



Rs. 30.00
ISSN- 0566-2257

UNIVERSITY NEWS

A Weekly Journal of Higher Education

Association of Indian Universities

Vol. 58 • No. 24 • June 15-21, 2020

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Subscription is payable in advance by Bank
Draft/MO only in favour of Association of
Indian Universities, New Delhi.

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#Let'sBeatCoronaTogether

Higher Education – The Way Forward with COVID-19

Madhusudan Chakraborty* and Avijit Gangopadhyay**

Most world leaders have opted for a complete lockdown in their resolve to address the Novel Coronavirus crisis. Consequently, universities had no option but to switch over to online teaching to continue academic programmes in an effort to minimize the suffering of the students. The sudden change in the mode of teaching-learning process caught both the students and the faculty members unprepared.

What the post-pandemic world will look like is unclear. The Coronavirus has come to stay and we have to learn to live with it. The fear of infection generated over the past five months might also not go away even if the vaccine is discovered in next 12-18 months. At the same time the students cannot afford to lose valuable time in learning the skills that build their careers and the universities have to spell out plans to help complete their degree programmes.

In this article, we shall first discuss the pros and cons of on-site versus on-line learning in a COVID-19 world from our experience in the last few months. We will then provide a number of suggestions for solutions in the short and long term. Finally, we will touch upon the issue of those students who aspire to go abroad for higher studies, but will now seek opportunities here in India.

Online and Onsite –One of Them or a Thoughtful Mix?

Although the universities are keeping the students engaged online, it is difficult to predict what to expect in the near and distant future. Perhaps some of the degree programmes could be pursued through online-only education. But life science, basic science, engineering and similar programmes cannot be covered through online-only. For example, the students and researchers pursuing higher degrees have no alternative but to work in the laboratories and workshops and will have to go back to their place of study.

The online teaching-learning process is now continuing for the past few months and many have begun to opine that the online education could be a viable alternative to on site education. The advocates of the virtual world would be emphatic on offering degree programmes through online only. Perhaps the current situation could be seized as an opportunity to develop new technologies and new businesses to support fully online education. The outcome of such

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teaching-learning process, however, is not beyond questions and needs a thorough review.

The universities need to recognize that the teaching-learning process has to be participative and not merely a service. The regulatory authorities have to concede that while offering degree programmes the universities are playing with the lives of students. Accordingly the choice of the mode of education should not be influenced by the business opportunities and market forces alone. The efficacy of online education needs to be debated at appropriate forums, the problems should be addressed and the most effective modes be chosen so that the quality of education does not suffer.

The online education involves the students, the teachers and the medium that connects them. A major problem for the economically weaker sections of the students and those from the villages in India is the access to virtual classrooms. Such students may not be able to afford expensive equipment and bandwidth to access and download the gigabytes of the video or power point materials from their small phones and then try to understand those by themselves without someone to interact with. Connectivity also depends on locality where the residence of the students is situated. Moreover the residence of such students may not be able to provide an ambience to attend virtual classes without distractions. While suggesting online education as an alternative, we cannot overlook the problems of the economically weaker section of the society.

The problem is not much different for the teachers of the universities in India. While they may be able to afford some of the equipment, the connectivity may be a problem depending upon where they reside. Moreover, the expenses involved in setting up proper infrastructure for conducting classes from home require adequate compensation.

The teachers of most of the universities gathered experience and gained expertise in delivering lectures in regular class rooms. The students were together and everyone had face to face contacts in the teaching-learning process. It would be interesting to review how the teachers are performing while delivering lectures in a virtual class rooms. What are the advantages and what are the distractions? Are they able to cover the same amount of teaching material as they did in physical class room? Are they able to complete the syllabus in time? Are the students participating in

the virtual class rooms and to what extent? Are the teachers able to update their knowledge base or create new knowledge through research? How will the online education impact the career of the teachers of the universities? Do the teachers feel more motivated in conducting classes on a digital platform? It will be worthwhile collecting such information through a survey before forming an opinion on the efficacy of online education.

Survey Results

A recent poll by Axios (www.axios.com) and College Reaction (www.collegereaction.com) in the US shows just how students feel about online learning, which has now become the norm across the country because of the corona virus pandemic. A great majority of the students held negative views of online classes. More than three out of four students said “distance learning” is ‘worse or much worse’ than traditional in-person learning, and 13 percent of students said they would take gap time from higher education if online learning continues next year.

A private conversation by the authors with some of the teachers engaged in online teaching in India revealed that the teaching –learning process indeed suffers from poor network connection and poor infrastructure at home of the teachers (camera, microphone, white board). Although the teachers have been asked to work from home, there was no opportunity to upgrade the infrastructure. Further, the lecture is restricted to prepared presentation with no scope for impromptu drawing, plot, equations etc. to elaborate a concept. The online teaching is more like enacting a script acceptable in a seminar. But in a classroom it is the duty of a teacher to get the concept across to the student with as much clarity as possible. The lectures are more of a one way delivery and less interactive. With few exceptions, questions are not forthcoming from the students. In a physical classroom one can gauge lingering doubts in students’ mind, which is not possible in a virtual class room. There certainly is a need to provide better infrastructure (including net connectivity) at the disposal of the instructor and the students to make online teaching more effective.

In summary, as experienced by the students and faculty in US and in Indian universities, On-line education is not a real substitute for on-site education. In universities, students learn from face-to-face interactions with faculty, fellow students

and staff and in hostels/dorms. It is a learning of a lifestyle with education. Some of the materials can be covered and taught online. Some concepts with visual aids, animations, simulations are good to do on-line. Deep concepts can be broken up in video modules and distributed on-line. But, laboratory (physics, chemistry, biology) and field work and internship experience and hands-on technology cannot be done virtually. These components cannot and should not be substituted for showing simulations! At least not yet! Not without trying to be flexible and wait for the vaccines to be out when those courses can be done.

Solutions: Short-term and Long-term

In view of the current situation, we have to think of short term solutions as well as long term solutions. The short term could be defined for the current batch of graduating students in the universities all over the world and for the pre-vaccine/on-going pandemic period while the long term could be for the post-vaccine or post pandemic period.

Short-term solutions for the current batch of graduating students are extremely critical and are the need of the hour. The first problem is how to graduate the students who are in the process of completing the final semester of the session 2019-20. How to compensate the students in universities who are completing their final semester online without being exposed to the practical classes? How to conduct final semester examinations? What would be the process of awarding grades to the graduating students?

Every attempt should be made to compensate the loss of practical classes by the science and engineering students graduating this year before the commencement of the academic session 2020-2021 by facilitating their visit to the universities in small batches. The duration of the practical classes could be reduced as the related theory could be explained on line prior to conducting the real time experiments. Such compensation would help the students to fulfil the academic requirements for the award of the degrees they have been admitted to and no one would raise any question in future.

The second issue is that of the final examinations for the end of the semester. The purpose of examination is to measure the extent of learning irrespective the mode of imparting education. The universities have to be innovative in deciding the process of making such measurements. It is presumed that before the onset

of the pandemic the students have already appeared in mid-semester examination. Moreover they have appeared in number of tests prior to the lockdown and submitted assignments for internal assessments. Their performances so far could be utilised to grade the students for the final semester without conducting end-semester examination under the current situation. Some educational institutions appear to have taken decision in this direction. But such decision is likely to raise questions as the outcome of the education imparted online in the lockdown period would not be measured.

The universities could conduct online examination so that the students could appear on the same from home. But that will also be a problem for those facing difficulties in accessing internet. Moreover, it would be a challenge to ensure that the students do not avail unfair means while appearing at the examination. The other problem relates to the university teachers setting questions for taking tests online. We need to train the teachers all over India to conduct online examination. Perhaps the teachers could ask the students to solve a difficult problem within a given time individually and they may be allowed to consult their class notes and books like an open book examination. Students should be assured of part marking based on the steps followed rather than on the final answer to the problem. Opinion has been expressed by many that online examinations should not be a problem as such examinations are being conducted by many. Typical examples are GRE, TOEFEL, Advanced JEE and son. Unfortunately the subject wise examination at the end of a semester cannot be compared with such online examinations.

Be Flexible, Be Innovative !

The universities have the option of conducting physical examination in batches (may be year wise) maintaining social distancing over a longer period at an appropriate time. The best solution would be to conduct examinations in large halls where the students would sit maintaining social distancing and with mask and gloves on. The universities may facilitate the travel of the students to appear at the examination. However, the academic councils of the universities should be empowered to take a final decision in this regard keeping the ground reality in mind.

The question still remains regarding the forthcoming academic session 2020-21. The academic councils of the universities should be flexible in

modifying the course curriculum within the overall four-year course structure for the university students. The idea would be to modify the course syllabi to reshuffle and reschedule courses in a four year program to offer those courses which are more suitable for on-line mode in 2020-2021 and reserve the others for a post-vaccine offering in 2021-2022 and 2022-2023 academic years.

In case the vaccine is delayed, then we need to stagger offering of on-site courses and offer them multiple times to shorter groups of students. Create modules with mixed mode (blended) modules; part of a course could be done on-line, part on-site. We should start with the above and prepare and strategize to use on-line as a supplement to on-site education.

It would be interesting to note that six of the Graduate Schools of Harvard University will be moving to fully on-line programmes for the next semester (Fall 2020). The State of Massachusetts's reopening plan is calling for colleges and universities to develop their own restart strategies for summer and fall courses. Boston University has decided to offer both on-line and on-site courses during the next semester (Fall 2020) perhaps with different tuition structure; the students have to choose the mode by July 2020 so that the university can prepare adequate social distancing. Some students have already requested Professors not to offer on-line courses for their laboratory sections.

Going Abroad or Staying Home ?

The academic year 2020-21 is fast approaching closure and the new session is expected to commence in July – August 2021. A large number of Indian students are preparing for admission to universities

for higher education. The number of seats for higher education in the top notch universities/institutions, both in public and private sector, in India is limited. The number seats are more for the next level of institutions. Many students travel abroad for higher education while others settle for the upcoming universities in the private sectors. But the students, particularly those aspiring to travel abroad, would be in a dilemma in the forthcoming academic session. Even if they are assured of admissions, the hassles of visa, travel, accommodation in foreign land are likely to pose serious problems this year. At the moment the scenario looks hazy. Obviously such students are expected to crowd around the universities in India. The question is whether the universities in India will be able to provide access to a comparatively large number of students. This phenomenon is also a great opportunity for Indian Universities to increase their stature with more investment possibilities for better faculty, better students and better infrastructure.

In view of the constraints and hesitations, the Indian universities could expect a better quality of admissions this year. The upcoming universities must seize this opportunity to welcome such students by augmenting their infrastructure, both physical and intellectual, and make sure the students get the treatment they deserve.

The regulatory authorities of higher educations too must consider this to be an opportunity to fill up many vacant seats by offering attractive programmes and direct the educational institutions accordingly.

Acknowledgement:

Authors gratefully acknowledge the information provided by a numbers of faculty members in government and private institutions. □

Writing a Research Paper in English: Some Tips for Research Scholars

A Joseph Dorairaj*

In the academia, it is 'publish or perish'. There is a constant pressure on teachers and research students to publish papers, especially in peer-reviewed journals with a high impact factor. But writing a research paper in English is often an uphill task and many research scholars are frustrated because their attempts to write papers do not bear fruits either because they are unable to complete their papers or because their papers are rejected by journal-editors.

Well, there is no magical formula or algorithm to write a perfect paper and that too with the confidence that it will certainly be published. Even established scholars had received rejection slips when they were novices in their respective fields. Here are certain guidelines that will help you in writing a research paper in English. These are only guidelines and you will have to supply the missing elements. Follow these guidelines scrupulously and the chances of getting your research papers published are better.

