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#Let'sBeatCoronaTogether

Announcement

Special Issue of 'University News'

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

The **Special Issue** will cover the articles of eminent educationists on the afore mentioned theme. Readers of the University News are also invited to contribute to the Special Number by submitting papers/articles on above theme by **March 10, 2022.** The papers will be published in the Issue subject to the approval of the Editorial Committee of the University News. The contributions are invited on the following Subthemes:

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

Guidelines for contributors are placed on AIU Website. Manuscripts may be sent to the Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002 through E-mail: ***ramapani.universitynews@gmail.com*** with a copy to: ***rama.pani2013@gmail.com/ universitynews@aiu.ac.in*** on or before **March 10, 2022.**

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Good Academic Research: Need of the Hour

Piyali Bose* and Jayanta Mete**

Research is, by and large, a self regulating and self-policing process wherein researchers conduct and present their research without falsification and fabrication, giving credit to other scholars for their ideas when and where such credit is due. However, research also has aspects of competition, including an emphasis on priority claims. Prestige has become associated with research excellence and high achievement; it has become a high-value undertaking in which intellectual success frequently leads to commercial success (Stephan, 2012).

It is critical for the advancement of scientific research that the research community pursues novel, influential, and relevant research. Research quality, benefits, and integrity are highly interdependent. Therefore, while maintaining high research quality is vital, it is equally important that research is conducted in a culture that supports honesty and integrity to ensure the highest standards of ethical practice and behaviour. There is ever-increasing pressure to demonstrate societal or economic impact of science coupled with the potential for monetary gain. To seek even the smallest advantage, the temptation to come close to, and perhaps cross, ethical boundaries is very strong. Given the high stakes, there is concern about the stability of the ethical foundations and integrity of the research enterprise. Welcome Trust Research Culture Report (2020) conducted a voluntary survey of respondents from all over the world, but mainly from the UK. The findings indicated that researchers felt intense pressure to publish, with scant value placed on how the results were achieved.

In India, this problem of scholarly wrongdoing is compounded by the recent rapid increase in the number of research publications in journals of dubious quality. Research publications across the world have grown at a compounded annual growth rate of approximately three per cent over the past two centuries (Johnson, et al., 2018: 5). This growth in research output has also been accompanied by a rise in poor-quality and predatory journals, and lapses in ethical research practice (Eykens, et al., 2019). Two per cent of the scientists who were surveyed admitted to having falsified, fabricated, or modified data (Fanelli, 2009). Retraction Watch, along with other similar organizations (Oransky, 2020; WAME, 2020), aim to, "promote transparency and integrity in science and scientific publishing, and to disseminate best practices and increase efficiency in science." They maintain, "a database of retractions, expressions of concern

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and related publishing events" from all over the world, identifying well-placed and highly-regarded researchers who have falsified or fabricated data, journals that have retracted publications because of bad peer review practices, and funders that have stripped researchers of their current funding or barred them from seeking future research support (Fang, et al., 2012). It is important to note however, that retractions are often acts of "genuine self-correction and transparency", which serve a valuable purpose in maintaining the integrity of the scholarly record (Quan-Hoang, 2020).

Research misconduct is not uncommon (Brainard and You, 2018). One the one hand, the ability to electronically scan documents and with the advances in machine learning and text analysis, some aspects of research misconduct such as plagiarism are becoming easier to identify and potentially curtail. But on the other hand, misconduct such as data fabrication, falsification of results, mishandling of research subjects, and conflicts of interest remain much more difficult to detect and police. Researchers, funders, publishers, research administrators, and other stakeholders in the research ecosystem have to play a prominent role in this context. It is incumbent upon them to have clear and unambiguous policies and procedures for ensuring good research practices. It is equally important to have a governance structure to ensure that violations of good practice are addressed in a fair, timely, consistent, and transparent fashion.

Recently, several efforts have been made to explicitly define the various components of research integrity and ethical practice. Research organizations, including universities, have developed their own guidelines for the ethical conduct of research. Good research practice is not a mystery, what is lacking is a culture supported by a sound governance structure to ensure that research misconduct is rare. However, procedures and processes to address the violations fairly, promptly, and effectively, if and when such misconduct occurs, are lacking.

The integrity of the research enterprise rests on honesty and trust (OECD, 2015). According to the US National Institutes of Health, (Grants.nih.gov. 2018), research integrity includes:

- Use of honest and verifiable methods in proposing, performing, and evaluating research.
- Reporting research results with particular attention to adherence to rules, regulations, and guidelines.

To address such concerns and to promote academic integrity and publication ethics in Indian universities, the University Grants Commission (UGC) created the Consortium for Research Ethics (CARE) on November 28, 2018. (UGC Public Notice, 2019). In India, the University Grants Commission (UGC) is responsible to monitor the standards of research at institutions of higher education.

For India to be at international standards in Research, it is very important to conduct quality research with integrity and focus on publishing the outcomes in high-quality journals. This will help in raising the benchmarks of research performances and enhancing the reputation of individuals, institutions, and the country. With an intention to provide exposure to the Researchers in the country, a study has been conducted on the values underlying research integrity to help create a culture of responsible and quality research in the academic and research community. It offers practical checklists at each step of the research, which will act as good ready references for the researchers. The study is based on the collection of data from secondary sources. Secondary data is obtained from various published and unpublished records, books, magazines, journals and websites.

Values Underlying Research Integrity

As per the Office of Research Integrity (ORI), one must follow the following values in the conduct and management of research:

Ethics

Research is conducted in an ethical manner ensuring dignity, rights, safety, and privacy within the researcher ecosystem.

Rigour

Research ensures high quality reflected in its design, reliable data, and the appropriate use of methods, rigorous and careful analysis, and transparent reporting and interpretation of the results.

Relevance

In the endeavour of expanding the knowledge-base and understanding the environment and

ecosystem, research advances the short- and long-term goals of science and society.

Transparency

Honesty is promoted through transparency in developing, undertaking, reviewing, reporting, and communicating research in a fair, comprehensive, and unbiased fashion (All European Academies, 2017).

Respect

The process of research is aligned with the norms and traditions of society and its cultural heritage, with respect for colleagues, research participants, and the environment.

Impartiality

Objectivity and lack of bias are the core principles of research. Researchers should avoid conflicts of interest in setting research priorities, establishing research collaborations, choosing research questions, and interpreting and assessing the implications of the research results.

Independence

Research functions must be insulated from both the appearance and the reality of undue influence of funders or other non-researchers with a stake in the outcome of the research. To promote objectivity, researchers should be allowed independence in the design, conduct, analysis, interpretation, and dissemination of the research and research findings.

Accountability

Research will comply with both the spirit and the letter of relevant rules and procedures such as regulations governing professional standards. The ORI will publish and make readily accessible such rules, roles, and procedures that will ensure that instances of alleged misconduct or malfeasance are rare. If and when they occur, they are effectively and promptly addressed in a fair and timely fashion with sensitivity towards the rights of all concerned. Integrity in research implies that these values permeate every aspect and are upheld by all involved in the research enterprise.

Process of Writing Good Academic Research Report

Planning

Responsible conduct of research begins at the planning stage. The choice of research questions and rationale is a critical starting point. The creation of new knowledge and translation are important outcomes of research. While translation of research comes at a later stage, researchers should proactively think about the downstream impact. The Impacting Research, Innovation and Technology (IMPRINT) initiative of the Ministry of Education (MoE), for example, lists major science and engineering challenges that may be addressed by researchers. Similarly, the United Nations Sustainability Development Goals (SDG) are another example where researchers can contribute towards creating a sustainable future. Once an initial objective is identified, it is imperative that researchers are familiar with the state-of art in their domain and undertake projects that meet their objectives, keeping in mind potential unintended negative consequence of the proposed activities. Researchers should assess the feasibility of the study given resources in terms of expertise, facilities, funding, equipment, and other support.

Although the outcomes of research cannot be planned or perceived in advance, it is possible to have a well-documented plan in place outlining the objectives, roles, and responsibilities. Researchers must have appropriate data management systems in place with detailed and easily traceable records for outcomes and milestones, systematic and rigorous analysis, any ethical and regulatory approvals keeping in mind that they might need adjustment as conditions change in the future. All appropriate licenses, participant consents and requisite permissions should be secured before starting the research. Researchers should ensure they are abreast of all the relevant regulatory and governance requirements. Research organizations should support researchers with an appropriate research governance system within a sound research and project management framework (WHO, 2020).

Checklist for Planning Research

Following Checklist can help Researchers unhindered Research work:

- Describe the research objectives and rationale
- Develop a project plan with milestones, roles, and responsibilities
- Ensure the viability of the study in view of resources — expertise, facilities, funding

- Keep abreast with the relevant regulatory, ethical, organizational, and other guidelines
- Seek requisite licenses, approvals and permissions in advance approach, and contributions. A literature review also serves the important function of preventing the duplication of research and redundant publication (Martyn, 1964; Garfield, 1993).

Research Questions or Hypothesis

Any research activity starts with a research question or hypothesis. A good research question or hypothesis should be:

- *Clear:* with sufficient specificity so that it is readily understood.
- *Focused:* to ensure feasibility given the available resources and timeframe.
- *Concise:* brief but comprehensive.
- *Nuanced:* with a research design that matches the complexity of the problem being addressed.
- *Logical:* to ensure that the available evidence supports the research claims.

The sound formulation of the research question or hypothesis requires:

- Consultation with experts.
- An understanding of relevant theories and the available data and records.
- An understanding of the relevant literature.

Detailed journaling, record keeping, and documentation are an integral part of the research process. They not only help the researcher to keep track of the process but also serve as a historical record that can be referred to long after the details are forgotten. Detailed plans are particularly useful for helping newly-minted researchers understand what is to be done and to describe to potential funders the nature of the research approach and its feasibility. This planning also helps prepare for implementation. Careful planning and documentation also create an evidentiary trail that can be referred to in case of a dispute regarding the importance and timing of a researcher's contributions to a scientific discovery.

Literature Review

Describing the research questions and locating them properly in the existing literature are important aspects of research planning. A literature review involves searching and compiling the literature available on a specific topic. A meaningful literature review, however, is much more than a collection of summaries of papers or an annotated bibliography of research manuscripts. The essential steps in a literature review involve:

- Framing research question in terms of the existing literature.
- Consulting relevant databases and texts for the search.
- Listing relevant keywords and phrases, as well as known key references.
- Ensuring search results are easily retrievable and traceable.
- Revising the original research question, if necessary.

Researchers must carefully ensure that they rely only on high quality and reliable sources. Before incorporating search results in a review, it is essential to evaluate each reference for accuracy, authority, objectivity, currency, and coverage (Goundar, 2012).

Citation analysis is a powerful approach for selecting articles for literature reviews. It can help quickly identify authors and research articles with substantial research citation impact. Citations analyses also help to identify research that other scholars have found useful and have cited in their own work. Citation and co-citation analyses can further assist in identifying articles and scholars that have been particularly influential in the field. Such an approach is particularly useful for junior scholars who are not fully conversant with the full breadth and depth of the literature and journal quality.

Literature reviews must be thorough. One way of ensuring proper coverage is using the relevant keywords and phrases. To avoid the restrictions imposed by keyword-based semantic searches, citation-based searches are useful. Citation searches that operate on the premise that two conceptually-related articles will share several references often reveal hidden connections. Conducting a literature review is usually recursive. Reviewing previous research should lead to further lines of enquiry and take the researcher to relevant literature and so on.

This process should help the researcher to refine the search to most relevant sources. Suggestions in the literature for future research are often a good source of ideas and novel formulations of research questions. It is not easy to critically and objectively analyse scientific literature. A senior researcher can guide the junior scholar to fully understand the multiple paths that have led to the current research landscape, the underlying arguments supporting contemporary understanding, and the strengths and weakness of the methods and data used to support or question those arguments.

Data, Research Methods, and Analytical Approach

Once the research questions have been clarified, contextualized, and located within the existing literature, evidence must be obtained to support or refute the research claims. Typically, this evidence is presented through data. A sound, systematic, and rigorous research practice depends upon the underlying ontological, epistemological, and methodological assumptions. Hence, the method used to systematically address research problems vary by discipline, the ontological and epistemological assumptions, and traditions (Kaplan, 1964). These assumptions and the underlying logic define the various steps that are generally adopted by researchers (Zimring, 2019). Thus, once the research question has been defined, the researcher should prepare a research design, which serves as the foundation and scope of the research project. Preparing the research design usually involves accounting for availability of resources, skills and time.

Choosing the appropriate research methods is a crucial decision. The methods vary depending upon the type of research questions, the sources and nature of the data and the purpose of the research (Outhwaite and Turner, 2007). Primary data sources are where the researcher collects the data for the purposes of the research; secondary data are those that already exist and could contain information that might shed light on the research questions. Primary data are often obtained from experiments, surveys, focus groups, interviews, case studies, and other sources. Field research often involves detailed observation, document review and analyses of natural phenomena, human artifacts, and objects as well as behaviours and action.

The chosen research method needs to be further detailed out. Researchers must also define the target population to collect data from and the sampling strategy to be employed for choosing a sample from the target population (Bhattacherjee, 2012). The statistical technique for analysing the data also needs to be defined, based on the research question and the data collected.

The methods employed to analyse, synthesize, interpret, and make sense of such data vary just as much as the sources and nature of the data. For instance, experiments are quite common in natural and physical sciences and in engineering; however, conducting reliable and robust experiments in the social sciences is not always feasible. The prevalent model of the "scientific method" of reducing research problems into manageable sub-problems that has been so successful in advancing research in the physical and natural sciences and engineering does not always transfer effectively addressing research problems in the social sciences and the humanities (Bhattacherjee, 2012); Donovan and Hoover, 2013; Latour and Woolgar, 1979). Social science research tends to leverage theory-building where-in a researcher observes events, establishes the relationships between events and associated factors influencing the events, locates the common factor, verifies the explanation in various contexts to generalize the explanation and finally, confirms the explanation as a theory. Theory-building is perhaps the most difficult aspect of social science research because of the complexity of human systems in terms of the dynamic interdependencies and interactions among the underlying causes and effects. The role of feedback and emergence in these systems makes it difficult to develop theories that are generalizable across time and space (Burrell and Morgan, 2017).

Careful data collection, the systematic use of rigorous methods and the proper interpretation of the findings are essential aspects of research integrity. Through social media and other forms of data on how people lead their daily lives, social scientists now have access to data on almost every form of human behaviour and action. This abundance of data makes it important to ensure privacy and ethical use of data.

Systematic, rigorous analysis is essential for producing consistent, reliable results. Over the last

few decades a lot of attention has been focused on the replicability and reproducibility of research (Replicability-Index, 2020). For instance, the work on replicability and reproducibility of social and behavioural science research has its origins in Jacob Cohen's path-breaking work in psychology (Cohen, 1962). Following appropriate data analytic procedures ensures confidence in the results and the ability of other researchers to replicate and reproduce the results.

Interpretation of results should be confined to what the data and the analytical methods can support. Ethical research practice requires that the research findings be accompanied by an assessment of the sources, nature, and magnitude of potential errors and a frank discussion of the limits of the data and the analysis.

