyush Pahade, Head, Department of Zoology, H V Desai College, Pune and President, IQAC Cluster, India spoke on 'Innovative Methodologies in Teaching Learning Process' wherein, he differentiated between Traditional Teaching and Innovative Teaching. He described the process of Innovative Teaching. He presented his own innovative ideas of teaching and allured the audience to think on such ideas. He

shared his numerous innovative ideas of teaching like, icebreakers mischiefs for learning, learning by themselves, *Guppashtaka* and flipped learning, etc.

Dr. Leena Govind Gahane, Deputy Advisor, National Assessment and Accreditation Council (NAAC), Ministry of Education, Government of India spoke on 'Innovations in Teaching Learning and Evaluation Process in Affiliated Colleges'. She briefly explained the importance of the second criteria 'Teaching Learning and Evaluation' and seven key indicators. She stressed on to build entrepreneur skills among the students with the help of Cafeteria Learning. She elaborated various methodologies of teaching like participative learning, experiential learning, blended learning, use of educational technology, problem-solving approach, computer aided information retrieved by students, use of library and laboratory resources, etc. She also presented the need of promoting learning in higher education through institutional development. She especially focused on the evaluation process and need to make it more transparent.

In the last session, Dr. Deepak Nanaware, Professor of English, IQAC Coordinator and Head Department of English, DAV Velankar College of Commerce, Solapur presented his talk on the topic, 'Students Performance and Learning Outcome'. He mainly exchanged his ideas on, what decides the students' performance? Techniques of writing learning objectives, mapping out-comes and setting evaluation tools and checking the attainment. He emphasized on the most important learning outcome that is to increase the employability of the students.

The Vote of Thanks was proposed by Dr. Vibhati V Kulkarni, IQAC, Coordinator, Science College, Nanded. The online feedback from the participants and Certificate distribution of the seminar was held with the help of the Telegram Group.

International Conference on Advances in Smart Agriculture and Biodiversity Conservation for Sustainable Development

A three-day International Conference on 'Advances in Smart Agriculture and Biodiversity Conservation for Sustainable Development (SABCD-

2022)' is being jointly organized by the Jaipur National University, Jaipur, Rajasthan, Agricultural Technology Development Society, Ghaziabad, Shobhit Deemed to-be-University, Meerut, and Department of Horticulture, J V College, Baraut, Uttar Pradesh during on March 04-06, 2022 at Jaipur. The Scientists, Faculty Members, Teachers, Professionals, Research Scholars, NGO's, Social Workers, Students, Farmers and others who are involved in practices and research areas related to Agricultural, Life Science and Applied Sciences may participate in the event.

Sustainable development is sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society depend. It can be ensured through smart agriculture practices and conserving biodiversity. Smart agriculture through advanced technologies like Internet of Things, location systems, robots and artificial intelligence can enhance the quality and quantity of the crops while optimizing the human resources on farms. Although India has only 2.5 per cent of land area, it has a large and diverse pool of plants and microbes which accounts for 7.8 per cent of recorded species in the world. Biodiversity is being lost due to the loss of habitat, over-exploitation of resources, climatic changes, pollution, invasive exotic species, diseases, hunting, etc. Since, it provides us with several economic and ethical benefits and adds aesthetic value, it is very important to conserve biodiversity. The Themes of the event are:

- Smart Agriculture and Precision Farming.
- Natural Resources Conservation and Environment Sustainability.
- Biodiversity Conservation for Sustainability.
- Land Resource Management and Land Use Planning.
- Management of Problematic Soil in India.
- Watershed Management and Sustainable Utilization.
- Nutrient and Bio Waste Management.
- Biodiversity (Plant/Animal) Resources and their Conservation.
- Climate Change and Resilient Agriculture and Abiotic Stress Management.
- Environment Pollution Control and Management.
- Environment Monitoring and Surveillance.
- Sustainable Technology for Crop Improvement.
- Biotechnology, Genetic Improvement in Relation to Climatic Change and Food Security.
- Nanotechnology for Increasing Productivity in Agriculture and Applied Science.
- ITK, ICT, Smart Agriculture and Transfer of Technology (TOT) for Farmers Innovation.
- Integrated Nutrient, Weed and Pest Management.
- Desertification and Solar Farming System.
- Rainfed/Dry Land Farming and Agriculture Disaster Management.
- Precision Agriculture in Conservation Agriculture System.
- Doubling Farmer Income through Sustainable Agriculture.
- COVID-19 Impact on Agriculture, Policy Response and Livelihood Security.
- NTFPs Marketing and Constraints in India.
- Forest Management and Sustainable Development.
- National Agroforestry Policy and Agroforestry Systems.
- Forests Productivity and Climate Change.
- Industrial Agroforestry and Plantation Management.
- Demand and Supply Status of Major Forest Products.
- Forests for Livelihood Security.
- Statistical Approaches towards Sustainable Development.
- Export and Import Scenario of Agriculture/ Horticulture Produces and Their Management.
- Crop Diversification, Weed Management, Integrated Farming Systems, Organic Farming.