Theoretical Framework

As research students, you should note that the introduction to the research paper is not written first and the conclusion, the last. In other words, the research paper is not written in the sequential order in which it appears in its final form. It is better to write the theory part first for two reasons. First, the theoretical section is in a way a stand-alone component and so it can and should be written first. For instance, if you want to re-read the myth of Karna in Chitra Banerjee Divakaruni's *The Palace of Illusions*, you should discuss the framework for demythologization and remythologization. Of course, it should not be a general discussion of myth and de/remythologization but a specific version of de/remythologization—say, the Bultmannian or Joycean framework—that would help you to read the novel hermeneutically. In other words, instead of talking about myth and de/remythologization in general, you should construct

a theoretical framework that discusses, against the backdrop of myth hermeneutics, how and why Divakaruni attempted a subversive-reading of the myth of Karna in her novel. Second, it makes sense to fabricate the theoretical framework first, for the tools for analysis should be ready before you take up the novel for analysis. Of course, a theoretical framework that is not amenable to a particular text should not be forced on it. Otherwise, the text would militate against such a move.

Body of the Paper

This constitutes the core of your paper and you should plan this section carefully and pay a lot of attention to the writing of it. This section of your paper contains three components and covers roughly 70% of your paper in terms of space. First, you present the theoretical framework using which you would like to analyse and critique the text(s) you have chosen. Second, you need to present a brief but critical summary of the text(s) to make the readers familiar with the text(s) so that they can follow your arguments. Third and most important, you should carefully and insightfully examine the text(s) using the theoretical framework that you have constructed. Many research scholars fail in this attempt, for they are not adept at applying the theory they have fabricated to the text(s) chosen. In other words, they are unable to blend theory and praxis.

For instance, you want to undertake an ecocritical analysis of Amitav Ghosh's *The Hungry Tide* or you want to highlight the elements of Magical Realism in Divakaruni's *The Mistress of Spices*. How should you proceed? At the theoretical level, you should spell out the ecocritical or Magical Realistic concepts and theories, and examine how many of these elements—ecocritical or Magical Realistic—are present, either overtly or covertly, in the text(s) you have chosen. It is unlikely that all the elements are present in full measure in the text(s). Therefore, highlight the salient ecocritical/Magical Realistic elements embedded in the text(s). Underline in what sense and to what extent is *The Hungry Tide* an ecocritical novel and *The Mistress of Spices* a novel steeped in Magical Realism. Support and consolidate your arguments carefully with quotations from the text(s) and well-

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known sources—authors and books and articles. And do not fail to showcase how your standpoint and arguments are different—even if only marginally—from established perspectives and interpretations.

Research Manual to be Followed

For language and literature, there are two research manuals. Those working in the domain of Linguistics and English Language Teaching should use the *Publication Manual of the American Psychological Association* and those working in the field of literature should follow the *MLA Handbook for Writers of Research Papers*. Some journals suggest *The Chicago Manual of Style*. In any case, do not mix up the manuals and use the latest edition of the manual appropriate to your discipline.

It is better that disciplines and manuals go together. In other words, research papers in literature should not follow the *APA* guidelines or *The Chicago Manual* and papers dealing with linguistics should not be guided by the *MLA* regulations. Most importantly, pay attention to the guidelines spelt out by the journal to which you would like to send your paper. Some journals have their own specific guidelines and contributors should adhere to these guidelines meticulously, even if these guidelines override the *APA* and/or *MLA* manuals.

Footnotes and Endnotes

While writing a research paper, as a rule of thumb avoid both footnotes and endnotes. Do not use footnotes, especially if you are following the *MLA Handbook*. You may use endnotes if they are indispensable but keep them as short as possible.

Abstract

Almost all journals insist on an Abstract which is a capsule version of your paper along with keywords. Bear in mind the following three points while writing the Abstract. First, the Abstract is written after you have actually written the research paper. Only when you have completed the paper, will you have a clear and complete view of the paper. Second, keep the Abstract very short—a paragraph or two. Third, avoid quotations and references in your Abstract.

Length of the Paper

The length of the research paper is decided by the guidelines of the journal to which you are sending your paper. Almost all journals specify the length of the paper and you are advised to adhere

to this norm. In most cases, the length of the paper should not exceed 3000 words, including the Abstract and Works Cited. As a general rule, avoid short and skimpy papers running to just a few pages and lengthy papers as well running to 25 pages.

Works Cited

Bear in mind the following four points for this sub-topic. First, be clear if it is Works Cited or References or Bibliography. Check with the journal what rubrics is to be used and what manual is to be followed. If it is Works Cited, make sure that you have included only those entries from which you have actually quoted. Second, ensure that you have included the key and the latest references. Third, see to it that the list is neither very short nor very long running to five or six pages. Fourth, do not wait till you complete your research paper to prepare the Works Cited/References/Bibliography. As you are writing your paper, prepare this section as well. In fact, all research scholars should start with a Working Bibliography. You can use the provision ‘Style’ under the heading ‘References’ in MS Word for preparing the Works Cited section.

Writing the Introduction

There are four issues to be addressed while writing the introduction. Sequentially, the introduction is not written first but only after completing the paper. Only when you have finished writing the paper and possess a very clear idea of the paper, should you write the introduction. Second, the introduction should present an overview of the paper and highlight its focus by articulating your thesis statement clearly. Third, clarify, brushing aside tall claims, how your research paper attempts to fill the research gap that you have identified. Fourth, it should be less than a page. In other words, you can set apart two or three paragraphs for the introduction.

Writing the Conclusion

For writing this section, bear in mind the following four points. Even as you sit down to write your paper, you should know what your concluding statements would be. In other words, your conclusions are not a surprise to you; you are already familiar with them. Second, do not state anything new in the conclusion. You merely sum up what you have already articulated in your paper. Third, finish your paper with a bang, not a whimper. Maybe you can wrap up your paper with a well-known quotation. Fourth, the length of the conclusion should be

manageable. In any case, it should not be longer than the introduction. Two paragraphs should be sufficient to sum up your major findings.

General Observations

Here are nine general observations. First, ensure that there are not too many quotations in your paper. The golden rule regarding quotations is that they should be few and brief and to the point. Put differently, there should not be more than two or three quotations per page and each quotation should be crucial to the discussion. Second, ensure that you quote from the latest and key sources. Do not quote from outdated books and articles and generally avoid referring to unknown authors and unpublished works. Third, take care of grammar and punctuation marks. Fourth, avoid the use of the personal pronoun 'I' which may bring in a subjective dimension to your paper and eschew as far as possible the passive voice which may weaken your arguments. Fifth, the title should be apt and should neither be too short nor too long. In any case, it should not spill over to the third line. Scrupulously avoid fancy titles. Sixth, do not correct or edit your paper as you write. After completing your paper, put it on the back-burner and get back to it after a couple of weeks so that you are able to look at it 'objectively'. Seventh, if you are comfortable with the idea, ask your colleague to go through the paper and ask for his/her frank comments which will help you to improve your paper. Peer-reviews are certainly helpful in revising research papers. Eighth, ensure that your ideas and paragraphs are inter-connected and

well-knit. Preparing an outline and sticking to it will help you in this exercise. Last and most important, avoid plagiarism, including self-plagiarism. Before despatching your paper to a journal, get it checked for plagiarism either through Urkund or Turnitin.

Conclusion

Writing a research paper is an art and you perfect it over the years. There is no formula for instant success. And whenever you receive rejection slips—they will be more in the initiate stages—analyse why your paper was rejected and learn from your mistakes. If the reviewer—very often it is a blind/double-blind review—has given you his/her comments, take them seriously and work on them. Do not forget that publications are mandatory for all teachers and research students and there is no easy way out. I would like to point out that almost all these suggestions and guidelines regarding writing a research paper in English will *mutatis mutandis* apply to other subjects, especially in the Humanities, as well.

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COVID-19 CONCERN

An Appeal to Readers

The outbreak of COVID-19 commonly known as Novel Corona Virus has engulfed the entire world. The pandemic has emerged as one of the biggest ever faced by the human race. With great concern, University News appeals to its subscribers and readers to stay alert and cooperate with the government in adhering to all the social and health advisories issued from time to time. By being careful and cautious, we can beat the virus by breaking the chain and prevent it from spreading further.

We wish all the citizens of India, our subscribers and readers the best of safety and health, and appeal to each one of us to show solidarity in this hour of adversity.

#LetsBeatCoronaTogether

Stay Alert, Stay Safe

EDITOR

Reinventing the Education Landscape

Mamta Bhatia*and Diya Dutt**

Over the last few years, the technological revolution had already changed the global educational landscape; though at the ground level, digital platforms acted as a catalyst to provide support for enhancing the experiences of the learning process. In this revolutionary digital era, the onset of COVID-19 first interrupted; but quickly enhanced the ongoing modernizing process of Indian institutions

Learning online has proved to be a life changing experience for the entire educational community which includes public and private institutions, faculty, students and policy makers. The present forced conditions of “lockdown” of cities, countries have shown that it is now possible to manage teaching-learning process remotely. It is evident that location, language and financial resources should no longer be a barrier to achieve great learning outcomes. Online learning platforms is a silver lining for many students giving them a competitive edge necessary to make ambitious career choices by learning several courses simultaneously.

For this purpose, to achieve the best outcomes at the earliest, universities must establish the latest infrastructures and technology-oriented learning processes, making use of good international practices for creating successful education platform that fits the global educational, industrial and technological agenda.

India at the Helm of Internationalization of Higher Education

Internationalization of higher education has always been considered to be one of the most effective ways of knowledge sharing through exchange of scholars. It was a concept prevalent in India since ancient times when it had the rich tradition of learning at its globally acclaimed centers of learning such as, Nalanda University, Takshashila, Kashi Vidyapeeth and Shantiniketan; which had visiting scholars from all over the world. However, the tertiary education sector in India came under pressure due to globalization.

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The advent of globalization spurred the aspirations of students from India to pursue studies abroad. This coupled with economic prosperity made it possible for a sizeable chunk of Indian students to pursue study and research in ‘new-age’ disciplines, such as, data sciences, climate studies, sustainable development as well as the traditional disciplines of engineering, science and mathematics.

Exodus of Indian Talent

In the past few decades in India, a culture started evolving due to the social craze for foreign degrees. Lucrative cross border employment engagements aggravated this further; leading to an increased flow of Indian students to foreign Universities. The situation now is that the children from elite Indian families study at foreign universities and this trend has started percolating to middle class families who strive hard to send at least one child of the family to study at a foreign university. Of course, apart from social stigma, the factors such as lack of seats in colleges, paucity of high quality infrastructure at several public as well as small level private universities in the country, low international rankings of Indian institutions also force many students to consider options for studying abroad so as to get engaged with global markets for placements and/or high quality research. This outflow of Indian students also got accelerated by the education loan schemes offered by many Private banks in India. On the other hand, more number of Foreign universities and Higher Education Institutions started attracting talented students from a global pool and several global funding platforms also came forward to support the ambitions of bright students from the developing countries including India.

For Indian students, employability being the key motivator; this trend of ‘studying abroad’ started showing a sharp upward trajectory. Now students choose study destinations not just depending on availability of scholarships and financial grants, but also due to global recognition of degrees and work opportunities thereafter.