Research Execution, Documentation, and Data Storage

Robustness of the research results depends on thorough research execution, systematic documentation, and data quality. Careful collection of data is necessary not only for ensuring the quality of the results but also for maintaining records of collection methodology. These records are essential for judging data quality and for ensuring that future researchers can replicate the results. Proper data management has been enhanced by the increased computing power and the almost negligible cost of storage. The "open data" movement is part of a wider open science effort to make research outputs more robust and reproducible. Scholarly journals facilitate in enhancing research integrity. They ask their authors to submit research data and make them available for other scholars to use who can replicate the analyses and build upon earlier research without having to incur the cost of obtaining their own data. This ability to replicate analyses also gives the opportunity to correct errors and honest mistakes and detect potential ethical and moral oversights in the published research.

Checks for Plagiarism, Falsification, Fabrication, and Misrepresentation

According to the US Office of Science and Technology Policy, "Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results" (Federal Research Misconduct Policy, 2000). Fabrication is making up or cooking up data or results. Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

The appropriation of another person's ideas, processes, results, or words without giving appropriate credit (The Office of Research Integrity, 2020a). Research misconduct does not include inadvertent errors or differences of opinion; however, generally accepted standards play a major role in describing significant departures from accepted practices. "Knowingly, intentionally, or recklessly" departing from standard practice can be grounds for allegations of misconduct."

There are several ways in which researchers knowingly, intentionally, or recklessly misrepresent their data and findings. Given the variety of ways in which research can be misrepresented and the creativity of researchers in doing so, detecting such misconduct is not easy. Research misconduct and bias has become a focus of academic research (Ioannides, 2020) and a subject of study by government agencies (The Office of Research Integrity, 2020a) and private organizations (UK Research Integrity Office, 2020). Data manipulation and image tampering, such as re-labeling axes, distorting a visual representation of data, or using the same image to suggest that it represents results from multiple experiments are just a few examples of the 'creative' ways in which researchers have misrepresented their research (The Office of Research Integrity, 2020b: Case Summary — Yakkanti Sudhakar). These problems have become more common with the ready access to software, which allows researchers to manipulate pictures of slides and biological specimens in minor ways to imply changes over time or represent multiple observations when in fact they are simply variations of the original picture (Cromey, 2010). Fanelli et al (2017) have studied biases in scientific literature and concluded that efforts to enhance research integrity are focusing on the right kinds of biases, but the type of biases and their intensity vary by field and location, suggesting a greater need for focused solutions tailored to meet local needs.

Plagiarism is the most common form of scientific misconduct (Martin, 2013). Plagiarism in research entails a researcher using other's material in such a way that it presents a misleading picture of being the researcher's own contribution. Thus, plagiarism can concern various aspects of research and its contents. Chaddah (2014) has discussed three types of plagiarism:

- Copying text from another author without appropriate permission or attribution and acknowledgement.
- Copying someone else's research ideas.
- Redoing other people's research and representing it as one's own without referring to the original work.

The use of automated textual analysis makes detecting plagiarism in the form of copying text relatively easy, but it is more difficult to assess when ideas or results have been appropriated inappropriately. Research often builds past results, ideas, and methods. Because the reward system of science depends on intellectual property claims, it is crucial that researchers assiduously attribute credit for the work of others. To do otherwise violates conventional research norms and constitutes a moral failure (Merton, 1973). As per Horkoff (2015), the following basic practices should be observed if one has to be free from the label of plagiarism:

a. In general, a person using another author's text, data, methods, ideas, results or formulations should identify the author and document the source.

b. All intellectual property, regardless of format, should be appropriately attributed to the original owner.

c. Researchers should neither submit previously published results without proper attribution, nor submit the same manuscript to multiple journals simultaneously.

d. Conference presentations may be regarded as published material and cited appropriately.

e. References to unpublished work of other authors should be identified as a personal communication or directly attributed to the author as an unpublished source.

f. Reviewers must be particularly careful in ensuring that the material under review is treated as confidential until it has been published. Using parts or ideas from materials under review without proper attribution is not only plagiarism, but is intellectual theft, which places the entire evaluation system at risk.

g. It is common for a researcher to refer to his or her earlier research. Again, when citing one's own work, it is usually best to treat it in the same way as if one was citing another scholar's work. Neglecting to take such precautions is called self-plagiarism.

Collaboration and Authorship

Research is increasingly a collaborative enterprise (Wuchty, et al., 2007; Adams, 2013).Team science often brings different and complementary perspectives, skills, and competencies to a project. Collaborations, however, add another layer of complexity to research that is not usually present when a researcher is working alone (Parker and Kingori, 2016). One of the most contentious areas of collaborations is the attribution of credit and authorship of the research report and subsequent research publications and presentations. There are several prevalent practices for deciding authorships (National Academy of Sciences et al., 1995) — including but not limited to authors' names being listed in order of their contributions with authors that have higher contributions being listed first; in order of author's seniority/influence; in alphabetical order, and so on. In some institutions it is customary to include the supervisor's name upfront whereas in some institutions it is either appended at the end of the authors' list or not included at all.

As a best practice for authorship, it is encouraged to give priority to the authors in order of their contributions irrespective of seniority. However, there is also the question of a corresponding author. Given that this role involves active correspondence with the journal or reviewers and other researchers, assigning it to a senior researcher may be more appropriate. Whatever practice is followed, the collaborators are best placed to jointly reach a consensus and decision amongst themselves. It is important to clarify, in advance, the criteria for assessing contributions of the individual researchers and how those criteria will be used to allocate credit. The collaborators should discuss this matter at the onset of the project to ensure clarity and transparency.

Intellectual Property

Research in computer science, engineering, and the life sciences, among other fields, often yields intellectual property of significant commercial value, which can be protected by patents, trademarks, copyrights, and other forms of guarantees. The proper assignment of intellectual property and preservation of these rights takes on additional importance because of the associated economic value. Assigning intellectual property rights, to the extent possible, to the stakeholders at the start of the project is good research practice. Clarifying these aspects of the research outputs at the outset decreases the likelihood of problems and conflicts arising at later stages of the project.

Publication and Dissemination of Research Work

Selection of the Right Medium for Publication

Research findings are relevant only when publicly shared and communicated. Moreover, researchers earn their property rights by giving away their findings in the form of publications. Researchers must present all results, including favourable, unfavourable, and null findings. The honest reporting of all findings is essential as a matter of record and to save time for future researchers, who need not redo the work that has already been done.

An important aspect of research is its dissemination. The primary purpose of dissemination is to inform the larger community of the findings of the research activity so that it becomes a part of the scientific knowledge-base for other scientists to replicate, test, challenge, confirm, and build upon. Often, research findings are of interest to others, such as practitioners, policy- and decision-makers, and the public. Seeking proper outlets and providing the information at an audience-appropriate level of comprehensibility and format become important criteria to ensure that the research reaches the appropriate audience in the correct format at the right time. Peer-reviewed journals are among the key channels for research dissemination. Researchers often want to reach a broader audience, beyond their academic peers. Commonsense should guide the selection of outlets such as blogs, the popular press, and practitioner journals by focusing on those outlets that are most likely to reach the intended audience. While formats might vary, ethical considerations do not vary regardless of the audience or means of communication .Unfortunately, in a "publish-or-perish" world, publication can become an objective in its own right, encouraging a market for predatory journals and introducing unethical publication practices. The editorial policies of publishers of reputable journals are the first line of defense in ensuring research quality and integrity. The recent increase in academic journals with little or no editorial standards to ensure research quality is becoming one of the more flagrant examples of academic misconduct, apart from the commercial exploitation of the research community. A 'consensus' definition of a predatory journal is, "Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices" (Grudniewicz et al., 2019). Researchers should avoid predatory journals both as an outlet for their manuscripts and as cited references in their research.

Choosing the Right Journal for Publication

Submitting a manuscript to an unsuitable journal is one of the most common mistakes that authors make and one of the major reasons for the rejection of a manuscript. First-time authors or those who are branching out into diverse research areas may be unfamiliar with the journals in the field.

On the other hand, seasoned authors, too, tend to publish in the same journals, although new publication opportunities are constantly arising in the form of online- and open access (OA) publications. As per the Directory of Open Access Journals (DOAJ), "Open access journals are journals that use a funding model that does not charge readers or their institutions for access" (Directory of Open Access Journals, 2020).

Criteria for Journal Selection

Authors should keep the following criteria in mind when choosing a journal as an outlet for their research:

Do the aims and scope of the journal match those of the research work?

Authors can readily find relevant information on a journal's homepage under sections such as "About the Journal", or "Aims and Scope". Careful

review of this information can help determine whether their research might be a good fit for the journal. Scholarly journals are diverse in terms of their content and audience. Their variety can come from several sources, for example, journals vary by their level of specialization, disciplinary focus, and relative emphasis on contributions to theory versus applications of theory. In the natural and physical sciences a distinction is made between a focus on theory versus experiments; in the social sciences a distinction is often made in whether the target audience is academia or practitioners or some combination. It is up to the author to decide on the outlet that best meets the current scholarly requirements.

After short listing journals based on their broad aims and scope, authors should consider a more in depth search within the journal with keywords from their manuscript to determine whether the journal has published similar work. An indicator of where a manuscript might be submitted is to be found among its own cited references. Journals that are most frequently cited might be good outlets for the work.

Submission Requirements for Journal

In preparing a manuscript for submission, it is important to review the "Information for Authors". Journals often specify the type of research they publish. Submissions outside the journal's scope are often rejected without review. Journals also provide guidance regarding the length of the article and the limits, if any, on the number of tables and figures. Most OA journals also charge article processing fees, which might play a role in determining where to submit an article.

The Journal's Impact Factor and Rank

The Journal Impact Factor TM (JIF) is the ratio of the number of citations to the journal's articles to the number of total citable articles published in that journal over a fixed period of time. One should also look at the relative standing of a journal in a given subject category based on JIF. The JIF is a journal level indicator that is one of the many criteria that can be used to determine aspects of journal quality. While there are several journal metrics, the journal "impact factor" invented by Clarivate Analytics in the 1960s, has been one of the oldest reputed publisher-neutral metric trusted by researchers and research organizations worldwide (Clarivate Analytics, 2018).

Journal's Peer Review Process

Peer review process should be independent, rigorous, and unbiased. Authors should assess whether the journal provides: timely and comprehensive review of the manuscript; constructive and valuable comments that enhance quality; information on the number of reviewers involved; an understanding of how closely the editor is involved in the process.

Reference management soft wares offer journal match features that can be used to get suggestions on a journal's potential outlets. However, researchers should validate that manually to weed out low-quality journals.

Journals rely on the peer review process to ensure quality and identify plagiarism or other forms of misconduct. Unfortunately, identifying research misconduct is difficult, especially when the authors and reviewers belong to a small community where it is to everyone's mutual benefit to increase the number of publications and citations to those publications. This problem is further compounded when journal publishers and editors also have an interest in increasing the number of citations to articles published in their journals, which result in subtle and not so subtle efforts at encouraging authors to cite specific articles or journals (Wilhite and Fong, 2012).

Authors, reviewers, and journal editors are not the only ones with a stake in enhancing the prestige of a journal via the number of publications and citations. Publishers want to maintain a portfolio of highly-regarded journals; authors and their employers want publications in prestigious journals to burnish their individual and institutional reputations; and funders are similarly motivated to support researchers who have published and will continue to publish highly-cited research in such journals.

- Manuscript content does not conform to scope of the journal or the overarching theme of a special issue or is not interesting to the target audience
- Manuscript style does not conform with the journal style, format, or guidelines
- Duplication or significant overlap with existing work (plagiarism)
- Insignificant results or incremental research
- Improper rationale of the study

- Superficial treatment of the subject matter
- Poorly designed study in terms of statistical tests, controls, etc.
- Preliminary results that lend to speculative interpretation
- Lack of clarity in writing

An extreme case of corruption has been noticed in journal publications where it is now possible to buy and sell co-authorships of articles that have been accepted for publication even in some of the most reputable academic outlets (Hvistendahl, 2013).

The number of citations a journal receives in a given year, taken against the total citable items it published over the preceding two-year period, determines its Journal Impact Factor TM (JIF). The JIF provides an important and objective measure of a journal's contribution to scholarly communication. A confluence of motivations can result in various forms of malpractice ranging from biased reviews arising from conflicts of interest between reviewers and authors, citation coercion, and inflated author and journal self-citations. Building a strong culture of research integrity along with constant vigilance is necessary to curtail such misconduct.

Clone Journal

Clone journal are a counterfeit mirror of an authentic journal that exploit the title and ISSN of legitimate journals. The scholarly world is currently facing various anomalous threats that include paid publishers and fake journals. There has been enough debate about the challenges of predatory publishers, which encourage authors to publish their work in unreliable peer-reviewed journals, for a price. A new discussion has spread across the scholarly world regarding clone journals. This is a recent phenomenon of even more malevolent fraud that has broken into the boundaries of the academic world. Clone journals are likely to accept papers from authors, since they have developed as the mirror image of reputable journals, including their domain name. In contrast to predatory journals, clone journals are more likely to accept papers from authors, since they have developed as the mirror image of reputable journals, including their domain name. Usually, they receive huge attention through claiming that they have earned high impact factors from reputable indexing agencies such as Web of Science and Scopus. Some of these counterfeit journals actively chase authors through the latest conference proceedings to acquire the e-mail addresses of participants. These people are then approached through a modified e-mail message that announces a fake call for papers in a current issue of the journal. Careless authors may be duped by these solicitations into paying an open-access publication fee, trusting that their work is about to be published in a reputable journal. Once these authors have paid the publication fee, they may lose ownership over their submission because they will have signed it over to the clone publisher. Consequently, they will be unable to get a refund or withdraw the article from publication. Since the article has now been "officially" published, it no longer meets the legitimate criteria of most reputable journals, which have ethical guidelines regarding the submission process, which include a declaration that the article has not previously been published. The authors should to be aware of the following, regarding clone journals: (1) False claims to be members of the Committee on Publication Ethics (COPE) and the Open Access Scholarly Publishing Association (OASPA); (2) False declarations of indexation in databases such as SCOPUS and Web of Science (WOS); (3) Manuscript publication charges that are not visible; (4) Non-transparency of the peer-review process, with unrealistically short peer review-to-publication turnaround times (e.g. one week); (5) Non-existent publisher contact details: fake publishers do not have authentic postal addresses or any active telephone number; and (6) Counterfeit publishers have small numbers of articles per year but have enormous editorial boards, or vice versa. Nonetheless, these precautionary steps require long-term measures that would enable use of stricter and more advanced techniques with the aim of eliminating these threats, along with effective copyright measures that can protect the reliability and validity of articles.

Translation of Research

Scientific discoveries are regularly translated into applications to benefit humanity. Public dissemination of the knowledge and products developed by researchers results in increased outreach and, hence more attention to and success of science. Scientific knowledge has the power to enhance the

quality of life and impart positive societal impact to the beneficiaries (Pope and Brandt, 1997).

"Technology transfer is the transmittal of developed ideas, products, or techniques from a research environment to one of practical application, and thus is an important component of the research life cycle." (Pope and Brandt, 1997) Focusing on practical problems as a source of research ideas and seeking applications of research that can be quickly brought to the marketplace are efficient approaches to technology transfer. Some good practices to be followed in ensuring efficient transfer of academic research findings to real-life application are:

- Focus on research that is aimed at real-world problems.
- Use of experimental tools and techniques that are time-saving and inexpensive without jeopardizing rigour or high quality.
- Use of widely available materials and components, feasible on a large scale, and pose minimum hazard to life and the environment to aid manufacturing.
- Maintenance of complete records of all experimentation, surveys, and so on, so that technologies can be reliably and efficiently scaled up.