For further details, contact Organizing Secretary, Dr. Joginder Singh, Assistant Professor and Head, Department of Horticulture, JV College, Baraut-250611 (Uttar Pradesh), Mobile No: 09760478520, 07017720161, E-mail: sabcdconference2022@gmail.com. For updates, log on to: www.jnujaipur.ac.in.

Faculty Development Programme on Artificial Intelligence for IoT Services

A five-day Online Faculty Development Programme on ‘Artificial Intelligence for IoT Services in Cloud: Techniques and Applications’ is being organized by the Department of Information Technology, Dr B R Ambedkar National Institute of Technology, Jalandhar (Punjab) during February 28-March 04, 2022. The faculty, research scholars of engineering and technological institutions and persons from the industry may participate in the event. The objective of this programme is to provide an opportunity for researchers and practitioners from academia and industry to gain insights into the developments along with the existing research challenges in these domains, as well as a practical exposure to effective smart systems, tools, and related applications. The expert lectures and extensive hands-on sessions will cover the following topics:

- Artificial Intelligence.
- Cloud Computing and its Services.
- Fog/Edge Computing and its Applications.
- IoT Architecture and Protocols.
- Machine Learning APIs in Cloud.
- Smart e-Healthcare.
- Smart Agriculture.
- Big Data and Analytics.
- Machine and Deep Learning.
- Case Studies on Cloud and IoT Applications.

For further details, contact Organising Secretary, Department of Information Technology, Dr B R Ambedkar National Institute of Technology Jalandhar, Grand Trunk Road, Amritsar Bypass, Jalandhar-144011 (Punjab), Mobile No: +91-9759950380/ 7000591658, E-mail: kumarmohit@nitj.ac.in

nitj.ac.in / chaurasian@nitj.ac.in. For updates, log on to: www.nitj.ac.in.

Faculty Development Programme on Sustainable Development Goals –IV

A five-day Faculty Development Programme on ‘Sustainable Development Goals–IV : Agenda 2030’ is being organized by the Council of Architecture, Training and Research Centre, Bhopal in collaboration with the School of Architecture, Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal during March 21-25, 2022 at 02:00-05:00 PM.

Sustainable Development Goal–IV (SDG IV or Global Goal IV) is about quality education and is among the 17 Sustainable Development Goals established by the United Nations in 2015. The title of SDG–IV is ‘Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all’. By 2030, the UN aims to ensure that all learners acquire the knowledge and skills needed to promote sustainable development and sustainable life styles, sustainable health practices and social wellbeing, human rights, gender equality, global citizenship, sustainable cities and communities, appreciation of cultural diversity and of culture’s contribution to sustainable development. The programme will enable the attendees in the field to understand various facets of sustainable development from the perspective of experts from different fields.

For further details, contact Coordinator, Ar. Shivani Paliwal, Assistant Professor, School of Architecture, Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal-462003 (Madhya Pradesh), Mobile No: 08889308881, E-mail: [shivaniपालीवाल91@gmail.com](mailto:shivaniпалиवाल91@gmail.com). For updates, log on to: www.rgpv.ac.in/events.