Present Scenario of Higher Education Institutions in India

It is encouraging to note that advanced learning facilities are now available in several universities

in India, which have active collaborations with international universities ranked high in Global Rankings. The focus of these collaborations are on knowledge and academic resource sharing to support transnational education; internationalization of curriculum and global opportunities for research and employability. Several Indian universities are connected with global universities through Erasmus and UKIERI funding, Fulbright Programs, DAAD, Endeavour Fellowships and many others. Faculty and students are encouraged to participate in these exchange programs which further enhance the scope for collaboration. In line with the efforts to enhance affordable access to high quality education for Indian students from all backgrounds ; ‘Institution of Eminence’ scheme was launched by Indian Government to select and support the Higher Education Institutions (both Public and Private) for becoming world class teaching and Research Institutions (<http://www.ugc.ac.in>).

New modes of internationalization of education have also emerged, as several Indian universities collaborate with Foreign Universities planning to set up off-shore campuses offering dual degrees, authenticated online testing and certification and ‘split-site’ study options etc. (though, their fees is exorbitant and beyond the reach of students from modest financial backgrounds!). As systemic hurdles for these options are removed by the Regulatory bodies, the time may reverse when student mobility will have its new face and parents will feel less anxious for their wards studying abroad for long duration courses.

Preparedness of Indian Universities in Terms of Internationalization of Higher Education

An important aspect of preparing Indian universities towards internationalization of education is the faculty’s preparedness for adopting innovative teaching-learning methodologies prevalent in several institutions abroad. The present situation of the contagion has forced Indian universities, educational platforms and Government Regulatory bodies to expand faculty’s understanding of this crucial area of VOIP (Voice Over Internet Protocol). Even if innovative online methods were already adopted by many faculty, some staff did not integrate this type of innovation into teaching-learning process. After the country- wide lockdown; within a fortnight, most of the Indian universities adopted applications for distant learning, such as, Adobe Connect, Zoom,

Google hangout, Microsoft Teams etc., while many universities started the process of establishing robust Learning Management Systems.

Above discussion leads to the fact that Indian education system needs to foster and further enhance the culture of smart learning that allows students to continue their educational process under any circumstances and in any place. Teachers must be trained to become familiar with the online teaching-learning applications as much as they should be trained for Soft Skills components on critical thinking, problem solving etc. so that live online interaction between students and educators can be a successful approach for all branches of the courses.

Also, educators, IT specialists, researchers, university students, technicians, web developers, experts in mass communication system, graphic designers etc. across the nation must contribute to the e-learning platform in fields of translation, design, educational gaming tools, video production and publication.

The role of AI bots can be weaved into LMS, so that it can make students know about the strengths and weaknesses along the learning journey till final successful learning outcomes. Inclusion of distance learning modules in the curriculum design will offer opportunity to learners for interacting with independent researchers and scholars and to make use of knowledge resources available in International Universities. Possibilities of Lifelong learning, multi discipline learning will bring into the institutions a new segments of experienced learning community.

Because of the self learning advantages, MOOCs, Blackboard and Slack as LMS systems, adopting Flip class methodology, using open source study materials etc. can be promoted more vigorously. At the same time, it is imperative that direct interaction between teachers and students is an essential ingredient of confidence building for best results of grasping education. Therefore, the mechanism of blended learning can be worked out keeping in view the need for meeting the students at least for stipulated number of times in a year. (School of Open Learning of University of Delhi and Indira Gandhi National Open University are good successful examples of this model). As we move forward and experience the changed learning environment based on blended learning model, conventional mindset will change and people would reconsider their not-so-positive

predisposition towards distance and online learning. The society will start respecting knowledge and not the mode of delivery of education.

Challenges

The seamless weaving of online learning will however need to address the challenges of availability of high speed internet, streaming, wide spectrum broadband issues, lack of uninterrupted power supply etc. Students from all parts of the country must have the access to smart phones and data availability to take lessons online. Girl students must be given special opportunity for online learning. For science and technological courses, virtual labs must be organized to familiarize the students with experimental aspects of concepts. Equally important is to change the mindset of the industry to hire students holding online credits and distance learning degrees. Smart learning platforms must be set up by all public and private Universities to facilitate access to high quality educational materials available through global platforms. This may also require revision of curriculum at regular intervals to take care of learning outcomes. Online examination and evaluation patterns will need a total overhauling of the prevalent system.

Conclusion

In the coming years, the integration of technologies into education processes calls for Indian higher education sector to be structurally and conceptually redesigned. Indian Universities (particularly the Public funded Universities which

are within reach of majority of students) should make use of advanced technological communication platforms by adopting latest LMS being embedded into the design methodology of curriculum teaching, create networked knowledge centers and push for global knowledge resources accessible to all the students like never before. Education policies should focus on this new opportunity to retain the young, creative and intellectual brains within the country and find pathways to support Universities, offering new opportunities for global learning to participate in border-less learning process.

In the age of globalization and international education, Indian institutions' vision strategies should be to incorporate international benchmarks highlighting the best practices ,marching towards providing world class facilities for research ,innovation and employability, thereby working in the direction to produce more number of graduates fit for participating in global economy. Such trends will also contribute to regulate international students' mobility and prospective students' motivation and ambitions will not shatter due to any challenges arising from global calamities, wars or disasters. Living in India close to the family, fulfilling career ambitions; simultaneously being able to connect to the global knowledge economy is a very promising emerging future for Indian students. This will also invite and attract international students to gain affordable knowledge with the best learning outcomes available at par with any global high-ranking Institution. □

Weekly E- Essay Series of Scholarly Articles on Reimagining Indian Universities

A 'Weekly E-Essay Series of Scholarly Articles on 'Reimagining Indian Universities' was launched on AIU Website on 15th May, 2020 as a part of the change which AIU seeks to bring about in the academics in this day and age of COVID-19. The essays scheduled for release in this series are in a broad range of fields covering a variety of topics pertinent to 'Reimagining Indian Universities' received from distinguished experts and authorities in the area of Indian higher education included in the Book 'Reimagining Indian Universities' edited by Dr. Ms.Pankaj Mittal and Dr Sistla Rama Devi Pani. In the series, every week one scholarly article written by an erudite scholar of Indian academia is being released on the AIU Website. The series was initiated with the essay of Prof Bhushan Patwardhan, Vice Chairman, University Grants Commission, India on 15th May, 2020.

The essays are unique, enlightening and inspirational. Those who are interested in reading these essays may browse AIU Website: www.aiu.ac.in. □

The Examination Conundrum

B S Madhukar*

The Coronavirus did the unimaginable by bringing the evaluation (read examination) system of our education (including tertiary) to a grinding halt. This situation triggered a reflection by the author on his experiences during assessment visits conducted by NAAC over the years, to large number of universities and colleges across the length and breadth of the country. This article is an effort in particular, to examine in brief, the core aspect of teaching learning and evaluation and its perception by stake holders inside and outside the institution keeping in context the already existing dilemma in the higher education space, a need for overhaul, but continues to maintain status quo with pull and push at various levels.

The higher education in India as on date is delivered by about 1000 Universities and 45000 colleges catering to nearly 40 million students (about 80 per cent enrolment in colleges) spread across the length and breadth of the country. The lockdown coming at the fag end of an academic year has thrown academic activities into a tailspin. One aspect of immediate concern is the completion of the prescribed course content (teaching – learning process) and other is the year end evaluation of students or in common parlance, the examination. A quick fix solution to the problem is being proposed and is likely to be implemented and forgotten after sometime.

Now looking at the larger context of evaluation, the Universities (Conventional and Open) and autonomous colleges are responsible to conduct examination across all disciplines of study offered by them. The examination is generally a combination of Practical and theory depending upon the purpose and discipline of study and can be tri-mister, semester or yearly depending on the structure of evaluation adopted. The yearly system of examination as on date is highly unlikely.

The theoretical aspect of the evaluation, which is largely written examination accounting for maximum marks/grade, is massive exercise and its purpose is to maintain common set of standards, sanctity of the evaluation and declare results in a time bound manner to provide equal opportunities to students across the country for further employment / higher studies etc.,

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Many Universities need to conduct examinations for large number of students across disciplines and particularly, if it is an affiliating university, the numbers are mind boggling. The protocols developed for the purpose over time like setting of multiple question papers, distribution of hall tickets, randomization of questions in set papers, just in time transmission of question paper to examination centers, seating arrangements in the examination hall, deployment of flying squads, security of answer papers, post examination requirements of paper correction etc., involves extraordinary efforts as it is based on the premise of distrust. The introduction of semester/trimester system of evaluation (a concept drawn from the western world) over the last few years further increased the load on the evaluation process. After all these efforts, it is largely accepted that the present system of examination only encourages rote learning and also no indications are available from the employers that trimester/semester type of examination produces better graduates/post graduates or engineers.

Further, it is a myth that all Universities and colleges across India will maintain a common set of standards of teaching/evaluation and declare results within a particular time limit for the graduates and post-graduates they produce to access opportunities in a common time line. In spite of the varying factors, degrees granted by all recognized universities in a discipline are considered equal to each other across the country. Even the nomenclature used to describe any degree is prescribed by the University Grants Commission (UGC) to usher in uniformity.

Looking at the human resource output from the higher education institution from an employer point of view, it is a common refrain that our graduates/ post graduates to a large extent are unemployable without further training and additional costs to the hiring organization. Further, scan of the advertisements in News Papers for entry level employment, either in private sector or Government Sectors (including Public Sector undertaking) use the degrees as a first level screening mechanism for acceptance of application to employment, and conduct exclusive written tests and interview for selection/offer of employment. Similar is the case for enrolment to higher levels of education. In addition employment happens through informal mechanism like networking, references, regional requirements etc.,. In effect it is clear that differential levels of teaching/evaluation happens for the same

degree acquired by students from our higher education system and the employers devise their own mechanism for job offers. Further over the years, it is noticed that discipline of study and nature of job may not be in sync. Ex: Science graduates working in a Bank, Arts graduates in Insurance etc.,. Moreover with the gig economy likely to be the new normal, degrees and jobs may further get delinked.

Looking at the above factors it is appropriate to initiate action to overhaul our evaluation system as most educationist in private conversations agree that the massive exercise of evaluation has not only lost its relevance but is a drag on the higher education system hindering its innate capacity to change.

The Draft National Education Policy, 2019 also envisages that all colleges in the country to be Autonomous institutions in a decade and Accreditation shall be the mechanism to maintain quality. Fast forwarding the above recommendation will help. In this direction first action can be towards decentralizing the evaluation system by widening the scope of University Grants Commission scheme of '*Paramarsh*'.

The concept of the scheme as the name suggests is to identify and utilize the expertise of Institutions to help other nearby institutions. At present the outline of the scheme is to identify colleges which has achieved good rating in the NAAC assessment process and nominate them as mentor colleges and empower them to hand hold 5 other colleges referred to as mentee colleges to acquire accredited in 2 years' time. At present more than 150 colleges across the country have been identified as mentor college based on high grade scores obtained by them through NAAC's accreditation.

These identified colleges may be entrusted with additional responsibility to conduct evaluation/ examinations for 6 to 10 colleges to be attached to them by providing required flexibility in operations and appropriate checks and balances by the university/ regulatory body. Since only the Autonomous colleges are empowered to conduct examination, non-autonomous colleges among the identified mentor colleges be prepared to acquire the status of autonomous colleges in a year's time.

This approach may help to reframe the evaluation process given the limited student numbers to be handled by each autonomous unit. The guiding force is to bring flexibility and trust in the evaluation system as the concept behind evaluation at the higher education level is to judge the capacity to learn, understand and apply the learning experience, unlike in primary and secondary levels of education. Over time, evaluation and certification system may take various forms which may include on line evaluation, acquiring credits through online modules etc. The evaluation processes need not be identical for all the students even from the same discipline/batch and also follow variable time lines.