All considerations that apply to research integrity also apply to research that is focused on applications of basic research leading to invention and innovation. It is often believed that basic research is conducted without proper consideration of the societal implications of such research. However, scientists have often taken moral positions regarding certain scientific advances. Einstein and fellow nuclear scientists urged that atomic energy be used only for peaceful purposes (Shamoo and Resnik, 2009). Ethicists discussing the responsible conduct of research have labeled certain types of research (for example manipulating a germline) to be unethical because it can endanger potential human and other life (Siegel, 2018).

In addition to such weighty ethical issues there are also mundane aspects of research integrity when it comes to the responsible conduct of research. An important part of research integrity is ensuring ownership, recognition, and acknowledgement of intellectual property. Additional consideration has to be given to financial conflicts of interest when dealing with applications of research, especially when the research is the product of collaboration.

As stated before, explicit and proper documentation of all the rights, responsibilities, and expectations regarding intellectual property at the start of the research project is extremely important, especially when there is potential for financial gain. In brief, maintaining the highest standards of research integrity, regardless of the nature of the research, is always a good practice both in the short- and long-run.

Finally, although most academic research does not immediately or always yield direct commercial value, fundamental science often underpins applied science. Basic research is at times blamed for being disconnected from the real-world problems and is also criticized for absorbing a disproportionate share of government funding.

Conclusion

This article provides a framework for good research practices. Individual honesty yields trust, and trust is paramount for a research community. It applies to the whole research enterprise, including but not limited to: peer review of research and research proposals; defining research questions; seeking and allocating resources for research; conducting research; data collection, storage, and retrieval; interpretation; sharing data and results; presenting and publishing results; training and mentoring students; and contributing to the professional community. Another aspect of academic honesty is the proper acknowledgement of contributions drawn from earlier research, fellow researchers, and collaborators. It is not always possible to know in advance when a particular line of research might lead to undesirable societal outcomes. In instances where the likelihood of adverse outcomes is high, careful procedures and constant monitoring are necessary to mitigate such risks. Unfortunately, self-regulation does not always work. Regular training, seminars, and workshops conducted by the ORI, actively promoted and supported by the senior leadership, are potentially effective ways of sustaining a culture of research integrity. Research integrity is vital for science to thrive. The values articulated here can form a sound foundation for a research culture that emphasizes integrity in the daily practice of every scientist.

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Professional Engineering Education in India: Unemployability Issues

Seema Ghosh* and Deepak Chanda**

In last three decades, higher education in India has grown tremendously and is considered second largest framework of education system in the world after China. However, the advancement in higher education has been unequal, as the professional educational branches such as engineering and technology, management studies have shown an impressive expansion whereas the courses in humanities, social sciences and sciences have not shown much change; private sector higher educational institutions have mushroomed much faster than the government institutions. With the rapid increase in the number of engineering institutes across the country has no doubt made the technical education accessible to all, but in the process, it has affected the quality of education with a huge gap between the academic teaching and the ever changing industry requirements. The evolving technology across industries have created a demand for professionals who are qualified not only with the domain knowledge but also possess industry specific skills in various emerging technologies. This skill gap has affected the quality of engineering graduates and has resulted in large number of them to remain unemployed or under employed. This paper is an attempt to examine some of the issues related to unemployability of the engineering graduates in India.

Professional education is significant in creating specialised professionals of new generation by expanding the knowledge frontiers within the framework of existing and new environment of higher education. The role of professional engineering education is becoming increasingly critical in the present world with the ever evolving and expansion of global technical knowledge. Knowledge and capabilities in engineering, science and technology is being acknowledged as fundamental element for strengthening the economic and social progress of the country. India's growth in the field of professional engineering education is impressive since 1990s with the phenomenal expansion in the technical institutions across the country which has led to the creation of skilled human capital in various technologies (Dubey et al 2019). Today, India has the largest technical education infrastructure in the world with 23 world class Indian Institute of Technology, 31 National Institutes of Technology (formally called as Regional Colleges of Engineering), 3124 engineering educational institutions offering under graduate and post graduates courses in engineering and 3076 polytechnical institutions offering diploma degrees in technical education (AICTE 2020). According to the AICTE, the regulatory authority for technical education in India, 23.6 lakhs seats were sanctioned seats available in various engineering courses in the country for 2021-22. A total of 15 lakhs engineers graduates annually from these institutions. The private sector engineering educational institutions accounts for 86 % of the engineering graduates in the country (Kapur & Mehta, 2004).The private engineering institutions takes advantage of the loopholes of the regulations and governance of the system and through their strong marketing and PR skills promises the parents and the students a bright future with good opportunity in the job market after graduation (Hodgman 2018). The expansion of the private engineering institutions, no doubt have made the technical education accessible to all in the country but at the same time the quality of education and skill development has been adversely affected. Many of the private institutes find it difficult to get good quality teaching faculty and also lack basic infrastructural facilities for providing fairly good engineering education. The majority of the engineering graduates are well versed with the domain knowledge but with rapid advancement of technology and automation across the world, the demand of engineering manpower in the job market is drastically changing with certain job roles becoming obsolete and redundant. The adoption of emerging technologies across industries requires qualified professionals with new technical and soft skills. The skill gap between what the employers are seeking and what the engineering students are

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learning has created the issues and concerns related to unemployability among the engineering graduates. 'Employability is having a set of skills, knowledge, understanding and personal attributes which make a person more likely to choose and secure occupations in which they can be satisfied and successful' (Darce Pool& Sewell, 2007). In present times, there is a flow of unpredictability in the fundamental characteristics of the labour market due to accelerated progress in innovation and technology (World Bank Report, 2019).

No doubt, the profession of engineering is a dream destination of many of the students since early days of their school. With changes in the technology platform, such beliefs get stronger till the students reaches a phase where he is ready to take the profession as his career and think about settlement in life with power and position. But when he goes through the old convention study schedules, syllabus, curriculum of the course he finds himself cheated and often regret of making the choice for going for engineering course. Moreover, students find complete disconnect between faculty and teaching methodology, which seems obsolete and out of context. With knowledge economy expanding very fast, the students are practically not nurtured with latest trends either theoretically or given the exposure practicality, thus making them unemployable. The skill set is not appropriate and the thought process that need to be sharp and agile is not shown by the students. The company in this technological era looks for a complete package of skills, adaptability, and future anticipation quality of the students, which unfortunately is not included in any of the curriculum of the engineering profession. It is essential to understand that the skills and training provided in the institutions might prepare the engineer graduates with the composition of skill sets required by ever changing environment in the labor market (Winberg et al., 2020).

Unemployment among Engineering Graduates

There is a mismatch between the demand and supply of the technical manpower in the labor market, where the supply surpasses the demand to a greater extent (Sengupta, 2017). This fact is particularly evident in the available reports and figures on unemployment of engineering students. According to National Sample Survey data, the rate of unemployment among the technical educated graduate has seen a sharp increase from 17.3 percent in 1983, 19.8 percent in 1999-2000 to 37.9 percent in 2017-18 (Khare and Arora, 2021). Among the engineers, the employability of IT engineers grew in post liberalization period when the major IT companies started training and hiring the engineering graduates for their IT service processes. This also led to the expansion of private engineering institutes and by mid 2000s, millions of engineers were graduating with the dream to work in an IT service company. The engineers graduating from other engineering fields like electrical, mechanical, and civil were also preferring to find an IT job as they were paid much lesser in their respective domain jobs. NASSCOM survey 2019 revels that 15 percent to 18 percent of engineering graduates are employed in the core engineering industries (IT and electronics), which is mere 2.5 lakhs of them. Rest of them (12.5 lakhs) are employed in non-engineering/non-technical jobs. Aspiring Minds annual employability report 2019 established that the states with higher number of engineering institutes such as Tamil Nadu, Telangana, Andhra Pradesh, Karnataka, and Maharashtra showed a lower level of employability of IT graduates, even though there are good job opportunities available in these states. In fact, five Southern States of India–Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, and Kerala accounts for about 50.2% of all engineering seats and other half of the seats are evenly distributed across the country.

At present, among the engineering courses, graduates in Information Technology (IT) and computer science are most employable with a percentage of 63.6 and 60.68 respectively. On the other hand, only 35.39 percent of the Civil Engineers are employed (India Skill Report 2022). However, the Annual Employability survey 2019 by Aspiring Minds suggest that 80 percent of the passed-out engineers are not suitable for a job in the knowledge economy. Only 3 percent of engineering graduates have the technical skills in Artificial Intelligence (AI), Machine learning, Data Engineering and mobile technologies which are in demand by the industry today. Employability of engineers in the new age technology skills is 1.5 percent to 1.7 percent and in software related jobs at startups stands at 3.84 percent only. 37.7 percent of Indian engineers cannot write code without errors as compared to 10.35 percent in China. Likewise, the proportion of engineering graduates in US having good

programming skills is nearly four times as compared to Indian engineers. This is due of the fact that only 40 percent of the engineering graduates will take up internships during their course and 36 percent of them undertakes projects which is in addition to their project work required for completion of the degree. Lack of industry exposure and hands on experience in the latest technology while in the college make it difficult for the engineers to get absorbed in the job market.

The evolving technology across industries have created a demand for professionals who are qualified not only with the domain knowledge but also possess industry specific skills in various emerging technologies. This skill gap has affected the quality of engineering graduates and has resulted in large number of them to remain unemployed or under employed. This paper is an attempt to examine some of the issues related to unemployability of the engineering graduates in India.

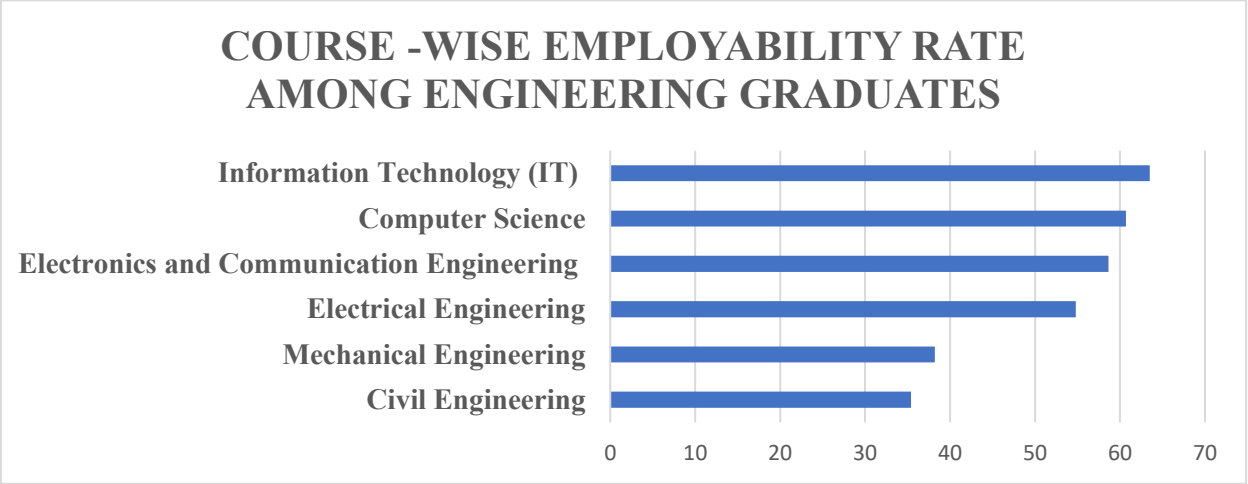
Unemployability Issues

Engineering education in India is facing challenges in terms of unemployability of large technical manpower due to the mismatch and gap between what is taught and what is practiced.

On a general observation, it is felt that there has been a set of conflicting visions and goals of the important stakeholders; this may include parents, students, faculty and governing bodies of the engineering education. The teachers/faculty of various disciplines engage the learners by simply presenting information and furnishing knowledge theoretically and thus defeating the purpose of knowledge economy. They are struggling to adapt curriculums to emerging trends and keep up with the changing needs of industry. There is a shortage of faculty who are trained and equipped with new age skills.

The governing body of the engineering institutes is more or less concerned on the political connect and has least priority on the quality of the professional output. With this vision, the little or no experience management for profit purpose, start an engineering college with state of the art infrastructure to attract students and forego any regulations or statutory compliances for the engineering education. The aspiring students also adapts to the casual way of teaching-learning and their idea shift from employable education to just acquiring a professional degree. They take the professional course for granted and assumes that the engineering degree confirms them with a good employment in the market. With such an attitude and system setup, employers find students lacking in basic technical skills. The engineering graduates are left with no option but to accept jobs in non-technical roles or remain unemployed. Many of the graduate engineers also opt to become the teaching faculty at any of the mushroomed engineering college. One of the outcome to this crisis is engineering institutions are attracting fewer students and either shutting down or slashing the number of available seats. According to AISHE MHRD report, there is an average decrease of 3.7 percent CAGR in the student enrolment in Indian engineering colleges.

Figure-1 Course-wise Employability rate among Engineering Graduates



Source: India Skill Report 2022

Many of the employing organizations are disappointed at the selection placement program, where they are not able to find the candidates with desired skills and innovation to utilize multiple channels of knowledge in problem diagnosis and solution. The prescribed curriculum lacked up-dations on scientific concepts and emerging technologies that could connect students with real life development in the field and become ready for the industry. Added to this situation is our traditional education system where the measure of knowledge is assessed based on exams only. Due to this past practice, the engineering course students are frequently bombarded with too many exams and assignments, with no significant emphasis on understanding of concepts and excelling in the subject of specialization.

There is another issue with the Universities/ Institutions offering the courses; they often lack behind to revise and update their existing curriculum in line with technological trends and demand in the industry which results in a poor outdated syllabus combined with old conventional teaching methodology. The institute/university fails to provide necessary training and placement assistance to the students due to which students are caught unaware of the corporate competition and finds themselves completely baffled when they meet with such reality. These issues are substantiated by a study report by the Federation of Indian Chambers of Commerce and Industry (FICCI) and the World Bank which states that 64 percent of surveyed employers are somewhat, not very, or not at all, satisfied with the quality of engineering graduates' skills.

Apart from the issue of revision and updating of curriculum, another concern related to unemployability is the lack of skill sets among the engineering graduates, that are essential in accordance with the industry demand. Engineering colleges have become factories to churn out manpower who may have some technical knowledge but dearth of soft skills which makes them employable. All the 21st century skills such as analytical skills, problem solving, critical thinking, communication, team work and collaboration, interpersonal skills and sociability are totally missing as a pedagogy in the teaching-learning process. Owing to the increased competition, most of the students who gets an opportunity to sit for campus hiring are eliminated in the selection process due to paucity of the diverse skills. The engineering graduate of today is not at all ready to grab and optimise the opportunities of employment which is coming to the country due to global connectivity.

The high rate of unemployability among the engineering graduates is also because of the shortage of internships/ apprenticeship opportunities. Though internships are the part of the curriculum, but majority of the institutes especially in tier 2 and tier 3 cities are unable to assist the students to locate the correct internships or may not be able to find internships at all for them. In the bargain, the students in order to fulfil the mandatory requirement of internship for the completion of the course manages to obtain the fake internship completion certificate from some organization, who issues the certificate at a price. The colleges located in Tier I cities still manages to arrange internships for their students through their industry – academia connect program where they have the MOUs agreement with the relevant industry. Moreover, the rigid class room based curriculum act as a limitation for the students for a regular apprenticeship in the industry. The students lack the exposure of the industry practices and work environment.