□

THESES OF THE MONTH

HUMANITIES

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

Geography

1. Borah, Annesha. **Heritage tourism in Sonitpur District, Assam.** (Dr. P K Ryngnga), Department of Geography, North Eastern Hill University, Shillong.
2. Chouhan, Aarti. **Grami adhivas ka parivartan pratirup: Shajapur Jile ke bhogolik vishleshan.** (Dr. Vikram Verma), Department of Geography, Vikram University, Ujjain.
3. Das, Suman. **Assessment of land capability and sustainability for crop production in West Tripura District, Tripura.** (Prof. B S Mipun), Department of Geography, North Eastern Hill University, Shillong.
4. Debnath, Manoj. **Out-migration among small, marginal and landless households from rural areas in Bankura District of Rarh Region, West Bengal.** (Prof. D K Nayak), Department of Geography, North Eastern Hill University, Shillong.
5. Sardar, Amit. **Livelihood vulnerability, adaptation and security of the Lodhas in Northern Plateau of Odisha, Rarh and Terai Regions of West Bengal.** (Prof. D K Nayak), Department of Geography, North Eastern Hill University, Shillong.

History

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2	Assistant Professor (EWS-01)	A	Level 10	<p>SURVEY RESEARCH AND DATA ANALYTICS</p> <p>Relaxation of 5% will be provided from 50% - 55% of the marks at the Masters level to SC/ST/PH candidates and to Ph.D degree holders who have passed Masters degree prior to 19/09/1991. Preference will be given to candidates with Ph.D and experience of more publications (relaxation for publications may be considered in suitable cases).</p> <p>Eligibility (A or B):</p> <p>(A)</p> <p>(i) A Master's degree with 55% marks (or an equivalent grade in a point-scale wherever the grading system is followed) in Demography /Statistics / Economics / Bio-statistics with specialisation in Demography / Population Studies.</p> <p>(ii) Besides fulfilling the above qualifications, the candidate must have cleared the National Eligibility Test (NET) conducted by the UGC or the CSIR, or a similar test accredited by the UGC, like SLET/SET or who are or have been awarded a Ph. D. Degree in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degree) Regulations, 2009 or 2016 and their amendments from time to time as the case may be exempted from NET/SLET/SET :</p> <p>(iii) Provided, the candidates registered for the Ph.D. programme prior to July 11, 2009, shall be governed by the provisions of the then existing Ordinances/Bye-laws/Regulations of the Institution awarding the degree and such Ph.D. candidates shall be exempted from the requirement of NET/SLET/SET for recruitment and appointment of Assistant Professor or equivalent positions in Universities/Colleges/Institutions subject to the fulfilment of the following conditions:-</p> <ol style="list-style-type: none"> a. The Ph.D. degree of the candidate has been awarded in a regular mode; b. The Ph.D. thesis has been evaluated by at least two external examiners; c. An open Ph.D. viva voce of the candidate has been conducted; d. The Candidate has published two research papers from his/her Ph.D. work, out of which at least one is in a refereed journal; e. The candidate has presented at least two papers based on his/her Ph.D work in conferences/seminars sponsored/funded/supported by the UGC/ICSSR/ CSIR or any similar agency. <p>The fulfilment of these conditions is to be certified by the Registrar or the Dean (Academic Affairs) of the University concerned.</p> <p><i>Note: NET/SLET/SET shall also not be required for such Masters Programmes in disciplines for which NET/SLET/SET is not conducted by the UGC, CSIR or similar test accredited by the UGC, like SLET/SET.</i></p>