It is time to de-emphasize evaluation process, plan and strengthen the teaching learning experience of students whether on line or in campus and facilitate and train students to acquire self-responsibility for learning, which is expected at the higher education levels. The change in emphasis is warranted as field experience within the institution indicate a sense of prioritization that rigorous evaluation mechanism is a proxy over sound and vibrant teaching learning opportunities. □

Dilemma and Determination

Hema Raghavan*

Lockdown period can be productive if one has the flair for reading and writing. Of course there are times when even this gets tiresome and we seek desperately other sources of diversion to fill the long summer days imprisoned within the four walls. I have also experienced a similar degree of ennui and weariness with books and computers – the main tools we all have- to stay in touch with the world beyond our mental borders. It was a serendipitous discovery as I flipped the 24x7 Corona news channels to Star plus to find a repeat telecast of the Mahabharata of the 2013 production. I had seen it earlier and therefore I had decided to skip viewing it a second time. But since the news channels ceaselessly churn out the daily depressing dose of CV news about its spike, the lack of hospital beds, the increase in positive cases and mortality rates, besides the fearsome predictions of a gargantuan peak in the next few weeks, I had no option but to vacuously indulge in channel surfing when I stumbled on the Mahabharata serial and saw the episode featuring Bhishma's surrender to Krishna which is a part of Bhishma parva that narrates the first ten days of war.

Bhishma, stung to the quick by Duryodhana's accusations of not keeping his vow to be loyal to the throne of Hastinapur which was then with the Kauravas, pledges to annihilate the Pandavas. He enters the battle field the next morning and is at his ferocious best slaughtering all who dared to confront him. Finding Arjuna hesitant to raise his bow against the family patriarch, Krishna gets angry and descends from his chariot to confront and kill Bhishma contrary to his vow not to wield arms during the war. Bhishma is taken aback to see an angry Krishna. Bhishma who had prided himself of having lived a blemishless life of self denial and rectitude, strictly adhering to his twin vows of celibacy and loyalty to whosoever who sat on the throne of Hastinapur, asks Krishna as to where he had erred to incur Krishna's wrath.

Krishna accuses Bhishma for his failure to be on the side of *Dharma* because for Bhishma, adherence to his vows was as his sole *Dharma*. Bhishma had failed to intervene in the injustices done to the Pandavas and more so to Draupadi when the Kauravas attempted to disrobe her. He was a mute spectator to all the evil games played by the Kauravas, but because of his vow of loyalty to the Kauravas, he had remained silent. In keeping with his vow, he had entered the fight on the side of the Kauravas even when he knew that Pandavas stood for *Dharma*.

Bhishma privileged his own *Dharma* above Universal *Dharma* which essentially signifies right conduct in keeping with *Rta* or the cosmic Law that benefits society and mankind. Krishna reveals to Bhishma that all his actions to serve the Kauravas were unethical and had resulted in the establishment of adharma personified in Duryodana and his band of Kauravas.

This episode involving Bhishma and Krishna is illustrative of the perennial conflict between individual *Dharma* and the Universal *Dharma* where the pride and ego of adherence to one's personal conscience often conflicts with moral conscience that upholds the larger interest of humanity. The conflict between id, ego and Superego is inherent in all human beings. Id functioning on pleasure principle caters to our base ideas and urges, while Superego operates as our moral conscience and seeks to direct our activities to a higher spiritual ideal what we refer to as *Dharma*. Our behaviour and conduct have to be in keeping with *Dharma* which follows *Rta*, the order that makes life and universe possible, and that includes duties, rights, laws, conduct, virtues and "right way of living". Ego is the one that mediates between id and Superego. Bhishma's privileging his personal vow (*Dharma*) however noble it was over universal *Dharma* is egoistic and unethical. As Krishna unfolds the unethicality of Bhishma's actions- which he justifies as keeping to his personal vow,- Bhishma realizes the futility and ineffectiveness of his vows and seeks forgiveness

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from Lord Krishna. Since Bhishma had been given the boon of immortality unless he wills his death, he expresses his desire to atone for his wrongs at the hands of Shikandini. On his deathbed he bestows his blessings on the Pandavas for their victory as they were the upholders of *Dharma*.

Coincidentally on the day I watched this episode of Krishna and Bhishma, I was engaged in writing an analysis of Tennyson's poem, *Ulysses* written nearly two centuries ago (1833). This has been my favourite poem of Tennyson as it represented the Victorian conflict between an artist's love of art for art's sake and his duty to use art in the service of humanity. Ulysses, the great hero of the *Iliad*, next only to Achilles, returns home to ascend the throne as the King of Ithaca. But soon after he becomes restless as his thirst for new voyages, new discoveries and new knowledge overpowers him and he decides to abdicate his throne in favour of his son Telemachus and out on his quest saying.

"I cannot rest from travel: I will drink/ Life to the lees: All times I have enjoy'd /Greatly, have suffer'd greatly, both with those/That loved me, and alone,"... and proceeds "To strive, to seek, to find, and not to yield." He abandons his duty by his people as he seeks fresh knowledge and fresh discoveries.

This sums up the perennial dilemma within all of us- should we live to satisfy our personal desires or live to serve fellow beings. To seek knowledge and to satisfy the personal urge to expand one's knowledge horizon is not wrong, but can that alone be the meaning of one's existence? Isn't it a kind of indulgence on the part of the artist in satisfying his love for self expression? Can he use his art to rejuvenate mankind? Can we find meaning by making our life useful to our fellow humanity! Overarching these questions is the larger question as to how to reconcile the two as both are required and both need each other.

These Lockdown days seem endless as there is no specific action to be done at any specific time (the exception being those who are mandated to WFH (work from home) and complete the task assigned to them before they call it a day). For others the lockdown days stretch beyond sunset and sometimes well into the early hours of night. Days and hours seem long and provide golden opportunity to reflect on life- a luxury of timelessness that CV has gifted us.

Even as the reader looks askance at my placing Bhishma on par with Ulysses, I brought them on the same platform as I found them sharing the conflict of personal satisfaction as against dedicating their talents to serve 'others'. This dilemma between I and the 'other' is a perennial one—a dilemma everyone of us shares with every other person- how to live an ethical life with a focus on self alongside a life of altruism, a life dedicated to the service of fellow beings. It is easy to accept, though difficult to put in practice what our Hindu scriptures say-to lead our individual life worthy of the gift bestowed on each one of us by our Creator with a focussed goal to attain personal salvation through total surrender to the Lord. The merger of the self with the Self has to be the final goal.

But somewhere this concept of personal salvation as the ultimate goal intrigues me as its focus is on me and my individual self. It does not accommodate the 'others' who have been a part of my life from my birth. Everyone knows the one and the only certainty that I am born, I exist, and one day I shall cease to exist, This life is the one and only life that we know as we have no knowledge of what went before and what shall come hereafter. What we pack into life gives the meaning of our existence. Hence for everyone, the meaning we pack between birth and death is of our own volition, a conscious choice we make. And what we do will have to factor in, its effect on others around. To questions who am I, why was I born, what is the purpose of my life and where do I go- to the five 'W's of who, what, why, when and where, no one has answer. To find a meaning for life then becomes our vocation.

The Lockdown period has given me ample time to dwell on questions that had been put on the backburner in the hurly burly days of mundane activities. The daily chase to be one up on the 'others' had been the driving impetus all through these years. My life, my achievement, my success, my happiness have been the overarching compulsions to give meaning to my existence. In this selfish pursuit of happiness, there is no place for the other. We share the animal instincts similar to the force behind all animal movements. In our personal life, it is as though we were following the Keynesian economic theory that encouraged animal spirits in Man, unleashing our basic instincts, proclivities and emotions to influence and guide our human behaviour. We have been living like animals in pursuit of mindless happiness and self satisfaction.

We had almost forgotten what is happiness because we were constantly chasing happiness. The Corona Virus has flattened the social and economic curves and has shown how we all share the vulnerability of life .

Watching the Mahabharata and listening to Krishna's message to Draupadi settled the conflict within me. Krishna foresees the tragedy that awaited Draupadi as all her children would be the victims of this war. She had earlier vowed to avenge the attempted destruction of her honour but as she apprehended the ensuing tragedy where she would be called upon to sacrifice her children, she tells Krishna that she would rather withdraw her vow than face a colossal tragedy. Krishna's advice to Draupadi not to rescind her fight for justice even at the cost of personal sacrifice helped me to reconcile the dilemma of I and the other. My passion, my commitment, my choice of ethical action for the upholding of justice and fairness is a blending of I and the other. In the bargain, if it demands personal sacrifice, I should have the courage to face it.

Well my reflections helped me to get rid of a binary approach to 'I and the other' as both are the two given fixed determinates and they exist only because of their interdependence. 'I' cannot remain in isolation. 'I' cannot be happy if all around 'I', others are unhappy. It is true vice versa. A community or a society is made up of many 'I's and its happiness depends on the wellbeing of all its 'I's. What is important is the need to focus upon ethical conduct that is conducive for the well being of all the 'I's that constitute a community

Lockdown has its own gifts to bestow. It has given us time- time to retrospect, time to introspect,

time for hindsight, time for foresight, time to look back, time to look forward, time for I and time for the other. I recalled Coleridge's The Rime of the Ancient Mariner where the old Mariner lay cooped inside his ship that had got stranded. He had inadvertently killed the albatross in a sudden moment of violence and despair.

*Beyond the shadow of the ship,
I watched the water-snakes:
They moved in tracks of shining white,
And when they reared, the elfish light
Fell off in hoary flakes.*

*Within the shadow of the ship
I watched their rich attire:
Blue, glossy green, and velvet black,
They coiled and swam; and every track
Was a flash of golden fire.*

*O happy living things! no tongue
Their beauty might declare:
A spring of love gushed from my heart,
And I blessed them unaware:
Sure my kind saint took pity on me,
And I blessed them unaware.*

*The self-same moment I could pray;
And from my neck so free
The Albatross fell off, and sank
Like lead into the sea.*

My dilemma that hung like the albatross fell the moment I accepted the others as myself ! □

Webinar on Post COVID-19 Resurgence of Indian Industries and R&D

A One-day Webinar on 'Post COVID-19: Resurgence of Indian Industries and R&D' was organized by SRM University, Andhra Pradesh, recently. The pandemic in the form of Covid-19 has shaken the entire world and is believed to re-shape the economy, industrial strategies in a post COVID situation. Dr. V K Saraswat, Member, NITI AAYOG chaired the session and Prof. D Narayana Rao, Pro Vice Chancellor, SRM University was the Moderator and Convener. Dr. G Satheesh Reddy, Chairman, DRDO; Prof. Ashok Jhunjhunwala, Institute Professor, IIT Madras; Dr. K Varaprasad Reddy, Chairman Emeritus, Shanta Biotechnics, Ltd; Prof. Prasant Mohapatra, Vice Chanveller for Research, University of California, Davis, USA; Prof. Damodar Acharya, Former Director, IIT Kharagpur and former Chairman AICTE; Prof. V S Rao, President, NIIT University, Prof. B S Murty, Director, IIT Hyderabad; Dr. Akhilesh Gupta, Adviser/Scientist-G, DST, Prof. Rakesh K Khandal, President R&D and Business Development, India Glycols LTD.

While welcoming the panelists and the participants of the Webinar, the Moderator and Convener, Prof. D Narayana Rao, Pro Vice Chancellor, SRM University said, "COVID 19 has disrupted the world and the world is struggling against the Virus. At the same time, COVID 19 is giving an un-envisaged opportunity in building a new India. It is inevitable that the world will shift from China to India for imports. India emerges as an alternative source to countries like the US, Japan, Singapore, and Taiwan. More than 300 MNCs will export via India instead of China. India needs to utilize this opportunity by building taskforce, infrastructure, and dedicated industrial fast track clearances. Further, he said that India should develop the future Workforce for the World."