Final Thoughts

With such practices, evidently, the situation is quite bad; but still there is a hope. Government of India in September, 2020 brought in a very elaborative and conducive policy for education at school as well as at higher level with the nomenclature "NEP –2020". NEP–2020 envisages a definite shift from theoretical/summative assessment to regular, competitive and formative assessment; which will be more competency based, promotes learning and development, and evaluates higher-order skills like analytical thinking, critical reasoning and conceptual clarity in line with global parameters and technological advancements.

To give a professional upliftment and to regenerate faith in the engineering education, the new education policy proposes to make professional education as an integral part of the higher education system. Technical Universities will be encouraged to offer multi-disciplinary courses of international relevance. All technical institutes will be required to follow simple and strong guidelines of operation with transparent audit and disclosures that it if functioning as a non-profit organisation. There will be mechanisms in place to ensure non-commercialization of higher education. An autonomous body, the National

Educational Technology Forum (NETF) will be created to discuss the integration of technology at all levels of education in order to enhance learning, planning, administration and assessment. To improve the quality of technical education across the country, the Central Advisory Board of Technical Education will be strengthened.

Conclusion

The government of India after getting apprised of the unemployability issues and concerns among the engineering graduates wants the future of the students to be bright and in line with the changing knowledge economy. Considering the contemporary requirements of the 21st century and global pressure, the government's decision to roll out policy to provide prominence to technical education is a step towards right direction. The government is taking drastic steps to implement NEP and is targeting to provide autonomy to the institutions with an aim to develop better curriculum for the engineering streams. This may take some time, but the intentions are very clear that today's youth should contribute exceptionally well to the scientific field and become employable. The stringent regulations are must for the institutions so that the quality of education keeps on improving and the management is responsible to hire the learned teachers to impart education so that the students can fulfil their dream career.

Government of India through its policy measures aims to see that the quality education is restored to its glory and India can produce bright engineers. This may require re-engineering and re-structuring of the engineering institutions with a clear-cut view to cope up with the fast changing technology. The reforms introduced in technical education also aims to reduce the skill gap among the engineering graduates and hope that the knowledge is acquired with a purpose and corporate acceptance. This will also focus on developing a scientific mindset towards professional/ technological courses. The structure thus formulated will certainly provide a congenial environment to the students to develop reasoning and work on a workable solution to the day-to-day challenges. The government is very positive in its successful implementation and hope the vision of the country is achieved in a most systematic and learned way and thus bringing India hand in hand with global partners for a sound nation building.

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Changing Role of Teachers in India: Reflection from National Professional Standard for Teachers

Waheed Ahmad Ahanger* and Firdous Ahmad Sofal**

The New National Education Policy–2020 on its page No. 22 and Para No. 5.20 provided key information that revealed that the NCTE will be restructured as a professional standard-setting body (PSSB) under a General Education Council (GEC). The policy lays emphasis on the formulation of National Professional Standards for Teachers with a view to make teaching system more meaningful and accountable. The National Council for Teacher Education in consultation with NCERT proposed a draft document which was put in the public domain on 17-11-2021 titled as "National Professional Standard for Teachers (NPST)." It provides an overview of the teacher education and standards of teacher education in our country. The document was tabled in the academia in length with a view to provide the necessary suggestion/ feedback so that it may become more meaningful and relevant to the Indian academia.

The first section provides the basic inputs on the theme "understanding teaching as a profession". Teaching is considered one of the noblest professionals globally and is associated with social progress. The NEP–2020 document has put the teacher at the center of the fundamental reforms in the education system and aims to establish the teachers as the most respected and essential members of our society. As teachers are considered the center of the education system and were needed to pass on their knowledge, skills, and ethics optimally to their students.

The policy aims to build systems that must do everything to empower teachers and help them to do their jobs as effectively as possible, as they are the only source to our future generation as per the needs of the society. As per the UDISE data, teaching is one of the largest of all professions in our country which employs nearly 9.7 million teachers across states and we are still a deficit of I million teachers in India. United Nations defined in its eighth Millennial Development Goals in 2002, out of which the 2nd goal is to "Achieve Universal Primary Education" for all children by 2015. Among the developing nations, our country has made a significant achievement from the last decade by increasing the coverage of Universal Primary Education across the states. In order to increase and achieve our goals, our focus is now on improving the Quality of Learning and Teaching for the development of the teacher, and teacher education is most critical. In order to recruit and deploy the truly excellent and capable students into the teaching profession particularly for the rural areas, the document has put emphasis on Teacher Eligibility Test (TET) for the quality check to enhance the quality of teachers all across the country.

However, the document has tried to figure out why teachers quit and seek another profession for their careers? And why talented youth choose other attractive careers over teaching and the reasons the policy had pointed out like the low salary, high stress, no growth as the teacher stay in the same position over a very long period of time as compared to other careers are the of challenges facing by the teachers and talented youth to skip the teaching profession as a career option.

The second section seeks to explore the Professional Standards among Teachers and Teaching education. Professional standards play a vital role in the teaching-learning process. A number of nations across the globe have already developed and implemented professional standards and have focused on the skills and strategies facilitating their teaching and learning process. The document has provided a roadmap for the different career stages by defining the professional teaching standards in 5 stages path i.e., professional values, quality of teaching, teacher knowledge, teacher beliefs & actions, and measures of quality teaching. The document tries to address the vast variation among teacher training institutes and across the levels of qualifications while bringing in accountability, a quality framework such as professional teacher standards and evaluation framework for teacher education is essential. The NPST document has proposed guidelines for

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comprehensive teaching skills/ standards for the following purposes:

- Defining the expectations of the role of teachers at different levels of expertise/stage;
- Designing the initial professional preparation as well as continuing professional development of teachers;
- Clarifying the competencies required by teachers;
- Explaining the performance criteria for each career stage;
- Managing teachers careers, inching tenure;
- Addressing the professional development pathways giving the guidelines in conducting/ undertaking performance appraisals; and
- Streamlining the teacher evaluation.

The document has further highlighted the three significant interlinked factors which are impacting the quality assurance for the teaching profession i.e., context factor which deals with the input indicators for the teacher education like the quality of the institutions and it provides the pre-service and in-service professional education for teachers and the quality of educators who train teachers and other support staff. Second, process factors deal with the process indicators i.e., with the actual curricula and programs of the institutions. How the programs are offered, how they are certified trainee teachers, and how they will be helpful for teaching and learning. Third, Government factors deal with the overall monitoring and controlling of the institutions and how policies & their implementation are managed by different institutions.

To achieve the objectives, the policy document has been well guided by establishing a clear framework for successful policy setting, planning, execution, and its performance by tracking the access of professional standards for professional standards of teaching and learning. For the same, the policy has figured out six key areas i.e., clear vision; set goals; teaching standards domains; well-established competency levels; governance and monitoring; and organizational structure. The professional standards will be reviewed and revised nationally in 2030 and thereafter every ten years on the basis of rigorous empirical analysis of the efficacy of the system.

The third section explains the rules and regulations in order to monitor the design of pre-service teacher education programs. It deals with the different aspects of teacher career management, tenure, professional development efforts, promotions, salary increases, and other practices in teaching and learning.

As per NPE–2020 document on page number 26, para 5.20 revealed the reliance of NPST in the following lines "A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022, by the National Council for Teacher Education in consultation with NCERT, … …The standards would cover expectations of the role of the teacher at different levels of expertise/rank, and the competencies required for that rank. It will also comprise standards for performance appraisal, for each rank, that would be carried out on a periodic basis. The NPST will also inform the design of pre-service teacher education programmes… … … and determine all teacher career management, including tenure (after the probationary/tenure track period), professional development efforts, salary increases, promotions, and other recognitions. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal. The professional standards will be reviewed and revised nationally in 2030, and thereafter every ten years, on the basis of rigorous empirical analysis of the efficacy of the system". In order to address the teacher readiness highlighted in the NEP–2020 policy document has a set of guided provisions has been proposed in NPST. Further, NEP–2020 drafted document argued that the teachers require to be grounded with the Indian culture by putting emphasis on their own languages, knowledge, ethos, and traditions while also being well-versed with the latest knowledge, technology, and pedagogy. The National Professional Standard for Teachers (NPST) argued that we need what constitutes teaching quality and what is required to improve in our educational outcomes among students and all such activities should be made available in the public domain so that a clear feedback/suggestion to improve our standards on time to time.

The National Education Policy 2020 on page number 13, para 4.1 has given clear guidelines for the Restructuring school curriculum and pedagogy in a new 5+3+3+4 design, consisting of the Foundational Stage (3 years of preschool + Grades 1-2, covering ages 3-8), Preparatory Stage (Grades 3-5, covering ages 8-11), Middle School Stage (Grades 6-8,

covering ages 11- 14), and High School or Secondary Stage (Grades 9-12 in two phases, i.e., 9 and 10 in the first and 11 and 12 in the second) stages respectively. However, the current National Professional Standard for Teachers (NPST) document proposes a well-planned four career stages and professional standards for teachers at each stage. They are as follows:

1. Beginner Teacher (Pragammi Shikshak);
2. Proficient Teacher (Praveen Shikshak);
3. Expert Teacher (Kushal Shikshak); and
4. Lead Teacher (Pramukh Shikshak).

In order to achieve specific competency standards for teachers have been proposed in the NPST have proposed the four stages of career competency stages and career competency for Continuous Professional Development (CPD) and to be achieved Continuous Professional Development (CPD) NEP–2020 has made in a clear and loud voice that the requirement of mandatory 50 hours per year of continuous development driven by their own needs and choice (NEP–2020, para 5.15).

The competency mapping and progression to different career stages proposed and available in NPST are explained as follow:

Initial Level 1- Beginner Teacher (Pragammi Shikshak)

This is the initial stage where the proposed policy has argued that a teacher who meets the standards under the 'beginner teacher stage' shall be hired by the schools for teaching the learners at a particular school level. At this stage, a new teacher will be expected to demonstrate competencies related to the different teaching techniques in terms of content knowledge, pedagogical knowledge, and skills. The new teacher is supposed to monitor the school and the teaching competency collect the evidence of his/her practices and reflect on the learning in the context of the competencies learned in the pre-service education. Once the new teacher settles in the teaching competency and reached the optimum level of performance, then he/she will be guided towards applying for their skill evaluation and achieving towards preparing for the next career stage, i.e., the proficient teacher stage'.

Reaching Level 2- Proficient Teacher (Praveen Shikshak)

As per the NPST proposed document, the proficient teacher shall be supported by in-school mentors in strengthening the knowledge that he/she has acquired in the professional development programs and their practice in the begging or initial stage. The school-based mentors will evaluate his/her proficient teachers against proficient teacher standards and the school mentors will help him/her by providing feedback and helping him/her in improving and achieving the set proficient teacher standards. Once a proficient teacher achieves and reaches his/her optimum level of performance, then he/she will be guided to the next career stage which is the Expert stage. In this stage the proficient teacher will be asked in the same way as done in the first stage i.e., to collect the shreds of evidence and other allied material of his/her so that clear feedback will be made for further improvement.

Career Level 3-Expert Teacher (Kushal Shikshak)

In this career stage, a teacher will have a high level of teaching performance in their teaching skills and practices, he/she will work collaboratively with his/her colleagues by providing support and they will mentor and evaluate their teaching and learning skills in a scientific manner. In addition to it, an expert teacher will constantly monitor their professional knowledge & practices and expert teacher shall involve their peer observation which will help to improve their professional knowledge and reflect their professional competency for their own and others learning. The lead teacher shall review the expert teacher against Expert Teacher Standards and shall mentor them for advancing to the next career stage. Here they will be guided towards acquiring skills and developing shreds of evidence related of the next career stage, i.e., Lead Teacher Stage.

Career Level 4-Lead Teacher (Pramukh Shikshak)

In this career stage, a teacher is expected with the highest standards of teaching and is grounded with best practices related to the teaching-learning process. As per the NPST document, this stage exhibits an exceptional level of capacity to improve its own teaching practices. The school management shall monitor and evaluate Lead Teachers against lead teacher standards and lead teachers would be taken the lead role in mentoring their peer groups which are in their earlier stages of a teaching career and shall lead in leader in-school professional development programs.

Areas & Standards of National Professional Standard for Teachers (NPST)

The NPST policy document has proposed the framework for the career dimensions for teachers and is arranged in the following four interrelated areas called 'Standards' covering multiple domains and are as follows:

Core Values and Ethics: The NPST policy has formulated the cover domains related to core values and ethics for a teacher, which is expected to develop at each career stage i.e., constitutional values; professional ethics, values; commitment to students; professional relationships; commitment to the profession and responsible & ethical use of technology.

Professional Knowledge & Understanding : It deals with what a teacher is expected to know and understand about their students and about teaching-learning. The policy has formulated a clear roadmap about the knowledge & understanding of the subject area; factors associated and that affect students learning and understanding; pedagogical knowledge about the subject concerned; curriculum structure and finally technological use & how to integrate it with education.

Professional Competency & Practice: Professional Competency & Practice aspect deals with the professional knowledge and skills that a teacher is expected for carrying out teaching-learning assessment practices and being able to perform them effectively. The following set of standards like how to prepare a learning plan; how to deliver a lesson delivery in an effective way; classroom components & dynamics; effective classroom communication and assessment of & as learning.

Professional Development & Growth: Professional Development & Growth aspects deal with the improving professional knowledge, allied competence, and practice that a teacher is expected in this stage and the policy made it clear that mandatory 50 hours per year of continuing professional development of teachers. It has formulated it mandatory for continuous professional development; to know the learning needs of diverse students; proper reflection and engagement & participation in a learning community.

Conclusion

National Professional Standard for Teachers (NPST) is a visionary document that has been developed by NCTE in support of different experts and it was placed in public domain w.e.f November 17, 2021, for the period of one month to invite suggestions/ feedback on its different aspect from all stakeholders. It defines the work of teachers and makes explicit elements of high-quality, effective teaching in 21stcentury schools that will improve educational outcomes for students. It will govern the teaching profession in the country in relation to its professional role. In addition, NPST will aim to improve the teachers' personal and professional development by providing them an understanding of what is expected in terms of their performance and what needs to be done to enhance the same. The document is based on three chapters; the first section provides the basic inputs on the theme "understanding teaching as a profession"; 2nd section seeks to explore the professional standards among teachers and teaching education and the third section explains the rules and regulations in order to monitor the design of pre-service teacher education programs. The objective of the NPST document is to align the vision and the goal of NPE–2020 with the domains of standards across the competence levels for Indian teachers and accordingly detail out the standards. The invited link for the suggestions/ feedback on its different aspects from all stakeholders has already been closed. Let's wait and watch how the final policy document will be framed with the vision and the goal of National Policy of Education, 2020 for the National Professional Standard for Teachers.

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Role of Teachers in Inculcation of Values

Saraswati Rachayya Ratkalle*

Values are our personal measure of worth shaped by our beliefs, ideas and principles that are important to us. They shape our priorities and guide us in deciding what is right and wrong, values reflect our attitudes and what we belief about everything, people values differ. The power of values arises from the fact that, they help us transcend ourselves. Values are what we consider valuable. Placing any ideal of perfection above our own personal convenience and interests expands our personality and opens it to wider and higher influences. The pursuit of higher values is the pursuit of spiritual truth. The expression of higher values is to bring truth down into one's life. "Values are the ideals, beliefs, or norms which a society or the large majority of a society's member holds, (Kane, 1962).