				<p>OR</p> <p>B. The Ph.D degree has been obtained from a foreign university/institution with a ranking among top 500 in the World University Ranking (at any time) by any one of the following: (i) Quacquarelli Symonds (QS) (ii) the Times Higher Education (THE) or (iii) the Academic Ranking of World Universities (ARWU) of the Shanghai Jiao Tong University (Shanghai).</p> <p><i>Note: The Academic score as specified in Appendix II (Table 3A) of UGC Gazette Notification dated 18-07-2018 for Universities, shall be considered for short-listing of the candidates for interview only, and the selections shall be based only on the performance in the interview.</i></p>
2	Assistant Professor (UR-01)	A	Level 10	<p>MIGRATION AND URBAN STUDIES</p> <p>Relaxation of 5% will be provided from 50% - 55% of the marks at the Masters level to SC/ST/PH candidates and to Ph.D degree holders who have passed Masters degree prior to 19/09/1991. Preference will be given to candidates with Ph.D and experience of more publications (relaxation for publications may be considered in suitable cases).</p> <p>Eligibility (A or B) :</p> <p>(A)</p> <p>(i) A Master's degree with 55% marks (or an equivalent grade in a point-scale wherever the grading system is followed) in Demography/Population Studies or Bio-Medical Sciences/Environmental Sciences /Life Science/ Statistics/Mathematics/any Social Sciences Subjects with specialization in Demography/Population Studies.</p> <p>(ii) Besides fulfilling the above qualifications, the candidate must have cleared the National Eligibility Test (NET) conducted by the UGC or the CSIR, or a similar test accredited by the UGC, like SLET / SET or who are or have been awarded a Ph. D. Degree in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degree) Regulations, 2009 or 2016 and their amendments from time to time as the case may be exempted from NET/SLET/SET:</p> <p>(iii) Provided, the candidates registered for the Ph.D. programme prior to July 11, 2009, shall be governed by the provisions of the then existing Ordinances/Bye-laws/Regulations of the Institution awarding the degree and such Ph.D. candidates shall be exempted from the requirement of NET/SLET/SET for recruitment and appointment of Assistant Professor or equivalent positions in Universities/Colleges/Institutions subject to the fulfilment of the following conditions:-</p> <ol style="list-style-type: none"> The Ph.D. degree of the candidate has been awarded in a regular mode; The Ph.D. thesis has been evaluated by at least two external examiners; An open Ph.D. viva voce of the candidate has been conducted; The Candidate has published two research papers from his/her Ph.D. work, out of which at least one is in a refereed journal; The candidate has presented at least two papers based on his/her Ph.D work in conferences/seminars sponsored/funded/supported by the UGC / ICSSR/ CSIR or any similar agency. <p>The fulfilment of these conditions is to be certified by the Registrar or the Dean (Academic Affairs) of the University concerned.</p> <p>Note: NET/SLET/SET shall also not be required for such Masters Programmes in disciplines for which NET/SLET/SET is not conducted by the UGC, CSIR or similar test accredited by the UGC, like SLET/SET.</p> <p>OR</p> <p>B. The Ph.D degree has been obtained from a foreign university/institution with a ranking among top 500 in the World University Ranking (at any time) by any one of the following: (i) Quacquarelli Symonds (QS) (ii) the Times Higher Education (THE) or (iii) the Academic Ranking of World Universities (ARWU) of the Shanghai Jiao Tong University (Shanghai).</p> <p><i>Note: The Academic score as specified in Appendix II (Table 3A) of UGC Gazette Notification dated 18-07-2018 for Universities, shall be considered for short-listing of the candidates for interview only, and the selections shall be based only on the performance in the interview.</i></p>
<p>Applications form and Recruitment Criteria, General Conditions etc., are available on the Institute's website. i.e., www.iipsindia.ac.in. The last date for receipt of application is April 15, 2022.</p>				
				DIRECTOR & SR. PROFESSOR, IIPS

Guidelines for Contributors

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

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- **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

Association of Indian Universities

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Uka Tarsadia University

Kishorbhai Institute of Agriculture Sciences and Research

B.Sc. (Honours) Agriculture Course

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➤ **Eligibility :-**

Principal / Director

1. A Master's Degree with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed).
2. A Ph.D. Degree in concerned / relevant discipline.
3. Associate Professor/Professor with a total experience of fifteen years of teaching/research/administration.

Professor

1. Ph.D. qualification(s) in the concerned/relevant discipline.
2. A minimum of ten years of teaching experience in university/ college, and/or experience in research.
3. A Minimum Score as stipulated in the Academic Performance Indicator (API) based on ICAR Regulations / UGC Regulations.

Associate Professor

1. Good academic record with a Ph.D. Degree in the relevant disciplines.
2. A Master's Degree with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed).
3. A minimum of eight years of experience of teaching and/or research in an academic/research position equivalent to that of Assistant Professor in a University, College or Accredited Research Institution/industry.

Asst. Professor

1. Good academic record as defined by the concerned university with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed) at the Master's Degree level in a relevant subject of the concerned faculty.
2. The candidate must have cleared the National Eligibility Test conducted by the UGC, CSIR or similar test accredited by the UGC/ICAR.

Note:-

1. Retired person may also be considered.
2. Salary negotiable for deserving Candidates.
3. The original certificates must be provided at the time of interview.
4. No TA/ DA will be paid to attend the interview.

Correspondence Address

Registrar,

Uka Tarsadia University

Kishorbhai Institute of Agriculture Sciences and Research (Proposed)

Maliba Campus, Gopal Vidyanagar, Bardoli – Mahuva Road, Village – Tarsadi, Bardoli, Dist – Surat, Gujarat.

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