Dr. V K Saraswat, Member, NITI AAYOG, Chairman has talked about the capability of our scientific community in mitigating the crisis through epidemiological studies, stimulation and gene concepts. He further said, "The commitment of scientific community, institutions, DST, ICMR,

DRDO, IITs, and pharmaceutical industries have been incredible in the battle against this raging pandemic."

However, according to Dr. V K Saraswat, India exhibited delays in setting up of test centers, and supply chain problems require revamping and correction. He suggested, "Bringing down the interest rate, funding to industry R&D consortia, setting up R&D centers/labs, development of robotics embedded with IoT, tax breaks to Indian companies outside India, and upgrading testing labs is crucial. India centric epidemic preparedness, vibrant electronic device manufacturing ecosystem, medical devices, E-commerce, genetically modified crops, cyber security should also be implemented and improved to thrive in a post Covid-19 situation." He informed that Apron and textiles, automobile sector, Tourism and aviation, building construction, food and agriculture, finance, education, retail, and MSMEs alone with 30 per cent of GDP contribution and providing employment to 140 million employees, will be most affected. "Understanding sector-wise business imperative and developing appropriate policy support to unconventional strategies will be the pivotal point for the revival of Indian economy." said Dr. V K Saraswat.

Dr. G Satheesh Reddy applauded the response of the country to fight against Covid-19. He said, "PPE, Masks, and Ventilator production has increased exponentially. Various industries are coming forward to submit designs for ventilators which were minimally used till the outbreak of corona virus. The onus is to produce 60k ventilators in the coming days." He further suggested, "We should have collaborations with industries abroad, acquire technical know-how, and become self-reliant eventually."

Prof. Prasant Mohapatra said, "Higher education needs to focus more on innovation and creativity. Whereas South Korea invests 5 per cent of GDP on R&D, India only invests 0.85 per cent, exhibiting a huge opportunity for investment on R&D. Indians have high intellectual capital and focusing on high-quality education system will improve the R&D results of the country". Dr. Akhilesh Gupta spoke of the extramural R&D. He said, "India needs to

quadruple present full-time researchers to increase R&D spending to 2 per cent”.

Dr. K Varaprasad Reddy believed that MNC's should be compelled to share the research knowledge inferred in our land. Also, he instructed, “We need to reorient ourselves to combat against plausible bio attacks in the future”. Prof. B S Murty identified that Internet and network connectivity with good speed and bandwidth should be provided to everyone at affordable price, as education is likely to get digitized in the future and the world has recognized its benefits during the outbreak of COVID-19. Meanwhile, Rakesh Khandal said, “Technology status appraisal should be prepared to identify the capabilities we have today in India. Also, funding to universities on R&D should be based on real content.” He further claimed, “Traditional health systems like Ayurveda should be used to improve immunity and combat COVID.”

Dr. V K Saraswat concluded, “India should be competitive in terms of quality, quantity, and cost effective by standardizing the products and settling for larger value addition.” The webinar highlighted the reversal of brain drain during this pandemic as intellectuals and workers have moved back to their hometown. Further, young entrepreneurs who have mastered modern tools and are more connected to the world should be working with the academy and industry as they come up with solutions and develop technology rapidly. At the same time, it is vital to identify that we might need to live with COVID-19 for a long time, which requires self-sanitized logistics and public transport, robotics in hospitals, developing social distancing equipment, and drugs to improve immunity.

Webinars at Birla Global University, Bhubaneswar

Birla Global University, Bhubaneswar, Odisha is organizing two one-day Webinars. One on Strategic Issues in Indian Financial Sector during the Current Economic Crisis' and the other on 'Technology Future and Education'.

The financial sector and the economic development are closely related. A healthy financial system positively influences the pace and pattern of economic development. During the economic crisis which is largely a result of the pandemic COVID 19, the financial sector of India is facing different

challenges in meeting the funding requirements of different sectors in the economy. The major players in the financial sector include the corporate, government, individuals, institutions and other business units. The investment and financing pattern of these players keep on changing depending on the requirements of the economy. The present webinar is aimed at discussing the major issues in the financial sector *vis a vis* the cooperate, the commercial banks, the individuals and the institutional investors. In addition to this, the webinar would also deliberate on the risk management strategies related to investment and financing decisions. In this view, the National Webinar on 'Strategic Issues in Indian Financial Sector during the Current Economic Crisis' is being organised by the Birla School of Commerce, Birla Global University, Odisha on June 17, 2020 . For further details of the Webinar, contact Chairman of the Webinar, Prof. S Moharana, Dean, Birla School of Commerce, Birla Global University Campus, IDCO Plot No. 2, Institutional Area, Gothapatna Bhubaneswar-751029, Odisha, Phone: 0674-7103001-10. For updates, log on to: www.bgu.ac.in

Human civilization has witnessed two revolutions viz: the 'Agricultural Revolution' and the 'Industrial Revolution'. The 'Agricultural Revolution' lasted for 900 years and the 'Industrial Revolution' lasted for 150 years. Now, we are in the mid-point of a new revolution for the last 70 years called the 'Information Revolution'. During this period, we have gradually evolved from 'Mainframe Computers' to PCs to Internet to Pervasive Computing now. The cloud computing plays a key role in this where Data becomes the oxygen. Analytics helps in understanding issues and adopting timely corrective actions. Artificial Intelligence plays a key role in predicting future trends. All the three above i.e., Cloud Computing, Business Analytics and Artificial Intelligence will play a pivotal role in paving the path of progress and prosperity of industry and also serve human society, at large, better than ever before. In this View, One-day International Webinar on 'Technology Future and Education' is being organised by the Birla Global University, Bhubaneswar, Odisha on June 18, 2020. For further details, contact Organising Secretary, Birla Global University Campus, IDCO Plot No. 2, Institutional Area, Gothapatna Bhubaneswar-751029, Odisha, Phone: 0674-7103001-10. For updates, log on to: www.bgu.ac.in

**AIU East Zone Vice Chancellors' Meet 2019-20
on
Towards Global Best Teaching-learning Process
in Indian Higher Education Report**

The East Zone Vice Chancellors Meet (2019-20) of the Association of Indian Universities (AIU) was hosted by Central University of Jharkhand on 19th-20th December, 2019. Smt. Draupadi Murmu, Hon'ble Governor of Jharkhand graced the Inaugural Function as the Chief Guest. Prof. Marmar Mukhopadhyay, Chairman, Educational Technology Management Association, Gurugram, former Chairman NIOS, and former Director, NIEPA was the Guest of Honour. Dr. Pankaj Mittal, Secretary General, AIU Presided over the session and Prof. Nand Kumar Yadav 'Indu', Vice Chancellor, Central University of Jharkhand convened the Meet. The inaugural function was attended by more than sixty Vice Chancellors of East Zone, officers of NAAC, faculty members and research scholars of the University. Dr Alok Mishra, Joint Secretary, AIU was the Nodal Officer of the Meet and Mr Vijendra Kumar took care of logistics and coordination. Dr S Rama Devi Pani, Editor University News was the Nodal Officer for Academics. Dr Dharmendra Singh, Assistant Professor, Department of Physics, Central University of Jharkhand was the Nodal Officer at the host university. Main theme of the Meet is '*Towards Global Best Teaching-learning Process in Indian Higher Education*'. Under the main theme, following three technical sessions were conducted in the Meet: '*Creating Technology Enabled Learning Ecosystems*'; '*Promoting Effective Pedagogies and Assessment Practices: Global Trends*'; '*Capacity Building and Continuous Professional Development of Faculty*'. In addition to Inaugural, Valedictory and three technical sessions, the Meet had AIU Business Session and newly induced Session on Interface with Apex Bodies.

In her inaugural address, Smt. Draupadi Murmu stated that the collective wisdom emerging out of the congregation of Vice Chancellors will provide a new dimension to the higher education in the State of Jharkhand. She stated that the education policy

of the state determines its overall development. She brought to the fore, the significant role being played by ancient Indian Universities such as Nalanda and Vikramshila in Indian as well as global education. Since the early days, India has been a world leader in education and is again on the pathway to regain its position. She stated that education plays a vital role in national integration and emphasized the need for women's education. Education should not only be considered as a means of securing employment but contribute towards the holistic development of an individual and nation. She mentioned that futuristic education must integrate technological advancements, scientific knowledge, and spiritual understanding for the development of an egalitarian, all-inclusive society. Special Issue of the University News edited by Dr S Rama Devi Pani was released by the Chief Guest.

Prof. Mukhopadhyay stressed on outcome-based education that will not only enhance the employability but will also develop desired skill sets. He suggested adding flipped and blended classroom pedagogies with classroom teaching. He also deliberated on self-paced, technology-based learning platforms like MOOCS, SWAYAM, and other digital initiatives of the Government of India. He emphasized on creating open education resources in video mode and on regular faculty training.

Dr. Pankaj Mittal, Secretary General, AIU highlighted the significant role played by AIU in steering forward the higher education system of India. She spoke about the recent initiatives at AIU and the house was informed about various technological reforms such as redesigning the website; launching AIU Twitter account for better virtual presence, access to bibliographies of the doctoral dissertation by scanning of QR code, creation of web portal for facilitating collaborations among national and international universities and dissemination of information for all the stakeholders to make informed choices. She deliberated on the international events in the area of sports and youth affairs like Women Youth Parliament, Asian University Youth Game, Khelo India, etc. Speaking

about the theme of the Vice Chancellors' Meet, she said that the theme 'Towards Global Best Teaching-Learning Process in Indian Higher Education' has been developed after extensive deliberations as there is a lot of debate on this pivot of education i.e. teaching-learning processes.

Prof. Yadav, Vice Chancellor, Central University of Jharkhand, Ranchi, while welcoming the participants, stressed on the need to introduce innovative and best teaching-learning practices; specifically, in higher education. Further, he emphasized the need and role of dynamic, well-designed, innovative, technology-enabled pedagogy that will enhance the quality of teaching and learning outcomes. He also suggested the promotion of effective interaction among the faculty and students in order to create a robust learning environment. Teaching in higher education should not only restrict traditional classroom teaching but the focus must also be on experiential learning. Research in higher education is another component that needs constant up-gradation. The basic aim of the research should be transformation of students into problem solvers. He also spoke about the initiative of Hon'ble Prime Minister of India 'Pandit Madan Mohan Malaviya National Mission on Teachers & Teaching', launched on 25th December, 2014 with an outlay of Rs. 900 crores in the XII Plan. He hoped that the innovative ideas emerging from the conference would eventually help in mitigating the problems plaguing higher education in India and would make Indian Universities more competitive in the global ecosystem.

Session on 'Interaction with Apex Bodies'

The Session on 'Interaction with Apex Bodies' was chaired by Dr. Pankaj Mittal, Secretary General, AIU and co-chaired by Prof. Nand Kumar Yadav 'Indu', Vice Chancellor, CUJ. National Assessment and Accreditation Council (NAAC) was represented by Dr. Ruchi Tripathi, Assistant Advisor. She discussed the role, need, and process of NAAC accreditation for universities and colleges. Further, she signified the importance of time management in the accreditation process and requirement of stepwise data furnishing from registration to NAAC Peer Team Visit. Dr. Mittal added some information about the modifications made in the new accreditation process and the release of a new manual by NAAC. The

new accreditation process has included important components to make an equitable assessment of all institutions such as optional metrics, student satisfaction survey etc. Major recommendations of the session are:

1. UGC should reinforce the Choice Based Credit System (CBCS) by providing options to a wide range of academic and skill courses.
2. UGC should strengthen the community engagement dimension of the universities and develop strategies for wider University-Community Connect.
3. A new course should be launched by the universities on Education and Community Connect.
4. UGC should amend its regulations to include retired teachers to guide Ph.D students.
5. UGC should revise the curriculum and bring in required flexibility, interdisciplinarity, and cross-discipline studies.
6. UGC should integrate the sustainable development goals in the higher education curriculum and SDGs should be an integral part of all courses.
7. Universities along with apex bodies like MHRD, UGC, AIU, different statutory councils should collectively work towards developing pedagogy for future-ready Universities.