Values are the integral part of personal philosophy of life which we generally, mean the system of values by which we live. The philosophy of life includes our aims, ideals and manner of thinking and the principles by which we guide our behaviour and conduct our affairs," (I.J. Lehner and N.J. Kube, 1967). ''values are the global beliefs derived from our cultural tenets that affect our attitudes, motivation, needs and perception and also guide and direct our actions across a variety of situations, likewise every society expects us to behave in a socially approved way by fixing such norms, and people like teachers those who hold and behave in those norms are approved by the society. Society calls these norms as social values and every individual values and social values are changing through an evolutionary process and also influenced by family or society upset technological economical, cultural changes."

Values are natured by habits in our everyday life when habits are cultivated by family, institution and society often children's have some conflicts over values, since the information, communication and entertainment take a dominative place both value conflicts and crisis are becoming evolutionary process. So it is the need to identity the role of education to teach values by the teachers to the children, is more important. Values core beliefs which guide and motivate attitudes and behavior.

Teachers is the means to change the society and citizen of this Nation by inculcating value in students school education is the base of education. A value is something essential for one's life and something that some considers, worthy of possession. Money property, land or other kind of wealth is value to humans. These may be called material values. Freedom, truth, love, etc. and also of value to humans. These may be called moral or human values. It is the aim of education to develop certain desirable human values in the children. Values are abstract. There is necessity for students to realize at some stage of their education that it is his/her duty to develop by consistent self-effort any value he or she desires to acquire.

According to Dr. P.N. Mathur (1986), these values of humans, which provides the prime motivating force, behind his thoughts, emotions and action, have to be moral and spiritual of his socio-cultural and spiritual life has to be such as brings peace, progress and welfare for both the individual and society. "Values make men's lives meaningful and give them a sense of direction. A value is thought to be a kind of super attitude at a higher level of abstraction," (Benjimen, 19730.

Garrett (1975), defines value as, certain behavior or ways of life regarded as more desirable. Than others self determination, self realization and self integration are the hall marks or dimensions of good life. All of our actions are decided if we believe that, it is a right thing to do is ought to do and it is the best available alternative is the best to do."

Nature and Concept of Values

Anthropologist Kluckhohm, noted that, the concept of values involves the concept of the desirable, which influence the selection from available modes, means, and ends of action." Value implies the code or standard, which has some persistence through time or put more broadly which organize a system of action. Values conveniently and in accordance with received usage, place, things acts, ways of behaving goals of action, on the approval disapproval continuum.

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A value is a normative proposition, it meets a need that seeks to satisfy or that finds its meaning in a universal truth accepted, by the subject. At the same time, it is made up either of an object of partially importance for the subject agent or of a higher truth, it has a prescriptive nether and a person is subject to a continuous efforts to assert the values in which he or she believes. Every individual is born with a unique constitutional makeup and his/her individuality is reflected by his/ her inner thoughts, beliefs and attitudes, shaped by his/her surroundings and so their behaviour is identified by their own values, as Goldsmith (2000) said, "Values are principles that guide human behaviour in certain ways. Thus the vales are the deep seated psychological construct that direct our preferences to achieve what is good in life."

Need of Value Education

The value system accepted by our teacher will influence the choice and selection of values made by the students. Teacher should develop a very positive attitude towards all personal values and inculcate such values in the pupils Teacher should give to children a life - building, man-making and character making education.'' Swami Vivekanand said, "Excess of knowledge and power without holiness, makes human beings devils". Values give meaning and strength to a person's character and it is often reflected by his own attitudes, judgment, decisions, preference, relationship and behavior by occupying a significant place in his life. Thus, values are understood as the integral part of personal philosophy of life of human beings.

On the other hand, values are natured by habits in our everyday life when habits are cultivated by family, institution and society often children's have some conflicts over values, since the information, communication and entertainment take a dominative place both value conflicts and crisis are becoming evolutionary process. So it is the need to identity the role of education to teach values by the teachers to the children, is more important. ''Values are core beliefs which guide and motivate attitudes and behavior.''

When special significance or meaning is attached to some objects or events, they get a value. A value is something essential for one's life and something that some considers, worthy of possession. Money property, land or other kind of wealth is value to humans. These may be called material values. Freedom, truth, love, etc. and also of value to humans. These may be called moral or human values. It is the aim of education to develop certain desirable human values in the children. Values are abstract. There is necessity for students to realize at some stage of their education that it is his/her duty to develop by consistent self-effort any value he or she desires to acquire.

Role of Teacher in Inculcation of Values

As Mahatma Gandhi rightly said that, "Wealth without work, pleasure without conscience, knowledge without character, commerce without morality, Science without humanity, worship without sacrifice, politics without principle is sin." Hence the role of teacher is to inculcate good values with value rich education is very important. Value education is referred to as deliberately planned education aimed at the development of proper attitude the teacher is the key person, who can inculcate all the required values in students. This task would become easier, if the teacher through his personality, character and actions sets as an example before his students.

Report on value education 1999 parliamentary standing committee on human resource development says, while it is all right to school teachers, to play a key role in value inculcation in their students. Most of the teacher knows how to teach their own subjects but they do not have any inclination, desire or aptitude to teach value education to students. So teacher should have good personal values, as an ideal for students. So the role of teacher is very important in inculcation of values.

In Indian thought, the teacher is the source of inspiration and also a model for the development of moral and personal values; not only among his pupils but also in the society. The teachers' task is not merely to impart knowledge. He has also to mould the characters of his pupils and through them the character of the entire society. Character building includes the development of moral as well as human values. Character building on the basis of truth is the aim of education. Various commissions and committees of the Government of India have underlined the importance of value-education.

Value education should be imparted indirectly and in the school atmosphere, personality and behavior of the teacher as well as the facilities provided in the school will be significant in developing a sense of values among the students. It is not one teacher but each and every teacher of the school who should assume the responsibility for the building of the

character of pupils / students. A teacher can indirectly make an impact of the moral of the lesson on the minds of students and all activities reflect the desirability of promoting values in the life, tone and atmospheres of the school.

The teacher should adopt his own technique in order to inculcate essential values by their own personal values and ideals. School as a subsystem of overall social organization is expected to act as an agent of preserving and strengthening the social structure and should therefore implement the value system of the society in terms of aims and objectives for various school programmes. Keeping in view the requirements of providing facilities for all round development of the pupils/ students.

The students should imbibe the all personal values, moral values and the school should provide all the necessary activities and programmes to inculcate these values in the students .school education is the foundation of children's life. He carries and maintains the social and moral skills acquired by him during her / his school days. Hence it is the duty of the teacher to inculcate of the teacher to inculcate values in the students. Effectively by setting his own example regarding the application of personal values in his / her day to day to day life. There is no denying the fact that our life on this planet has been greatly enriched with incredible scientific advancements. Unfortunately however the rapid progress has brought in a great deal of anxiety which pervades our minds.

Values play an important role in the life of an individual. The consistency of thoughts and action of an individual is a result of the values possessed by him/her. Their attitude strivings and desires all are governed by the system of values he possess. The system of values which our younger generation might accept is also to be influenced by the value pattern accepted and used by the teachers in the school. So it is necessary to study the attitude of personal values of teachers. Values reflect one's personal attitude and judgments, decisions, choices, behavior relationship and vision. They influence our thoughts, feelings and actions. They guide us to do the right things.

HR. report on value based education (1999) has also emphasized the importance of psychological development at different stages in the following words. "Teachers should be introduced to the concept of value education by inculcating values in students in tune with the different stages of their psychological development. Man acts to satisfy his wants. Anything that satisfies a human want becomes a value. To say that our conduct is motivated by our values is another way of saying that we act to satisfy our wants There is a great deal of concern today with the problem of values. Youth is almost in every country is deeply uncertain of its value orientation. The values associated with various religions have lost much of their influence sophisticated individuals. Parents, teachers and society present various patterns of values to the young generation and influence the value patterns possessed by them.

Conclusion

The role of teacher is to inspire students and inculcate in them desirable attitudes and values. At the heart and core of educational process is the teacher. The pupils must be provided with confiscating situations while teaching by the teachers, teacher's personality, behavior and personal values are important. Emphasis should be given to the relevant points helpful in development of faith in these related developments of faith in values School environment and academic climate and the teacher's personality and personal values provide rich experience to inculcate values in the students. Teacher's personality, behavior and personal values are very important. Emphasis should be given to the relevant points helpful in development of faith in these related developments of faith in values. Accordingly the value system accepted by our teachers, influence the choice and selection of values. The values followed by teachers, are also accepted by students. So, the role of teachers is very important in inculcation of values.

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Research Entrepreneurship Synergy

Padma Vibhushan Anil Kakodkar, Former Chairman, Atomic Energy Commission of India delivered the Convocation Address at the 9th Annual Convocation Ceremony of Indian Institute of Technology, Mandi (Himachal Pradesh) on 23rd October, 2021. He said, "We are now in an era dominated by high end technologies like Semiconductors, Artificial Intelligence, Computing and Telecom, Clean Energy, Advanced Aerospace and Pharmaceuticals. Soon new frontiers technologies exploiting Genetics, Quantum Physics, Cognitive and Brain Sciences etc. would start dominating. We need to close in our gaps in these technologies which currently seem to be expanding. Not being able to do so would not only put us at disadvantage but could in fact make us vulnerable through emergence of new technology denial regimes even in commercial sectors, holding hostage entire segments of our nation's economy. We thus must quickly become a massive producer of high end and frontier technologies. A well-knit research entrepreneurship ecosystem involving close partnerships between academia, industry and government is a critical necessity for this purpose. This is a necessity for our national security, our economic prosperity, and our societal well-being." Excerpts

IIT Mandi is one of the newer institutions among the chain of IITs, a system of higher technology education and research institutions in the country that has done India proud. I remember, I had visited IIT Mandi during its early years of formation. I also had interacted with Prof. Timothy Gonsalves, your founder Director during our working together to implement the recommendations of Kakodkar Committee on IIT reforms. I have thus, some nostalgic feelings as I participate in this convocation.

My congratulations to all those graduating today. The world today has unprecedented challenges as well as opportunities before it. I am sure, graduating from IIT Mandi would turn out to be a great asset for you, as you move forward in your career. May all your dreams be fully realised.

I wish to use today's occasion to talk about research entrepreneurship synergy. I believe that this should be an urgent focus for us where IITs and more particularly the newer IITs can lead from the front. We need to enhance our research excellence and also bridge the research entrepreneurship gaps on one side while we shape our young people with right capability and mindset on the other. Our institutions have to be both knowledge creators as well as value creators. Between the years 2008 and 2018, India's publications of science and engineering articles increased from 48,998 to 1,35,788, an average annual growth rate of 10.73 per cent. The country now accounts for 5.31 per cent of the total world publications in science and engineering and stands at the third position behind China and USA.

While we have a lot of further ground yet to be covered both in terms of numbers as well as quality, we are well on our way to become world class knowledge creators. However, in the context of value creation, India ranks 40th on International Intellectual Property Index and stands at 20th spot among the top 100 countries that have been ranked in the Global Start up Ecosystem Index 2021 by the Start-up Blink. We have done relatively better in a short time in the start-up space. However not all start-ups can be categorised as high-tech start-ups. While innovation does spur economic growth, we need innovations in high-tech space to become globally competitive. This is where IITs have to lead and make a difference to the country. Something that has started happening.

An extreme example for us to emulate is Stanford University whose alumni and faculty have created nearly 40,000 companies that generate around USD $2.7 trillion in annual revenues. The Industry and Research University ecosystem, like Stanford University – Silicon Valley are great success stories. Our IIT Madras Research Park is a good beginning in this direction. More such examples are in the making. We need many more such initiatives.

We are now in an era dominated by high end technologies like Semiconductors, Artificial Intelligence, Computing and Telecom, Clean Energy, Advanced Aerospace and Pharmaceuticals. Soon new frontiers technologies exploiting Genetics, Quantum Physics, Cognitive and Brain Sciences etc. would start dominating. We need to close in our gaps in these

technologies which currently seem to be expanding. Not being able to do so would not only put us at disadvantage but could in fact make us vulnerable through emergence of new technology denial regimes even in commercial sectors, holding hostage entire segments of our nation's economy. We thus must quickly become a massive producer of high end and frontier technologies. A well-knit research entrepreneurship ecosystem involving close partnerships between academia, industry and government is a critical necessity for this purpose. This is a necessity for our national security, our economic prosperity, and our societal well-being.

Rural Development

As we prepare ourselves to be in the forefront of emerging high-technology and be a front runner in the global competition, we need to be also aware of bridging the urban – rural gaps which seem to be growing. Rural development in India in fact needs a special focus. Two third of India lives in villages with less than half per capita income as compared to urban areas. Bridging the urban rural divide at least in terms of livelihood opportunities is thus a matter of urgent necessity in our country. The emerging era of knowledge driven economy that facilitates democratisation and decentralisation of economic activities is thus a great opportunity for transformation of rural horizon. This however would involve capacity building of local people in dealing with emerging technologies and also ability to internalise technologies and build on them including solving problems during their implementation, locally. Eventually we should create a locally relevant innovation ecosystem that can leverage the opportunities of knowledge era. In principle, I believe, one could have greater opportunities in villages rather in cities reversing the industrial era paradigms. CILLAGE – a knowledge integrated sustainable village development model aims to leverage new and appropriate knowledge-based technologies, including some created locally, to create additional and higher-level livelihood opportunities in villages that also include manufacturing and service sector activities in addition to agriculture and allied activities.

In the CILLAGE concept, a local Higher Technical Education Institution (HTEI) serving as a Knowledge Partner (KP) hosts a Rural Human and Resources Development Facility (RHRDF) and linked with local community institutions and NGOs, works for deployment of appropriate technologies for enhanced livelihood and related educational and knowledge support in the neighbourhood. To facilitate sustained and comprehensive engagement between RHRDF and the neighbourhood, a number of AKRUTI (Advanced Knowledge based Rural Technology Initiative) sub-centres need to be established in proximity with existing schools. RHRDF and AKRUTIs would be the bridge between HTEI and the neighbourhood to spread technology enabled livelihood, ICT enabled school education etc. on one side and solving problems in implementation of new technologies and search for new R&D problems on the other. The eco-system so created could also participate in deployment of other Govt. Schemes.

Spread of technology adoption and continuous access to new technologies could create better livelihood opportunities in rural domain that eventually compare well with opportunities in urban domain thus leading to convergence of best of city (i.e., opportunities for self-progress, modern infrastructure for education etc.) with best of a village (i.e., clean, calm and eco/human-friendly environment). Thus, the selected cluster of villages (Cillage) around a vibrant knowledge institution can be expected to become preferred working destination for young innovative and creative generation for leveraging local human and raw material resources on one side and new knowledge technologies on the other. Cillages could thus become places, better than both cities and villages and may become the preferred habitats for the new age society in most of emerging India. This approach is being tried out on an experimental basis at a few places in Maharashtra. Advanced knowledge and technology institutions like IIT Mandi could be the fountain heads for creating Cillages, spearhead development and minimise disparities.

Technology with Human Heart

IITs and IIT graduates have a special role in this context. Technology and technology products that offer differentiating capability to their users, significantly add to their competitiveness and hence to their power both in the market place as well as strategically. This has several ramifications for our national progress as well as our relative position in the competitive world that exists around us. Both these dimensions are of immense importance. While the technology empowers

humans, the education that we provide to our young people should also make them responsible and ensure that technology remains non-exploitative and is used to empower everyone around through knowledge and minimise the disparity gaps that are becoming alarming by the day. This requires bridging the gaps globally to eliminate security deficit and usher in peace as also bridging the disparity gaps within the country to eliminate rich-poor, urban-rural and such other divides even as the technology uplifts the society as a whole. While this is a complex matter having multiple dimensions, I do believe that knowledge and more particularly knowledge technologies can be most effective in addressing this challenge. That is where graduates from IITs, which are India's foremost knowledge and technology institutions come in. I do wish all of you to be successful in your professional career and make an important difference to our country in the above context.

I wish that all of you would give some serious thought to what I have said above and decide your respective course of action. It should be our collective endeavor to progressively move towards making the world a better place to live. Through a lifelong learning process and maintaining knowledge institutions, industry and society interconnected with each other, each one of us, regardless of career we decide to pursue, can meaningfully contribute to this objective. After all we are all in this world to play our respective roles. Our happiness and joy of life depends on how well we play our roles.

To dear students, I once again wish all of you well in your respective further pursuits. I am certain, you would rise progressively in your respective careers. I do hope that as you rise, you will retain in you a spirit of trusteeship and contribute substantially to your roots, the society around, the institutions that brought you up and the nation at large. It is this spirit of trusteeship and the desire to support others who were not as fortunate or as successful as us that makes this world a better place.

We must remember that our happiness depends on the happiness all around us. Once again, my best wishes to you all.

Thank you

Online Academic Conclave on Alternatives to Board and University Examination

One-day Online Academic Conclave on 'In Search of Alternatives to Board and University Examination' was organized by the Educational Technology and Management Academy, Gurgaon, Haryana on June 26, 2021. About sixty four scholars from various parts of India, Canada, Sweden, and Bangladesh participated in the Conclave.

After a formal exchange of greetings, Chairperson of the Session, Prof Madhu Parhar, Head, Educational Survey Division, The National Council of Educational Research and Training (NCERT), New Delhi briefly introduced the invited speakers of the panel namely Shri Pramod Tripathi, Director (Academics), Global India International Schools, Singapore, Prof M M Pant also a Member of ETMA Council was introduced as a distinguished information scientist, former Pro Vice Chancellor of IGNOU, and an unconventional thinker. Prof. Parhar also mentioned one of the tweets posted on 17th June, 2021 by Prof M M Pant *(https://mmpant.com/2021/06/17/educating-oneself-for-an-unknown-and-uncertain-world/).*

Prof Indrani Bhaduri mentioned that the total focus should have been on the learning loss during the pandemic lockdown. Should educational scientists find out alternates to learning?, Prof Bhaduri questioned. Learning algorithms will lead to strategies for assessment. Learning and assessment go together. NCERT has been talking throughout about these school-based assessments. We need to explore more evidence-centred and teacher-relying assessment procedures. Prof Bhaduri said that there should not be any trust deficit between educational planners and the soldiers on the ground, teachers. In the assessment system, objectivity is ideal, but subjectivity is equally important. The assessors also need to understand that assessment has not only to be limited to the curriculum alone. Other inherent competencies have also to be taken into consideration. The same stands true for non-academic subjects such as foods or any others. So, holistic assessment should of the students needs to be carried out. We have the national achievement survey as well as international achievement surveys. We have the TIMSS, the PISA and so on. We need to understand the basic difference between the two; when I'm talking about the assessment of the mechanism, we are trying to understand the system. The methodologies that are used for large-scale studies cannot be used for a single student. As there are many ways of learning, so there are many ways of assessment. That is why the paper-pencil test is not the only source of assessment. Assessment is putting the child in different challenging situations. I'm using this platform to promote foundational learning and foundational assessment as well. All in all, the tests and assessment procedures should help the child to learn, Prof. Bhaduri concluded.

Prof Pant started his presentation with the story of Einstein. According to him, in the changed circumstances, the questions which boggle the mind are---What do we teach? How do we teach? How do we assess? Where do we assess? Einstein mentioned in 1905 or 1906 while he wrote four papers. One of the papers was on the Brownian movement; another paper was on the theory of special relativity, the photoelectric effect. He got the novel prize, and still, another was on the famous equation of mass and energy that is $E= MC^2$. The question is--why did he write these papers: other great scholars- researchers like Max Bond, Max Planck who interpreted physics in a rigid situation. Einstein changed the laws of physics. A pretty similar situation is about the present assessment system.

All said and done, the Board exam results should come with a statutory warning that the given scores do not correlate with the skills and abilities of the candidate. Reasons being that research says that the answer to a question may vary from person to person and time to time. Marks of the same answer may vary enormously depending on the examiner, even in moralistic subjects like Mathematics and Science. Prof Pant elaborated that every judgment is written based on the available facts and circumstances of the case. Prof Pant quoted a book, 'The fourth education Revolution' by Anthony Seldon. He

also talked about Seldon's career, Buckingham University and Wellington College. He also shared his rich experience as a member of the board of management of IIT Delhi. He said that a student could answer all the questions (5 or 6 questions) wonderfully well. But there is no guarantee that student knows anything. That is why we need to have a comprehensive examination. In this age of artificial intelligence, one can say what is written in the book without looking at the book because they can ask Alexa, Google, etc. So higher level of effects is important. We should go for higher-level analysis, synthesis and creativity. Prof. Pant gave an example of the language learning free App 'Duolingo'. The App started at Carnegie Mellon University (CMU) in Pittsburgh, Pennsylvania, USA. He also talked about Reliance affordable smart phones, which will have all the features like augmented reality, artificial intelligence, camera, text to speech, speech to text, translation, etc. Can't we have a similar assessment to reach Bloom's Mastery learning. He said that pandemic had allowed us to do something new, think anew, change, and move forward. So, let's not think of going back to normal. Let's think of going to the future where we can address the challenge of numbers, the challenge of assessing the quality, the challenge of relevance. Against a question on school education, Prof Pant said that the school education is not preparing students for the University; it prepares the person to lead a life as an adult, without entering the university.

A threadbare discussion by the participants followed Prof Indrani Bhaduri and Prof Madan Mohan Pant's presentations. Ms Nirmala Thakur appreciated the thought of Prof. Indrani regarding the Trust factor between the Planners and Soldiers (Teachers) on the ground. Prof. Sudesh Mukhopadhyay, while appreciating the ideas of the presenters, said that the time has come when we should discard the Normal Probability Bell-shaped curve of normal distribution of abilities in the students. She also advised thinking about recording what all a person can do and potential areas of growth and development. Some schools have such records even 15 years back, but there are now too many centralised orders and regulations. Ms Nirmala Thakur brought home the point that a comprehensive document of a student's learning journey needs to be prepared. Dr Shivananda emphasised Prof Pant's contention that the disclaimer in the report card needs serious consideration. Mr Salil Adak asked how much does an exam help the students in learning? While highlighting the involvement of parents, he pointed out that the teachers and the parents must be exposed to lessons in child psychology, developmental psychology, etc. to change their mindset on evaluation, especially score-based assessment. He added that the parents are not empathetic to their children in most cases, keeping in mind unidirectional development. Ms Sushma Sardana said that as teachers, we should prepare students for the Board examination and the whole life with relevant skills and values. We, as members of society will have to bring the change slowly and surely by talking about it to all around us. Dr Som Krishan and Dr Mrinal Mukherjee emphasised that the learners and parents must be taken into confidence. He further asked, "What should be the nature of the format of the entrance test?" That is how such selection criteria may be reframed and realigned with transversal competencies. Sushma Sardana pointed out that the entrance exams and public/board exams nowadays have some common components others who actively participated in the discussion were Ms Shalini Agarwal, Dr Sanjay Kumar Yada, Prof. Debasri Banerjee, Dr Tripti Bej, and Dr M N Baidya. Prof. Madhu Parhar concluded with remarks that COVID-19 has made the education scientist to realise that the conventional system of assessment and evaluation is no more relevant than the true evaluation of learning and skills. The alternate to the existing system of evaluation and assessment is most desired. It should be done at the earliest to save the blooming skills and abilities from the stranglehold percentage scores.

International Conference on Open Access Sources and Information Services during Post-COVID Times

A three-day International Conference on 'Open Access Sources and Information Services during Post-COVID Times: Challenges and Opportunities' is being jointly organized by the Dravidian University Library and DLISc, Indian Library Association (ILA), New Delhi, Andhra Pradesh Library Association (APLA),Vijaywada and Madras Library Association (MALA), Chennai during March 24-26, 2022 at Dravidian University, Kuppam, Andhra Pradesh.

In the present digital environment, the process of scholarly communication has been changed on par with the emerging digital communication, technologies and virtual network among the scholars. The Open Access (OA) movement is one among the many factors contributing in the information generation and dissemination. Libraries are supporting OA publications in the provision of information services and the use of these sources are more seen during pre-COVID pandemic environment and it continues even after that period. OA publishing provides free access to scholarly literature available over the internet and it has gained sufficient moment in the recent years. Accordingly a sizeable quantum of OA literature is being available on the web domain. Here lies the role of library professionals to advocate and propagate the use of such literature and shall bring to the knowledge of the clientele. The Subthemes of the event are:

- Scholarly Communication and Open Access (OA) Movement and Initiatives in different countries – Genesis, Trends and Developments– Theory and Philosophy of OA.
- Open Access Publishing and OA Journals initiatives in various subjects: trends, developments and present status.
- Information Access and Open Educational Resources (OER) – MOOCs- SWAYAM etc., - Utilization of OER in the Academic Environment : Issues, Challenges and Opportunities.
- Open Access Tools and Services – DOAJ; DOAR; ROAR; SHERA; ROMIO etc., - Selection and Evaluation criteria for the OA sources.
- Free and Open Source Software (FOSS)- Application of Open Source Software in Libraries: Challenges and Opportunities.
- Information Services during Post COVID times: Case Studies – Role of Libraries in promoting OA.
- Information seeking behavior through Open Access sources: User Perception on OA sources– Metric studies on OA sources.
- Role of Institutional Repositories, Electronic Theses and Dissertations (ETDs) and Digital Libraries including Consortia during Post COVID times.
- Intellectual Property Rights (IPR) and Open Access Rights: Problems and Challenges – OA environment vis-à-vis IPR – OA and Plagiarism in Scientific Writing.

For further details, contact Organisnig Secretary, Dean, School of Science and Technology, Dravidian University, Kuppam, Chittoor-517426 (Andhra Pradesh), Mobile No: 9440219118, 9391235754. E-mail: *mdoraswamy@gmail.com; mdoraswamydu@yahoo.com*. For updates, log on to: *www.dravidianuniversity.ac.in*

World Conference on Feminist Futures in Precarious Times

A three-day World Conference on 'Feminist Futures in Precarious Times : Decoloniality, Borderlands, and Transformative Visions' is being organized by The International Institute of Knowledge Management (TIIKM), Sri Lanka during May 12-14, 2022.

How can feminisms and Women's Studies help scholars, policymakers, students, and practitioners navigate the complex precarity of the world today? Climate emergencies are producing climate refugees. Billionaires, horde the world's resources while others starve from inequitable policies exacerbated by human exponential population explosion, loss of biodiversity in a 6th mass extinction, and global pandemic. These are precarious times indeed, especially for the most vulnerable among us, women and children, particularly those of marginalized, minoritized social statuses—caste, race, ethnicity, religion, sexuality, disability and the like. Even among those of us who are more privileged, mental health crises are rising through the daily stresses of inflation, poor air and water quality, difficulties accessing health care and other services, long working hours, battling stereotypes and micro-aggressions, combined with the existential awareness of overarching planetary problems. Most ironic, is that many of the ideas for how to transform current realities exist. The problem is in the intractability of human socio-cultural, political, and economic systems, slow to move, stifled by those in power.

Feminists have galvanized change in societies worldwide for over a century and a half and must continue to do so, in spite of pushback. In fact, pushback is the inevitable response when the status

quo is threatened by those who think they have the most to lose and who measure their loss in material wealth and the capacity to make decisions over others. Thus, humanity is always in need of transformative visions—visions for how to enact change, visions about the nature of change. Feminist decolonial curricula and scholarship, meaningful across borders, are increasingly shedding light on global histories of multiple colonizations, power abuses, and imperialisms. Their truths and pathways for decolonizing minds and bodies can uplift our spirits in hope of a different imaginary. Coalitions built across borderlands, galvanized by optics that are egalitarian, equitable, humane, ecological, queer/non-binary, must be taught in new pedagogies, inspiring the young, creating new social structures in the home, among peers and colleagues, in the workplace, in governing bodies. They must be translated into languages that all understand to bring about the great changes that we need. The Topics of the event are:

- Queer Optics and Feminism.
- Land rights.
- Reproductive Politics.
- Precarities and Vulnerabilities.
- Protests and Uprisings.
- Black Lives Matter.
- Dalit Lives Matter.
- Climate Refugees.
- Gender Equality and Educational Systems.
- Toxic Masculinity.
- Resocialization of Men.
- Socialization of boys.
- Legal remedies.
- Implementing law.
- Law and accountability.
- Inheritance rights.
- Gender and Sexual Diversity.
- Women's Human rights.
- Women, Climate Change and Inequality.
- Women Empowerment and Social Change.
- Challenging Male Dominance.
- Consciousness-raising.
- Men as allies in the struggle.
- Women and Sports.
- Women, Media and Technology.
- Transgender Rights and Sexual Diversity.
- Women's Success Stories.
- Cyber Feminisms—Blogs, Zines, and Reproductive Rights.
- Activist Art.
- Feminism and decolonial praxis.
- Women's Spirituality and Religion.
- Trafficking and Prostitution.
- Women in Politics and Public Administration.
- Women and Religion.
- Women and Islamic Sharia.
- Motherhood and Work-Life Balance.
- Equity and Equality.
- Laws and Policies.
- Gendered and Sexual Diversities.
- Gendering the COVID-19 Pandemic.
- Gender and Intersectionality.
- Feminist Pedagogy and Writing.
- Gender and Migration.
- Climate Crisis and Environmental Activism.
- Women's Vulnerabilities.
- Popular and Folk Cultures.
- Feminism and Nationalism.

For further details, contact Organising Secretary, International Institute of Knowledge Management, #531/18, Kotte road, Pitakotte, Sri Lanka, Phone No: +94 117 992 022, Fax: +94 112 835 571, Hotline: +94 765 733 737.E-mail: *isanka.gamage@tiikmedu.com. For updates, log on to: www.tiikm.com*

International Conference on New Dimensions in Higher Education in the Post COVID Times

A two-day 'International Conference on 'New Dimensions in Higher Education in the Post COVID Times :A Global Perspective' is being organized by the Department of Political Science, Government Degree College for Women Begumpet, Hyderabad in collaboration with ICSSR, New Delhi, NAAC, RUSA and TSCHE during March 24-25, 2022 through blended mode. The academicians,

researchers, policy makers, etc. may participate in the event.

Higher Education plays an important role in the overall development of a nation. It is a crucial segment in every country as highly educated individuals impart major role in the growth of the nation with their intellectual capability and skills. In fact, Education forms the building block of a nation. Indeed, it is a means to bring in social transformation. Our Higher Education system is the third largest in the world, next to the United States and China. In the twenty first century Higher Education sector is rapidly growing. Also various nations are increasingly recognizing the importance and role of education and there is a phenomenal increase in the equity of its access to different sections in the society. Economic inequality, rapid technological obsolescence and problems of employability make questions of access, quality and relevance extremely complex, especially in a developing nation like India.