Session on Creating Technology Enabled Learning Ecosystems

The Session on 'Creating Technology Enabled Learning Ecosystems' was chaired by Dr. Abhijit Saha, Director, UGC-DAE CSR, Kolkata. Speakers of the session were Dr. Yogendra Pal, Project Research Scientist, Computer Science and Engineering Department, IIT Bombay, Mumbai; Dr. O R S Rao, Vice Chancellor, ICFAI University, Ranchi and Dr. Sandeep S. Ghugre, Scientist-H, UGC-DAE CSR, Kolkata.

Dr. Pal discussed the importance of technology in education and emphasized developing students centric learning system. He urged to develop methods to tackle the problems faced by the students coming from vernacular medium to facilitate the language barrier. Dr. Rao stressed on creating technology-enabled learning. He stated that the ways of teaching

and learning should change for 21st-century learners. There are several challenges in modern education systems like the adaptation of technology, training of teachers on technology-enabled teaching-learning, institutional support, investment of resources, etc. These may be resolved by strong academic leadership and commitment. While citing an example of his University (ICFAI, Jharkhand), he apprised about a noticeable improvement in the teaching-learning system by use of videos, moving clips, TV clips, animations, using MOODLE LMS, online attendance system etc.

Dr. Ghugre discussed on the topic “A Computer away: Teaching Sciences under Resource Challenges”. He emphasized the use of open-source tool kits windows like Python, Audacity, GNU Octave, etc. The efficient application of open sources enhances the teaching-learning ecosystem of the classroom. He recommended that a seamless and cohesive merger of technology with education can transform the teaching-learning process effectively. He opined that through technologies, we can improve, supplement, reinvent, and transform ourselves. Major recommendations of the session are:

1. Creating a technology-enabled learning ecosystem in our universities is a prerequisite for elevating Indian Universities to global standards. Concerted efforts need to be made by Ministries, Universities, and apex bodies of higher education towards quality improvement.
2. The faculty should be continuously updated on new developments in technology, subject, pedagogy, and contextual relevance in various aspects of higher education. Faculty should also be trained to leverage technology for future HEIs. Special refresher programs should be offered to the faculty with experts of futurology as resource persons.
3. The faculty must be trained in the application of e-governance in higher education.
4. AIU should organize workshops on ICT enabled teaching-learning in the Universities of North Eastern region with representation from all NE Universities.

Session on Promoting Effective Pedagogies and Assessment Practices: Global Trends

The session on ‘Promoting Effective Pedagogies and Assessment Practices: Global Trends’ was chaired by Dr. Amit Roy, former Director, IUAC, New Delhi. Speakers of the session were Prof. Marmar Mukhopadhyay, Chairman, ETMA, former Chairman NIOS & former Director, NIEPA, and Prof. Shashikala Wanjari, Vice Chancellor, SNDT Women’s University, Mumbai.

Prof. Shashikala Wanjari in her presentation on Adoptive Pedagogy Techniques elaborated on the significance of pedagogy for teachers and an urgent need for the shift from teacher-centric teaching to a student learning paradigm. She discussed Adoptive Pedagogy Techniques in three parts ---- prescriptive technique, normative technique, and descriptive technique. She called for an experiential learning paradigm shift for igniting the imagination of the students. She further elaborated that the ‘assessment of learning’ must change to ‘assessment for learning’. Prof. Mukhopadhyay while elaborating on the role of pedagogy in teaching-learning stressed student-specific learning style said that teachers must allow students to explore their style of learning. He explained that a human brain is a self-organized learning system and most of the learners will be able to achieve their goals if these are well defined and inspirational. Learning is a natural process amidst conducive learning opportunities. He emphasized on creating free open education resources (OER) and said that the smartphones have deeply penetrated among students and it should become the most important tool in learning among them. He further underlined the role of technology (video, ICT, open education resource, self-learning module, etc.) in enhancing the skills and learning process among the teachers and students. Major recommendations of the session are:

1. For a student, well defined and inspiring career goal and movement in that direction is a must. Parental pressure and social compulsions compel many students to pursue courses that they are not interested in. This eventually leads to the loss of national resources and valuable time for such students. These students should be counseled; explaining them the pros & cons and be motivated to join courses of their

interest and aptitude. A focused and aptitude driven admission approach will ensure optimal utilization of academic resources, better quality of education, and improved human resources.

2. Learning happens with active partnering of all stakeholders viz teachers, students, parents, employers, and community. Students, at a young age, need to be tested for their innate qualities based on [ISPDV] system namely, 'Interest, Skill, Personality, Distinguished Field, Value' system for achieving excellence in studies and their chosen professional field.
3. Students should be nurtured to differentiate between the umbra and penumbra region of the subject.
4. The present assessment system is a one-way process. To make evaluation more effective, students should also be involved in the assessment process by providing regular feedback on all components.
5. Effective delivery of education demands effective administering of colleges by the affiliating universities. Affiliating universities must ensure that constituent/ affiliated colleges impart quality education by defining well spelled out procedures, practices, SoPs, and quality mandate guidelines.
6. Universities should provide facilities, avenues, conducive ambiance, and encouragement to the faculty to continuously innovate, create, and undertake research projects to enhance the quality of higher education.
7. In order to have leverage from the Act East Policy, the curricula and courses in Indian universities have to be reoriented according to market trends, self-employment avenues, and industry requirements of the South Asian market.
8. Autonomy is essential to attain quality. State universities should be kept out of the interference of the state. These should be monitored and audited by an independent agency without the interference of the respective state Governments.
9. UGC should formulate a policy for the universities to establish 'Education Research and Development Centre'. This centre should

provide solutions to teaching-related problems and should identify and develop technology-enabled solutions.

10. An assessment of success of sustained technology-enabled initiatives of the Government may be carried out both at policy level as well as implementation level in the form of research projects. These sustained technology-enabled initiatives need to be implemented in all universities.
11. AIU should create a cluster of universities in each zone that can collaborate with and share best pedagogical practices.

Session on 'Capacity Building and Continuous Professional Development of Faculty'

The session on 'Capacity Building and Continuous Professional Development of Faculty' was chaired by Prof. S K Srivastava, Vice Chancellor, NEHU. Speakers of the Session were Prof. K. Srinivas, Professor, NIEPA, New Delhi; Prof. Saket Kushwaha, Vice Chancellor, Rajeev Gandhi University, Itanagar, Arunachal Pradesh; and Mr. V. Shankaranad, Research for Resurgence Foundation, Nagpur.

Prof. Kushwaha highlighted the constraint of language in classroom teaching. He suggested that effective pedagogies may be achieved by the adoption of emerging modern approaches of teaching, higher-order thinking, outcome-based and blended learning. He explained 5E model of learning i.e. engage, explore, elaborate, explain, and evaluate. He suggested the use of multimedia and open educational resources for the effective teaching-learning system. Prof. Kushwaha said that learning should be self-directed and emphasized on the need for new pedagogies as well as assessment systems.

Prof. Srinivas initiated the talk quoting Dr. APJ Abdul Kalam, "One must not be disheartened with failure." He defined the meaning of 'FAIL' as 'first attempt of learning'. He further stated that 'END' is nothing but 'Efforts never Dies' and 'NO' is 'Next Opportunity'. He suggested integration of social media Apps like Google Group, WhatsApp etc. in the regular teaching-learning ecosystem. He opined that shifting from 'centralized learning' to a 'learning centric' system will not only help students

but also the teachers. However, the implementation of such systems require teachers to be suitably trained. He emphasized on a mix of classroom and online teaching activities and discussed the benefits of SWAYAM in the blended learning or flipped classes. Continuous training and capacity building of teachers is the need of the hour for implementation of online courses, he said. He stated that 'Cloud storage' [Google/dropbox/Onedrive] is an important tool in e-learning ecosystem.

Mr. V. Shankaranand stated that as every learner is different and so should be the teaching-learning approach. Skills and values are two important components that an individual must possess, and education must not be seen as a means to secure employment but must nurture human beings with values. Basic sectors namely medicine, education, and food must not be commercialized, he said. Earlier, Indian culture equated teachers with God and they deserved it but nowadays there is a paradigm shift in teachers' attitude, they are only passing information and not playing the crucial role of igniting students' minds. This must change and ancient Indian values must be imbibed by the teachers. Major recommendations of the session are:

1. Universities should impart regular faculty training in pedagogy and assessment practices through in-service programmes/courses in the universities and colleges.
2. Teaching without values can neither be fruitful nor effective. Values and character-building can only happen by emulating exemplary role models. Examples like Malviyaji and many other Indian role models may be brought to the cognizance of teachers through seminars, debates, group discussions etc.
3. Library facilities should be accessible for teachers and students on a 24/7 basis. Teachers should always be available to the students to provide support in their overall development and wellbeing.
4. Continuous training and orientation programmes should be organized for teachers to be updated with the fast-paced global developments.

5. A conducive academic and learning environment needs to be created and maintained in our universities and colleges for capacity building of the faculty members. Clear-cut policy should be framed and implemented by UGC defining workload and continuous, in-service professional training of teachers. The administrative decisions need to be aligned with the policy.
6. Teachers vary in their levels of their experience, subject expertise, research insight, and training needs so the faculty training programmes be imparted on the basis of their requirement. For this, the level-wise needs of the faculty should be assessed and classified before designing capacity building programs.
7. Teaching is a profession where the personality of teachers majorly impacts the students. Hence, teachers need to be made aware of being role models and oriented accordingly; at the time of joining. Portfolio Management, body language, class etiquettes, language, communication and do's & don'ts are some of the most important points on which teachers should be oriented time to time.
8. One of the important yet daunting tasks of a teacher is to inculcate a constructive mindset and positive attitude towards fellow citizens, society, and environment in their students and influence them to think and learn beyond facts to create a sustainable future. Changing attitude and mindset are required for imbibing disruptive technological changes and capacity building of teachers.
9. The appointment of faculties of affiliated colleges be done by the parent University.
10. AIU or a resourceful university may conduct periodic capacity building programs for resource-constrained state private universities, particularly for ICT/Technology-enabled teaching and learning.
11. UGC-HRD training centres often cater to Government or state-funded colleges/ university teachers. Teachers of state private universities should also be provided with training avenues and windows of opportunities.

12. AIU should organize workshops or Faculty Development Programmes on *Bharatiya Pedagogy*.
13. The Universities should ensure that an amenable environment is created for the recruitment of international faculty, researchers, linguistic experts, and such recruitments should be executed carefully without any compromise and dilution on academic quality standards.
14. The promotion of teaching in mother tongue/ vernacular language should be encouraged to preserve our rich cultural heritage and transfer the invaluable wealth to future generations.
15. In confirmation with the Government mandate on quality standards in higher education, the Vice Chancellors should work in tandem with AIU in simplifying the process of seeking approval for cross country movement via 'teaching visas' to avail and exchange faculty

members from other countries having expertise in niche areas.