For further details, contact Organising Secretary, Department of Political Science, Government Degree College for Women Begumpet, Hyderabad- 500016. E-mail: *gdcbegumpet@gmail.com*. For updates, log on to*: https://gdcts.cgg.gov.in/secunderabad.edu*

AIU NEWS

International Conference on Recent Innovation in Multidisciplinary Research

A two-day International Conference on 'Recent Innovation in Multidisciplinary Research' was organized by RKDF University, Ranchi in collaboration with Association of Indian Universities (AIU), New Delhi at Ranchi during December 22-23, 2021. The Conference started with the welcome of Dignitaries, Lamp Lightning followed by Welcome Song and *Ganesh Vandana* by students. In the welcome address, Prof. (Dr.) S Chatterjee, Vice Chancellor, RKDF University, Ranchi welcomed all the delegates contributing in the event from different corners of the globe and also briefed about the objectives of the conference and the vision of the University.

Guest of Honor, Shri Umesh Prasad Sah, GM BA BSNL, Ranchi addressed the participants. He congratulated RKDF University, Ranchi for hosting a grand Conference and also extended his warm wishes to the RKDF University for the years to come.

Chief Guest, Mr. PM Prasad, CMD, CCL, Ranchi while addressing the participants, congratulated the organizing team for the grand success of the event and also announced for future collaboration with RKDF University, Ranchi.

The Keynote Speaker, Prof. (Dr.) Manu K Vora, Chairman and President, Business Excellence, INC. USA addressed the audience on the Topic 'Community Service Importance in HEI's for NEP-2020'. In his speech, he advised the students to do community service in order to get work-related knowledge and skills including time management. He said that it also increases the chances of getting a job since their community involvement creates good reference for potential employers.

Prof. (Dr.) Noel Scott, University of Sunshine Coast, Australia addressed the audience on the topic 'Multidisciplinary Study'. In his speech, he suggested that multidisciplinary studies makes multidisciplinary students stand out to employers is the rich view of the world that they develop, the wide range of perspectives they will have encountered during their studies and the combination of subject areas they have studied that could offer more flexible career choices.

Convener, Dr. Amarendra Pani, Joint Director and Head of Research Division, AIU, New Delhi addressed the audience on the topic 'Research Methodology'. He enlightened the participants about how research methodology encompasses the way in which you intend to carry out your research. This includes how you plan to tackle things like collection methods, statistical analysis, participant observations, and more.

Prof. (Dr.) Akhtem A Dzhelilov, University of Economics and Management, Simferopol spoke on 'Tourism and Employment: The Opportunity to

Challenge the Stereotypes'. He threw light on the tourism industry and said that it is one of the largest and most dynamic industries in today's global economy. Compared to other sectors of the global economy, the industry is one of the fastest growing, accounting for more than one-third of the total global services trade.

During Valedictory Function, Dr. Alok Chakrawal, Vice Chancellor, Guru Ghasidas Vishwavidyalaya (A Central University, Bilaspur) enlightened the participants with the functioning of private as well as government-based University and motivated the youth to perform their best for the future.

Dr. Sadhna Kapoor, Chancellor, RKDF University, Ranchi delivered her speech and acknowledged everyone with the achievements of RKDF University and the promising quality education provided in the University.

Mr. Ramesh Bias, Governor congratulated the RKDF University Ranchi and extended warm wishes for the future. He motivated all to be responsible Indian citizen and also to fulfill the duties towards our Nation. He expressed his views on the Education Policy and System, followed by the inauguration of Tribal Dictionary by the Governor of Jharkhand, Mr. Ramesh Bais.

Keynote Speaker, Dr. Indranil Bose, University of Bolton, UK addressed the audience on 'Multidisciplinary Research'. In his speech, he said that multidisciplinary research is an investigation or investigation of a problem to test the hypothesis combining many approaches, fields, or academic methods. Moreover, it can be defined as a knowledge search by an objective and systematic method for an original contribution to the existing stock of knowledge involving a combination of several disciplines and methods. He further said that multidisciplinary studies address the current and real problems with a prioritized focus on solving them. The event was concluded with the felicitation of resource person and distribution of certificates, followed by the Vote of Thanks proposed by Dr. Amit Kumar Pandey, Registrar, RKDF University, Ranchi. ❑

THESES OF THE MONTH

SCIENCE & TECHNOLOGY
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of December 2021-January 2022)

BIOLOGICAL SCIENCES

Biotechnology

1. Jaganathan, M K. **Mancozeb and monocrotophos based pesticide alters the behavior response associated with oxidative stress and transcription of genes related to apoptosis in adult zebrafish (Danio rerio) Brain**. (Dr. S. Barathi), Department of Biotechnology, SRM University, Kattankulathur, Chennai.

2. Rohini, M. **A molecular study of activating transcription factor 3 and its interacting proteins in breast cancer cells**. (Dr. N. Selvamurugan), Department of Biotechnology, SRM University, Kattankulathur, Chennai.

Microbiology

1. Aghera, Payal Ramesh Bhai. **Biosynthesis of value added products and its process optimization**. (Dr. Nikhilbhai Bhatt), Department of Microbiology, Gujarat Vidyapith, Ahmedabad.

2. Gohil, Surendrasinh Narendrasinh. **Removal of pathogens from human excreta through anaerobic digestion filtration and aerobic digestion**. (Dr. Prateekbhai Shilpkar), Department of Microbiology, Gujarat Vidyapith, Ahmedabad.

ENGINEERING SCIENCES

Civil Engineering

1. Anuradha, V. **Flexural behaviour of self compacting concrete hollow beams reinforced with hybrid fibers**. (Dr. T.Ch. Madhavi), Department of Civil Engineering, SRM University, Kattankulathur, Chennai.

2. Lalitha, G. **Experimental study on strength and durability properties of concrete with fine aggregate partially replaced by waste crushed glass**. (Dr. C. Ramachandrudu and Dr. C. Sashidhar), Department of Civil Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

3. Madhura, S. **Experimental investigations on the effect of copper slag in concrete**. (Dr. T.Ch. Madhavi), Department of Civil Engineering, SRM University, Kattankulathur, Chennai.

4. Praseeja, A V. **Groundwater contamination due to LNAPL hydrocarbons and its remediation using natural fibres**. (Dr.N Sajikumar), Department of Civil Engineering, APJ Abdul Kalam Technological University, Thiruvananthapuram.

5. Prithiviraj, Balasubramanian. **Atmospheric emission of polychlorinated biphenyls in Tamil Nadu, India: Sources, seasonal variation and implications for atmospheric transport**. (Dr. Paromita Chakraborthy), Department of Civil Engineering, SRM University, Kattankulathur, Chennai.

6. Rajprasad, J. **Structural behaviour of concrete using treated recycled aggregate**. (Dr.N.Panneer Selvam), Department of Civil Engineering, SRM University, Kattankulathur, Chennai.

Computer Science & Engineering

1. Anupriya. **Traffic flow forecasting in software defined mobile networks**. (Dr. Anita Singhrova), Department of Computer Science & Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

2. Bakyarani, E Sweety. **A novel approach to automated tuberculosis detection using deep neural networks with chest X-ray images**. (Prof. H. Srimathi and Dr. P. J. Arul Leena Rose), Department of Computer Science & Engineering, SRM University, Kattankulathur, Chennai.

3. Bejjam, Jyoshna. **Securing data through Arnold cat and masking and Avant elliptic curve cryptographic against differential and statistical attacks**. (Dr. K Subrahmanyam), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

4. Kulkarni, Hemangi Sriniwas. **Multimodal eye biometric system for unconstrained eye images in visible wavelength**. (Dr. N Srinivasu and Dr. Vinaya K Bairagi), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

5. Manoj Kumar. **QoS oriented virtual machine scheduling in cloud computing**. (Dr. Suman), Department of Computer Science & Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

6. Mishra, Suchismita. **Market basket analysis using big data and association rule mining**. (Prof.Srikanta Patnaik), Department of Computer Science & Engineering, Siksha O Anusandhan University, Bhubaneswar.

7. Mohammed, Mujeeb Shaik Mohammed. **Optimization based deep learning classifier and energy aware routing in IoT for big data classification with mapreduce framework**. (Dr R. Praveen Sam and Dr K. Madhavi), Department of Computer Science & Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

8. Pradeep Kumar, V. **Quality of service aware resource provisioning for federated cloud using agent based model**. (Dr. K Bhanu Prakash and Dr. Gopi Chand Merugu), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

9. Saini, Neha. **Hybrid framework for software clone detection and management**. (Dr. Sukhdip Singh), Department of Computer Science & Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

10. Sarma, KSR K. **Region and local based approaches using machine learning technique for efficient image texture classification**. (Dr. M. Ussenaiah), Department of Computer Science & Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

11. Shaik, Kareemulla. **Design and development of secure efficient authentication framework for VANET communications**. (Dr. Md Ali Hussian), Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

Electrical & Electronics Engineering

1. Mishra, Alok Kumar. **Artificial intelligence based hybrid filters for power quality improvement**. (Prof. Prakash Kumar Ray and Prof. Ranjan Kumar Mallick), Department of Electrical Engineering, Siksha O Anusandhan University, Bhubaneswar.

2. Mohapatra, Gayatri. **Design and application of intelligent controllers for frequency control of interconnected power systems**. (Dr. Manoj Kumar Debnath), Department of Electrical Engineering, Siksha O Anusandhan University, Bhubaneswar.

3. Priya, G Rani. **Partially isolated four port DC-DC converter for renewable energy harvesting in DC microgrid**. (Dr. K Vijayakumar), Department of Electrical & Electronics Engineering, SRM University, Kattankulathur, Chennai.

4. Raghavendran, C R. **Design and development of effective power transfer and intelligent fault ride through control strategies for the grid-connected DFIG based wind energy conversion systems**. (Dr. J. Preetha Roselyn), Department of Electrical & Electronics Engineering, SRM University, Kattankulathur, Chennai.

5. Reddy, K Rajasekhara. **Performance analysis of three phase single stage grid connected PV system using non-linear controllers**. (Dr. V. Naga Bhaskar Reddy and Dr. M. Vijaya Kumar,), Department of Electrical Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

6. Sankaraiah, Mogaligunta. **Coordinate control of DGS and voltage control devices using different programming algorithms**. (Dr.S.Suresh Reddy and Dr. M Vijaya Kumar), Department of Electrical Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

7. Shanmugapriya, S. **State estimation of power systems using Broyden's method and metaheuristic algorithms**. (Dr. D. Maharajan), Department of Electrical & Electronics Engineering, SRM University, Kattankulathur, Chennai.

8. Vibha, K. **Minimization of cross regulation in multi-input multi-output positive super lift Luo converter**. (Dr. N. Chellammal), Department of Electrical & Electronics Engineering, SRM University, Kattankulathur, Chennai.

Electronics & Communication Engineering

1. Anitha, Perla. **De blocking filter for high efficiency video Codec using looping algorithm**. (Dr. P. Sudhakara Reddy, Dr.M.N.Giri Prasad and Dr.L.Prathap Reddy), Department of Electronics & Communication Engineering, Jawaharlal Nehru Technological University, Hyderabad.

2. Anupama, B. **Sleep stage detection and classification using empirical mode decomposition**. (Dr. S Lakshminarayana and Dr. K S Rao), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

3. Balagangadhartilak, Gande. **Investigation on the performance characteristics of AMC backed monopole antennas for WI FI, WIMAX WLAN and satellite communication applications**. (Dr. K Sarat Kumar), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

4. Farooq, Hemu. **A designed novel computer assisted automatic sleep scoring system by employing artificial neural network and real time EMG signals**. (Prof. V K Sharma and Dr. Anuj Jain), Department of Electronics & Communication Engineering, Bhagwant University, Ajmer.

5. Harisudha, K. **Comprehensive studies on early detection of Parkinson's disease based on acoustic features of speech using computational intelligence**. (Dr. S. Dhanalakshmi), Department of Electronics & Communication Engineering, SRM University, Kattankulathur, Chennai.

6. Kayalvizhi, S. **Design of encoder and decoder for a secure image and video transmission based on compressive sensing**. (Dr. S. Malarvizhi), Department of Electronics & Communication Engineering, SRM University, Kattankulathur, Chennai.

7. Khan, Md. Khaleelullah. **A novel method of energy efficient intrusion detection system for wormhole attack in wireless sensor networks using NS-2.3**. (Dr. K S Ramesh), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

8. Kurakula, Vimala Kumar. **Multi area power system response enhancement under deregulated environment using L.F.C employing fractional order controllers**. (Dr.P Sujatha), Department of Electrical & Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

9. Pannu, Preeti. **Design, fabrication and analysis of ultrawide band microstrip patch antenna for wireless communication applications**. (Dr. Devendra Kumar Sharma), Department of Electronics & Communication Engineering, SRM University, Kattankulathur, Chennai.

10. Rao, Medikonda Nageswara. **An automatic classification of glaucoma disease and microaneurysms in fundus images**. (Dr. M Venu Gopala Rao), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

11. Sahoo, Tapasmini. **Design of shuffle net based fast hybrid data center network architecture**. (Prof. Bibhu Prasad Mohanty), Department of Electronics & Communication Engineering, Siksha O Anusandhan University, Bhubaneswar.

12. Sharma, Swati. **Modeling and simulation of non-linear microwave power amplifier using GaN HEMT for S-band applications**. (Dr. Vinod Kumar), Department of Electronics & Communication Engineering, SRM University, Kattankulathur, Chennai.

13. Virender Kumar. **Intelligent mobility management by selecting optimal relay vehicle in Vehicular Adhoc Network (VANETs)**. (Dr. Pawan Kumar Dahiya), Department of Electronics & Communication Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

14. Vishwanath, M. **Design and analysis of MIM waveguide based nano plasmonics devices**. (Dr. Habibulla Khan), Department of Electronics & Communication Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

15. Yadav, Arti. **A study on effects of aquatic vegetation on microbial processes in Wetland of Surajpur Lake**. (Dr. Bhanwar Lal Jat), Department of Electronics & Communication Engineering, Bhagwant University, Ajmer.

Instrumentation Engineering

1. Likith Kumar. **Influence of design parameters in a microfluidic channel for selective separation of microparticles: A computational study**. (Dr. A Vimala Juliet), Department of Instrumentation and Control Engineering, SRM University, Kattankulathur, Chennai.

Mechanical Engineering

1. Bala Subrahmanyam, P N V. **Design, analysis of chassis and realization of a typical go-kart**. (Dr. B Nageswara Rao), Department of Mechanical Engineering, Koneru Lakshmaiah Education Foundation, Guntur.

2. Gupta, Piyush. **Thermal design of shell and tube heat exchanger using non circular tubing flooded with water based nanofluids**. (Dr. Avdhesh Kr Sharma), Department of Mechanical Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

3. Naidu, B Vishnu Vardhana. **Experimental characterization and investigation of synergistic effects during machining of Aluminium Hybrid Metal Matrix Composites (AHMMCS)**. (Dr. K.C.Varaprasad, and Dr. K. Prahlada Rao), Department of Mechanical Engineering, Jawaharlal Nehru Technological University, Hyderabad.