Valedictory Session

The Valedictory Session was chaired by Dr. Pankaj Mittal, Secretary General, AIU. Prof. Nand Kumar Yadav 'Indu', Vice Chancellor, Central University of Jharkhand Co-Chaired. Dr S Rama Devi Pani presented the Report of the Meet. Thereafter, Guests and AIU Officers were felicitated. In her concluding remarks, Dr. Mittal committed that all the resultant decisions and reflections drawn from the Meet would be considered for further discussions and actions. She implied that a University should go beyond educating the pupils and proactively engage in the talent search. The identified students should be taught through proper Pedagogy in respective fields to make them the experts of the field. The Meet concluded with vote of thanks.

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THESES OF THE MONTH

SCIENCE & TECHNOLOGY

A List of doctoral theses accepted by Indian Universities (Notifications received in AIU during the month of Jan-Feb, 2020)

AGRICULTURAL & VETERINARY SCIENCES

Agricultural Botany

1. Kalyankar, Shivanand Vishwanath. **Effect of seed coating and seasons on seed quality and seed yield of soybean (*Glycine max* (L) Merrill)**. (Dr. D B Deosarkar), Department of Agricultural Botany, Vasant Rao Naik Marathwada Agricultural University, Parbhani.

Genetics & Plant Breeding

1. Jadhav, Rani Asaram. **Studies on resistance to in-situ germination in inter-specific derivatives of mung bean (*V radiata* x *V radiata* var *sublobata*)**. (Dr. S P Mehtre), Department of Genetics and Plant Breeding, Vasant Rao Naik Marathwada Agricultural University, Parbhani.

BIOLOGICAL SCIENCES

Botany

1. Tripathi, Pankaj Kumar. **Genetic analysis of L-dopa trait in *Mucuna pruriens* (L) DC**. (Dr. N Sathyanarayana), Department of Botany, Sikkim University, Gangtok.

Microbiology

1. Najjar, Ishfab Nabi. **Bacterial diversity and antibiotic resistance profile of four hot springs of Sikkim**. (Dr. Nagendra Thakur), Department of Microbiology, Sikkim University, Gangtok.

ENGINEERING SCIENCES

Computer Science & Engineering

1. Amanpreet Kaur. **Efficient node localization schemes for wireless sensor networks**. Department of Computer Science & Engineering, Jaypee Institute of Information Technology, Noida.

2. Boyapati, Prasanti. **Analysis and comparative study of machine learning techniques to handle brain image segmentation on medical images**. (Dr N Naga Malleswara Rao), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

3. Kolagani, Ravikiran. **Intra inter domain reusability in multi-hop wireless networks for maximizing throughput**. (Dr N Sudhakar), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

4. Kosiganti, Srinivasa Rao. **Development of a decision frame work for optimizing operational expenses in application maintenance and support projects**. (Dr. Y Prasanth), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

5. Kotari, Sri Devi. **Secure and QoS routing enhancement through node trust computation measures in MANETS**. (Dr. M

Sridhar), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

6. Rao, K B Venkata Brahma. **Dimensionality and knowledge reduction techniques for massive patient datasets**. Department of Computer Science & Engineering, Adikavi Nannaya University, Rajamahendravaram.

7. Sandeep Kumar. **Computational intelligence based transformation technique for image enhancement in e-governance**. (Dr. Rajeev Kumar), Department of Computer Science & Engineering, Bhagwant University, Ajmer.

8. Shiva Darshan, S L. **Windows Malware detection techniques using static and behavioural based features**. (Dr. Jaidhar C D), Department of Information Technology, National Institute of Technology Karnataka, Surathkal, Mangalore.

9. Vutukuru, Murali Mohan, **Optimal design of multi objective quality of service aware resource scheduling strategies for cloud computing**. (Dr. K V V Satyanarayana), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

Electrical & Electronics Engineering

1. Goswami, Bikramjit. **A study on utility of microwave remote sensing for analyzing flood and soil moisture**. (Dr Manoranjan Kalita), Department of Electrical & Electronics Engineering, Assam Don Bosco University, Guwahati, Assam.

2. Manjusree, Y. **Wavelet based multiterminal transmission line protection in presence of renewable energy and facts devices**. (Dr G Ravi Kumar), Department of Electrical & Electronics Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

3. Mukherjee, Subra. **Studies on development of optical system for sensing of soil nutrients for application in precision agriculture**. (Dr Shakuntala Laskar), Department of Electrical & Electronics Engineering, Assam Don Bosco University, Guwahati, Assam.

4. Pati, Swagat. **Integration of wind and solar PV in hybrid isolated systems with improved power control**. (Dr. K B Mohanty and Prof. Sanjeeb Kumar Kar), Department of Electrical Engineering, Siksha O Anusandhan University, Bhubaneswar.

5. Ruperee, Amrita. **Investigating performance of massive MIMO system in the presence of pilot contamination of NGN**. (Dr. Shikha Nema), Department of Electronics & Telecommunication Engineering, S.N.D.T. Women's University, Mumbai.

6. Vaddi, Ramesh. **Soft switching control strategies for performance improvement of converter FED BLDC motor**. (Dr Y Kusumalatha), Department of Electrical & Electronics Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

Electronics & Communication Engineering

1. Das, Amita Rani. **Detection of liver cancer in CT images using machine learning techniques.** (Dr. Sukanta Kumar Sabut and Prof. Srikanta Patnaik), Department of Electronics & Communication Engineering, Siksha O Anusandhan University, Bhubaneswar.

2. Kolasani, Rajkamal. **Design and analysis of UWB array antenna for biomedical applications and performance optimisation using spring cuckoo search algorithm.** (Dr. I Govardhani), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

3. Raghavendra Vishnu, T. **Investigations of ionospheric gradients and scintillation effects on single-frequency GPS/ NAVIC receivers.** (Dr D Venkata Ratnam), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

4. Ratna Bhargavi V, **Analysis of abnormalities recognition methods in retinal images.** (Dr. V Rajesh), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

5. Sarva, Jayalakshmi. **Design and analysis of compact slot antennas for W-LAN wideband applications.** (Dr. Habibulla Khan), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

6. Sriram Sandhya Rani. **Design of miniaturized microstrip patch antennas with CSRRs for wireless and biomedical applications.** (Dr. K Kumar Naik), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

Mechanical Engineering

1. Buddi, Tanya. **Testing and evaluation of the developed plywood using bio-adhesives.** (Dr. Swadesh Kumar Singh), Department of Mechanical Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

2. Madireddy, Geeta Rani. **Development and characterization of Al 6061/MoS₂ MMC and optimization of process parameters for machining with WEDM.** (Dr. K Rama Kotaiah and Dr. Ch. V.S. Parameswara Rao), Department of Mechanical Engineering, (Koneru Lakshmaiah Education Foundation, Guntur.

MATHEMATICAL SCIENCES

Mathematics

1. Leelavathi.R. **Some studies on existence and uniqueness criteria for fuzzy nabla dynamic equations on time scales.** (Dr G Suresh Kumar), Department of Mathematics, Koneru Lakshmaiah Education Foundation, Guntur.

2. Vadhel, Pravin Bachubhai. **A study on intersection graphs of groups, rings and modules.** (Dr. S Visweswaran), Department of Mathematics, Saurashtra University, Rajkot.

MEDICAL SCIENCES

Pharmaceutical Science

1. Barai, Priyal Sunilbhai. **Study of mechanism of action of some neuroprotective agents from Indian medicinal plants.**

(Dr. Niyati Acharya), Department of Pharmacognosy, Nirma University, Ahmedabad.

2. Rasheed, Shaik Harun. **Preparation and evaluation of ethosomal and niosomal formulations of oxiconazole nitrate using different polymers.** (Dr.M Ramakotaiah and Dr.K B Chandra Sekhar), Department of Pharmaceutical Science, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

3. Tiwari, Prashant. **Management of hyperprolactinemia caused by neuroleptic drugs using selected plants.** (Prof. Pratap Kumar Sahu), Department of Pharmacy, Siksha O Anusandhan University, Bhubaneswar.

PHYSICAL SCIENCES

Chemistry

1. Behera, Arjun. **A study on synthesis, characterization and photocatalytic applications of modified ZnFe₂O₄ towards energy production and environmental remediation.** (Prof. Kulamani Parida and Dr. Satyabadi Martha), Department of Chemistry, Siksha O Anusandhan University, Bhubaneswar.

2. Chodvadiya, Vijay Dineshbhai. **Synthesis of some heterocyclic entities and their application.** (Dr. P K Patel), Department of Chemistry, Saurashtra University, Rajkot.

3. Ramakrishnam Raju, A. **Development of novel synthetic methodologies towards the synthesis of decarestrictine J, parvistone C and some heterocyclic compounds.** (Dr.A Venkateswara Rao), Department of Chemistry, Koneru Lakshmaiah Education Foundation, Guntur.

4. Sahoo, Dipti Prava. **Studies on ZnCr LDH (Layered Double Hydroxide) based visible light responsive photocatalyst for energy and environmental applications.** (Prof. Kulamani Parida and Dharitri Rath), Department of Chemistry, Siksha O Anusandhan University, Bhubaneswar.

Physics

1. Amarjeet. **Synthesis and characterization of divalent transition metal ion doped nano ferrites.** (Dr.Vinod Kumar), Department of Physics, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

2. Indu Rani. **Design, development and investigation of metal oxide incorporated carbon materials for efficient energy storage application.** (Dr. Ashok Kumar Sharma), Department of Materials Science & Nanotechnology, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

3. Meenu. **VO₂ based thermochromic nanocomposites for energy and environmental Applications** (Dr Brijnandan Singh Dehiya), Department of Materials Science & Nanotechnology, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

4. Singh, Ranjan Kumar. **Study of organic-inorganic halide perovskite light harvesting materials and their applications.** (Prof. Ranveer Kumar), Department of Physics, Dr Harisingh Gour Vishwavidyalaya, Sagar.

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City Office: Osmania University Campus, Hyderabad - 500 007

Announces Admission for Doctoral Fellowship 2020-21

ICSSR/ IPE DOCTORAL FELLOWSHIP

Under the aegis of Indian Council of Social Science Research (ICSSR), IPE offers Institutional Doctoral Research Fellowships in social sciences. Applications are invited for the year 2020-21 from interested and eligible doctoral candidates.

ELIGIBILITY

- ◆ **Candidates holding a Master's degree of a recognized university in any of the social science subjects having secured second class with minimum 55% marks or equivalent grade** are eligible to apply. For SC/ST candidates a relaxation of five percent is admissible, i.e. having secured second class with minimum 50% marks or the equivalent grade.
- ◆ **Candidates should not be more than 40 years of age** (relaxation in age by 5 years permissible in case of SC/ST candidates) as on 28th June, 2020.
- ◆ **The candidates must have confirmed Ph.D. registration on the date of Application.** Candidates must be registered for the Ph.D. programme in either a UGC recognized Indian University / Institute or in an ICSSR funded/ recognized Research Institute, that is recognized for the conduct and award of the Ph.D. degree.

FINANCIAL SUPPORT

The period of Fellowship is for 2 years. The value of the fellowship is **Rs. 20,000/- p.m + Contingency Rs. 20,000 p.a.** Any revisions to this pay will be administered as approved by ICSSR.

NOTE

Last date for submission of applications:
28th June, 2020

For more details Visit : <https://www.ipeindia.org/ipe-icssr-doctoral-fellowships-2020-21/>
For queries: research@ipeindia.org



MADURAI KAMARAJ UNIVERSITY

University with potential for Excellence
Re-Accredited by NAAC with "A" grade in the 3rd Cycle
(QS India Rankings 2020 – Band 86-90)



Palkalainagar, Madurai – 625 021, Tamilnadu

Applications in the prescribed form (8 copies) are invited from the eligible candidates for the following posts:

Sl. No.	Notification No. / Date	Post
1.	Notification No. R / 53 / MKU / 2020 dt.10.06.2020	REGISTRAR
2.	Notification No. R / 54 / MKU / 2020 dt.11.06.2020	DIRECTOR, EMRC (Electronic Multimedia Research Centre)

Application form, required qualifications, general instructions and other details are available in the Madurai Kamaraj University **website: <https://mkuniversity.ac.in>**.

Last date for the receipt of filled in applications for the above posts is: **03.07.2020**. Late and incomplete applications will not be considered.

Place : Madurai – 625 021

Prof. Sankar Natesan
Registrar (i/c.)

ATTENTION : SUBSCRIBERS UNIVERSITY NEWS

The **NEW RATES** of Subscriptions effective April 01, 2020 shall be as per following:

	Institutions Rs.	Teachers/Students/Individuals* Rs.	*AT RESIDETNAIL ADDRESS ONLY
1 year	1,250.00	500.00	
2 years	2,200.00	900.00	

The payable amount is required to be remitted **in advance** by any of the following modes of payments:

- a) AIU WEB Portal (b) Cash Deposit (c) Demand Draft/At Par Cheque and (d) NEFT/RTGS/Net Banking/G-Pay/BHIM APP, etc.

1	Bank Account No.	0158101000975 (Saving)
2	Beneficiary Name and Address	ASSOCIATION OF INDIAN UNIVERSITIES 16, Comrade Indrajit Gupta Marg, New Delhi – 110 002
3	Bank & Branch Name	CANARA BANK, DDU MARG
4	Bank's Address	"URDU GHAR", 212, Deen Dayal Upadhyaya Marg, New Delhi – 110 002
5	Branch Code	0158
6	IFSC Code	CNRB 0000158
7	Contact No. & E-mail ID	(011) 23230059 Extn. 208/213 (M) 09818621761

THE NEFT/RTGS/ONLINE PAYMENT TRANSACTION/UTR NUMBER MUST BE SENT BY MAIL IMMEDIATELY WITH COMPLETE MAILING ADDRESS & PIN CODE FOR LINKING AND ITS SETTLEMENT AT OUR END.

For further information/enquiries, send Mail at : subsun@aiu.ac.in / publicationsales@aiu.ac.in
Website : <https://www.aiu.ac.in>

NIRMALA INSTITUTE OF EDUCATION

Altinho, Panaji, Goa – 403001

Appointments

Applications with full Bio-data are invited from the Indian citizens for the Regular Full time post of **Assistant Professor** (with specialisation in History) (one nos.- General Category) for the Bachelor of Education programme from the academic year 2020-21 onwards.

Qualifications

1. A Master's Degree in Humanities/ Arts (with specialisation in History) with 55% marks (or an equivalent grade in a point scale wherever grading system is followed).
2. M.Ed. with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed) and must have cleared the National Eligibility Test (NET) for lecturers conducted by the UGC or similar test accredited by the UGC
3. However, candidates who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum standards and Procedure for Award of Ph.D. Degree) Regulations, 2009, as incorporated in the relevant Goa University ordinance shall be exempted from the requirement of the minimum eligibility condition of NET/SLET/SET.

or

2. A. M.A. in Education with 55% marks (or an equivalent grade in a point scale wherever grading system is followed)
- B. B.Ed. with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed) and must have cleared the National Eligibility Test (NET) for lecturers conducted by the UGC or similar test accredited by the UGC.
- C. However, candidates who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum standards and Procedure for Award of Ph.D. Degree) Regulations, 2009, as incorporated in the relevant Goa University ordinance shall be exempted from the requirement of the minimum eligibility condition of NET/SLET/SET.

Candidates should be conversant with the latest technology in teaching and research.

Minimum score as stipulated in the Assessment Criteria and Methodology for College teachers, in Appendix II, Table: 3 as notified in the GU Statute SC – 16, approved by the Govt. of Goa, vide its letter No. ACAD III/GC/UGC-Regulations/42/2018 dated 11/9/2019 and which has been carried out by the EC of Goa University in its meeting held on 27th Sept. 2019 and assented to by the Hon'ble Chancellor on 25th Oct. 2019)

Essential : Goa Domicile Certificate of 15 years residence in Goa and Knowledge of Konkani

Desirable : Knowledge of Marathi

Qualifications, Pay Scale, and other service conditions as prescribed by U.G.C., Goa University, Directorate of Higher Education, Govt. of Goa, NCTE and other competent authorities and as amended from time to time.

Note : if the Institute does not get a suitable candidate with the minimum qualification requirement, a eligible candidate will be appointed on 'contract basis' with the following qualifications :

1. A Master's Degree in Humanities/ Arts (with specialisation in History) with 55% marks (or an equivalent *grade in a point scale wherever grading system is followed*).
2. *M.Ed. with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed)*

Or

- a. *M.A. in Education with 55% marks (or an equivalent grade in a point scale wherever grading system is followed)*
- b. *B.Ed. with at least 55% marks (or an equivalent grade in a point scale wherever grading system is followed)*

Qualifications, Pay Scale, and other service conditions as prescribed by U.G.C., Goa University, Directorate of Higher Education, Govt. of Goa, NCTE and other competent authorities and as amended from time to time.

The above post will be filled subject to the NOC and approval from the Directorate of Higher Education, Govt. of Goa, and Academic eligibility from the Goa University and subject to Work Load.

Interested eligible candidates, including those already in service, should send their application through proper channel, (**within 20 days** from the date of publication of this advertisement) complete in all respect along-with your recent photograph **attested copies** of the statement of marks of all public examinations, from SSC onwards) experience certificates etc. copies of Aadhar & PAN card, (PPAN & PRAN card, if available) to the Officiating Principal, Nirmala Institute of Education, Altinho, Panaji, Goa.

Incomplete application and applications of unqualified candidates will be rejected.

The Institute reserves the right to accept or reject any or all the applications without assigning any reason thereof.

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

Sd/-
Dr. Delia Antao
Officiating Principal

PONDA EDUCATION SOCIETY'S
RAVI S. NAIK COLLEGE OF ARTS & SCIENCE
FARMAGUDI, PONDA-GOA-403 401

Date : 10th June, 2020

APPOINTMENTS

Applications on plain paper are invited from the Indian Citizens for the following **Assistant Professor** posts to be filled in our Under Graduate Grant –in –aid College during the academic year 2020-2021, stating full name, address, e-mail address, age with date of birth, educational qualifications, experience etc. The applications should reach to the undersigned **within 20 days** from publication of this notice. Certified copies of marksheets of all examinations from S.S.C. onwards should be enclosed to the application.

(A) ASSISTANT PROFESSOR (FULL-TIME-REGULAR)

Sl. NO.	SUBJECT	Unreserved	ST	SC	PD	Children for Freedom Fighter	Reserved for OBC/ST
1	2	3	4	5	6	7	8
1.	Assistant Prof. in Chemistry (Organic)	-	-	01	-	-	-
2.	Assistant Prof. in Chemistry (Organic)	-	-	-	01 (4 th time)	-	-
3.	Assistant Prof. in Physics	01	-	-	-	-	01
4.	Assistant Prof. in Botany	-	-	-	-	-	01
5.	Assistant Prof. in Marathi	-	-	-	01(2 nd time)	-	-

The above posts will be filled subject to availability of workload and approval of Goa University and NOC from Directorate of Higher Education, Government of Goa.

Mandatory Requirement: 15 years of Residence Certificate in Goa and knowledge of Konkani is essential and knowledge of Marathi is desirable. The valid Residential Certificate is to be enclosed with the application.

EDUCATIONAL QUALIFICATIONS:

- a) Master's Degree with at least 55% marks or equivalent grade B in the UGC 7 Point Scale in the appropriate subject and a consistently good academic record.
- b) Passed NET/SET for Lecturers post conducted by UGC/CSIR/University recognized by UGC or similar Test accredited by UGC. However, candidates possessing Ph.D. degree in the concerned subject and who have been exempted from passing NET/SET will be considered.

In case candidates possessing NET/SET qualifications are not available or not found suitable, candidates fulfilling other conditions of minimum qualifications would be considered for appointment on purely temporary basis till the end of the academic year only.

Pay and allowances for the posts and terms and conditions of service are as laid down by Goa University/ Goa Government and other competent authorities from time to time.

Applicants who are already employed shall forward their application through proper channel and shall account for break, if any, in their academic career.

Candidates from Reserve Category should compulsorily enclose with the application their caste certificate / relevant certificate issued by competent authority.

If Reserve Category candidates are not available or not found suitable for the post under Reserve Category, the posts will be filled up by appointing other suitable candidates from open category on purely temporary basis for the academic year only. The candidates so appointed will have no legal right or claim for continuation on the said posts. Incomplete applications and the applications received after the due date shall be liable for rejection.

(V. J. Pissurlekar)
Principal

DON BOSCO COLLEGE OF AGRICULTURE

(A Grant -in –Aid institution affiliated to Goa University)

Sulcorna, Quepem, Goa –403705

Applications are invited for the following posts for B.Sc. (Hons.) (Agriculture) program for the academic year 2020-21.

Sr. No.	Designation of the Post	Nature of Post		
		Regular basis	Contract basis	Lecture basis
1	Assistant Professor in Agronomy	1	2	-
2	Assistant Professor in Horticulture	-	-	1
3	Assistant Professor in Soil Science and Agricultural Chemistry	1	-	1
4	Assistant Professor in Agricultural Entomology	1	1	-
5	Assistant Professor in Plant Pathology	1	-	1
5	Assistant Professor in Agricultural Botany	2	-	1
7	Assistant Professor in Agricultural Economics & Statistics	-	-	1
8	Assistant Professor in Agricultural Engineering	-	1	1
9	Assistant Professor in Animal Science & Dairy Science	1	1	1
10	Assistant Professor in Agricultural Extension Education	2	-	1
11	Assistant Professor in English	-	-	1

Reservation only for the posts under Sr no 1 to 11	PD	UR	OBC	ST
Regular	1	5	2	1
Contract	1	1	2	1
Lecture	1	5	2	1

This is the second time advertisement for PD post.

Minimum Qualifications:

- For posts under sr. no. 1 to 10: M.Sc. with NET from ICAR recognized University.
- For post no. 11: MA in English with NET/SET.
- Minimum 55% marks or an equivalent grade in concerned subject with good academic record.
- Candidates who are or have been awarded Ph.D degree in accordance with the UGC (minimum standards and procedure for award of Ph.D degree regulation 2009) in the concerned subject as incorporated in relevant Goa University Statute shall be exempted from the requirement of the minimum eligibility condition of NET/SET.
- In case NET/SET/Ph.D candidates are not available or not found suitable, candidates fulfilling other conditions shall be considered for an appointment on purely temporary basis till the end of academic year 2020-21.
- In case candidates for the reserved category are not available, the suitable candidates from other category shall be considered for an appointment on purely temporary basis till the end of academic year 2020-21. The candidates so appointed will not have legal rights or claims for continuation in the said posts.
- Candidates with maximum teaching experience are preferred.

Mandatory requirements:

- Certificate of 15 years Residence in Goa.
- Knowledge of Konkani is essential; Knowledge of Marathi is desirable.
- Pay and other service conditions as per the rules, ordinances, statutes prescribed by Directorate of Higher Education, Govt. of Goa and Goa University.
- All posts subject to NOC/Approval from Directorate of Higher Education and Goa University and subject to work-load.
- Persons already in service should send application through proper channel.
- Application along with photograph, address, contact details with self-attested copies of relevant certificates and bio-data need to reach the Director at above mentioned address **within 15 days** from the date of publication of this advertisement.
- Visit Goa University website (www.unigoa.ac.in) for any other information.

Director