4. Parveen Kumar. **Study of the effects of high energy radiation on the mechanical properties of structural materials**. (Dr. Rajinder Kumar Soni and Dr. P Brijnandan S Dehiya), Department of Mechanical Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

5. Ramanaiah, K. **Experimental study on some properties of natural fiber reinforced composites**. (Dr. A.V. Ratna Prasad and Dr. K. Hemachandra Reddy), Department of Mechanical Engineering, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

6. Sharma, Prabhakar. **Investigations on thermal and combustion performance of CI engine utilizing biodiesel based pilot fuel and producer gas from multi-flow gasifier**. (Dr. Avdhesh Kr Sharma), Department of Mechanical Engineering, Deenbandhu Chhotu Ram University of Science and Technology, Murthal.

Nanotechnology

1. Abhinav, E Meher. **The magnetocaloric property of novel magnetic oxide materials for environmental friendly refrigeration**. (Dr. S. V. Kasmir Raja and Dr. C. Gopalakrishnan), Department of Nanotechnology, SRM University, Kattankulathur, Chennai.

MATHEMATICAL SCIENCES

Mathematics

1. Daripally Ram Prasad. **On some existence and unique fixed point results in various metrics spaces**. (Dr. G N V Kishore), Department of Mathematics, Koneru Lakshmaiah Education Foundation, Guntur.

2. Geetha, V. **Stability and HOPF bifurcation analysis for HIV infection models with the effect of time delay**. (Dr. S Balamuralitharan), Department of Mathematics, SRM University, Kattankulathur, Chennai.

3. Senapati, Madhusudan. **Numerical simulation of Newtonian and non-Newtonian fluid flow with heat and mass transfer**. (Dr. Sampada Kumar Parida), Department of Mathematics, Siksha O Anusandhan University, Bhubaneswar.

MEDICAL SCIENCES

Pharmaceutical Science

1. Reddy, Y Navya. **Evaluation and comparison of neuroprotective activity of citrus reticulata, citrus sinensis and camellia sinensis in type III diabetes**. (Dr. D. Madhuri and Dr. K. B. Chandra Sekhar), Department of Pharmaceutical Sciences, Jawaharlal Nehru Technological University, Hyderabad.

2. Das, Chandan. **Development of quality control parameters for standardization of in-house and marketed Balarista formulation**. (Prof. Debajyoti Das), Department of Pharmacy, Siksha O Anusandhan University, Bhubaneswar.

3. Nanda, Ashirbad. **Formulation development or amlodipine for improved ocular delivery and its influence on some pharmacological activities**. (Prof.Debajyoti Das), Department of Pharmacy, Siksha O Anusandhan University, Bhubaneswar.

4. Satrasala, Neelima. **An investigation of antioxidant and nephroprotective activities of medicinally important plants: *Annona Squamosa* and *Coccinia Indica***. (Dr. P. Dwarakanadha Reddy and Dr. K.B. Chandra Sekhar), Department of Pharmaceutical Science, Jawaharlal Nehru Technological University Anantapur, Ananthapuramu.

5. Thota, Madhu Chaithanya. **A study to evaluate the effectiveness of antihypertensive drugs on newly diagnosed hypertensive patients in Association with ACE gene polymorphism in North Indian population**. (Dr. Nilam Nigam), Department of Medical Pharmacology, Rama University, Kanpur.

PHYSICAL SCIENCES

Chemistry

1. Das, Kundan Kumar. **Studies of polypyrrole modified $ZnFe_2O_4$ based heterojunction for photocatalytic applications**. (Prof. Kulamani Parida), Department of Chemistry, Siksha O Anusandhan University, Bhubaneswar.

2. Pothikumar, R. **Synthetic applications of homogeneous catalysis: Alkylation, arylation, alkenylation, alkynylation and amidation reactions**. (Dr. K. Namitharan), Department of Chemistry, SRM University, Kattankulathur, Chennai.

3. Rath, Himanshu Shekhar. **Assessment of the water quality standard or Brahmani river in terms or physico-chemical parameters**. (Prof.U.N. Dash), Department of Chemistry, Siksha O Anusandhan University, Bhubaneswar.

4. Sekar, S. **Synthesis and study of luminescent 2D-BCNO for photofunctional applications**. (Dr. S. Venkataprasad Bhat), Department of Chemistry, SRM University, Kattankulathur, Chennai.

5. Sridevi, D V. **Investigation on transition metal chalcogenides for photocatalytic activities and microbial growth inhibition**. (Dr. E. Sundaravadivel), Department of Chemistry, SRM University, Kattankulathur, Chennai.

Physics

1. Ahmad, Mohammad Parvez. **Influence of particle size, hydrogen annealing and carbon doping on the dielectric properties of zinc oxide at low temperatures**. (Dr. A Venkateswara Rao), Department of Physics, Koneru Lakshmaiah Education Foundation, Guntur.

2. Maheswari, Mohanta. **Study of magnetic properties of cobalt based thin film alloys**. (Dr. Santosh Kurnar Parida), Department of Physics, Siksha O Anusandhan University, Bhubaneswar.

3. Satale, Vinayak Vitthal. **Studies on solution processed Cu2ZnSnS4 (CZTS) based heterojunctions for solar energy conversion**. (Dr.S.Venkataprasa Bhat), Department of Physics, SRM University, Kattankulathur, Chennai. ❑

Pt. Sundarlal Sharma (Open) University Chhattisgarh

ADVERTISEMENT NO. 06/2022 DATE 14-02-2022

(In the context of previous Advertisement No. 05/2021 date 23.12.2021

Application are invited for appointment of **Assistant Professor** in the University. Details about number of posts and resrevation category are as under.

A. Backlog Post = 01

(1) Education- Scheduled Tribes (ST)- 01

B. Other Post = 02

(1) Commerce - Unreserved (UR) - 01

(2) English- Scheduled Tribes (ST)- 01

Pay Scale: 15600-39100, (AGP- 6000)/Matrix level- 10

Qualification : As per UGC/NCTE norms.

General Condition:

(1). **Eligibility date:** Last date to apply up (Online) **14.03.2022 till midnight 12:00**, Last date (hard Copy) submission by post 16.03.2022 in office hours. (2) The hard copy of application should be submitted in three copies. Details of qualifications, experience, application format and other details are available on our **website: www.pssou.ac.in** (3) Application fee: Rs, 1000/- (for ST /SC • Rs. 500/-) only through challan. No other mode of the payment will be accepted. (4) The University reserves the right to fill up or not to fill up the posts. (5) There is no need to apply again for those who have applied in the context of our previous advertisement No. 05/2021 dated 23.12.2021.

Note:

(1) Candidates in all category may apply for (Unreserved) UR post. (2) Women and disabled persons will also be given reservation as per reservation rules. (3) Candidates belonging to SC, ST and OBC of other state will be treated as unreserved.

By Order
Registrar

AL-AMEEN COLLEGE, EDATHALA, ALUVA

Aided Institution-Re Accredited by NAAC with A Grade (CGPA-3.15)

Affiliated to Mahatma Gandhi University, Kottayam, Kerala

Web:www.alameencollege.org • Email:alameencollege@gmail.com

PH: 0484-2836221, 2837561

Managed By

Al Ameen Educational Trust, Edappally

Al.A/Estt/TS/01/2022 **Dt:26.02.2022**

NOTIFICATION

Applications are invited for the following permanent posts at Al-Ameen College, Edathala, Aluva:-

Subject	Open	Persons with Benchmark Disability (Ref:GO(MS)No.96/2021/HEdn Dtd.15.02.21)
Mathematics	2	–
Commerce	–	1

Age, Qualification and Scale of pay as prescribed by the rules and regulations of UGC/State Govt./Mahatma Gandhi University, Kottayam.

Application Form can be downloaded from the college website or can be had from the college office on all working days. Duly filled in application form and copies of all required documents along with a payment of Rs. 1000/- in cash or by Demand Draft as application fee, drawn in favour of "Al Ameen College, Edathala" payable at SBI, Asokapuram, should reach the college office **within 30 days** from the date of this notification.

Manager

CMS COLLEGE KOTTAYAM (AUTONOMOUS)
Kerala - 686001. Ph. 94463 91943

No.CMS/Estt/TS/1/2021-22 23.02.2022

WANTED ASSISTANT PROFESSORS

Applications are invited from eligible candidates to the following ***Assistant Professor*** posts in CMS College Kottayam against permanent vacancies. 3 vacancies are reserved for persons with benchmark disabilities mentioned in clause 34 of the Right of persons with Disability Act 2016 and G.O. (MS) No. 96/2021/HEdn. dated 15.02.2021. Scale of pay, qualification, age etc will be as per the norms of UGC/ University/ Government of Kerala. Application forms can be downloaded from the College **website (www.cmscollege.ac.in)** with an online payment of Rs.2000/-. Duly filled application along with copies of all the required documents should reach the Principal **within 30 days** from publication of this notification.

Subject	No. of Posts	Category		
		Open Quota	Community Quota	Persons With Disability Quota
Malayalam	3	2	–	1
Mathematics	1	1	–	–
Chemistry	3	2	–	1
Botany	1	–	1	–
Zoology	2	–	2	–
Home Science	1	–	–	1
Statistics	1	–	1	–

Kottayam **Sd/- Manager**

Hidayatullah National Law University
Nava Raipur, Atal Nagar -492002 (C.G)
Website: www.hnlu.ac.in

Advt. No.....

Admission Notification

Admission is open for Doctoral Programme in Law and Doctoral Programme in Interdisciplinary Studies for candidates with a recognised Master's degree or Professional degree.

Candidates with LL.M or equivalent degrees in Law are eligible to apply for PhD in Law or Interdisciplinary Ph.D. However, candidates with other Masters degrees or professional degrees are eligible to apply only for Interdisciplinary Ph.D.

Last date of application: 11/03/2022.

For more details on selection process, fee structure, course work etc. visit: **https://hnlu.ac.in/hnlu/programs/ph-d/.**

Sd/-
Registrar

SHIVAJI UNIVERSITY, KOLHAPUR
ADVERTISEMENT NO. 22/2022
(Post Code No. 22/22-01)

Applications are invited in the prescribed form available online on Shivaji University **website: www.unishivaji.ac.in (URL http://www.unishivaji.ac.in/recruitments)** for the following **University Statutory Officer's** posts to be filled in Shivaji University, as per provisions under section 15 of Maharashtra Public Universities Act, 2016 (Mah. VI of 2017).

Post Code No.	Name of the Post	No. of Posts	Reservation Category or OPEN
22/22-01	Dean, Faculty of Inter-disciplinary Studies	1	OPEN

- This re-advertisement is published due to insufficient response to this post as per Advertisement No. 13/21 post code 13/21-04.
- Candidate who have already Eligible for the post as per Advertisement No.13/21-04 need not to apply again. But they can submit additional documents of Qualifications and Experience etc. in stipulated time, if necessary.
- Interested candidates may apply **on or before 24/03/2022.**
- The last date of submission of application forms with attested photocopies of necessary documents is 04/04/2022 upto 6.00 p. m. in the University office.

The details of Posts, Qualification, Pay scale, and Emoluments, process of online Application Form and the instructions therein etc. are available on the university **website : www.unishivaji.ac.in.**

Kolhapur **Dr. V. N. Shinde**
Date: 23/02/2022 **I/c Registrar**

Dayanand Education Society's

DAYANAND COLLEGE OF ARTS, LATUR

WANTED

Applications are invited for the post of **Principal** (Granted) to be filled in **Dayanand Education Society's, DAYANAND COLLEGE OF ARTS, LATUR,** Dist. Latur (Maharashtra). Eligible candidates should submit their application along with all necessary documents **within Fifteen days** from the date of publication of the advertisement by Registered post only.

Sr. No.	Name of the Post (Designation)	No. of Post	Reservation
1	**Principal**	**One (01)**	**Unreserved**

Educational Qualification:-

A. Eligibilities:-

1. A Master's Degree with at least 55% marks (or an equivalent grade a point scale wherever grading system is followed) by a recognized University.
2. A Ph.D. Degree in concerned/allied/relevant discipline (S) in the institution concerned with evidence of published work and research guidance.
3. Professor/Associate Professor with a total experience of fifteen years of teaching/research in Universities, College and other Institutions of Higher Education.
4. A minimum of 10 research publication in peer reviewed or UGC listed journals.
5. A minimum of 110 research score as per Appendix II, Table 2 of UGC regulations 2018.
6. **Academic Eligibility and other rules regulations as per UGC Regulation 18 July, 2018 and Govt. Resolution No Misc-2018/C.R.56/UNI-1 date 08 March, 2019.**

A. Tenure:-

A College Principal shall be appointed for a period of five years, extendable for another term of five years on the basis of performance assessment by a committee appointed by the University, constituted as per these Rules.

Salary & Allowances:-

Pay Scales as per the UGC, State Government of Maharashtra and Swami Ramanand Teerth Marathwada University, Nanded Rules from time to time.

NOTE:-

1. Prescribed application form is available on the University website (**www.srtmun.in).**
2. No T.A.D.A. will be paid to attend the interview.
3. Eligible Candidates those who are already in services should submit their application through proper channel.
4. All attested Xerox Copies of certificates and other relevant documents should be attached with the application form.
5. The vacant posts are being filled under the decision of Hon'ble High Court, Aurangabad Bench Petition No.12051/2015.
6. The original certificates must be provided at the time of interview.

Correspondence Address:

The President/Secretary
Dayanand Education Society's
Dayanand College of Arts, Barshi Road, Latur-413531

Secretary
Ramesh Govindlalji Biyani
Dayanand Education Society, Latur

President
Laxmiraman Bankatlalji Lahoti
Dayanand Education Society, Latur

JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI – 110067

Advt. No. 01/RC (NT)/2022

Online applications are invited in the prescribed Application Form from eligible candidates for appointment to the post of **Finance Officer on tenure/deputation for a period of 5 years which can be renewed for similar term by the Executive Council of the University.** The post of Finance Officer carries Scale of Pay Level-14 (Rs.1,44,200-2,18,200) with rationalized Entry Pay of Rs. 1,44,200 as per 7th CPC Pay Matrix.

Essential Qualification & Experience:

(a) Master's degree with at least 55% of the marks or an equivalent grade in a point scale wherever grading system is followed.

(b) At least 15 years of experience as Assistant Professor in the Academic Level-11 and above or with 8 years of service in the Academic Level-12 and above including as Associate Professor along with experience in educational administration,

OR

(c) Comparable experience in research establishment and/or other institutions of higher education,

OR

(d) 15 years of administrative experience, of which 8 years shall be as Deputy Registrar or an equivalent post.

Note:

5% relaxation in percentage of marks at Master's level from 55% to 50% will be extended to SC/ST/PwD categories and to the existing incumbents who are already in the University system as provided under UGC guidelines issued from time to time.

Desirable:

Official working/worked in Organized Finance & Accounts services under Govt. of India recruited through UPSC will be given preference.

Note:

The appointment shall be made for a tenure of 5 years which can be renewed for similar term by the Executive Council of the University. For candidates applying on deputation basis from Govt. or any other organization/institution, the terms and conditions of his/her service shall be governed by the Deputation Rules of the Government of India. However, the age of retirement would be 62 years and the post does not carry the facility for re-employment.

Job Description:

As per the Statutes of the University, the Finance Officer shall exercise general supervision over the funds of the University and shall advice it as regards its financial policy and perform such other functions as assigned to him/her by the Executive Council as may be prescribed in the University Act, Statutes, Ordinances and Rules. Further, Finance Officer will also perform such of the duties as have been specified in the University Act, Statutes, Ordinances, Rules and Regulations as may be required by the Statutory Bodies, Vice-Chancellor and Rectors.

Age Limit:

Preferably below 57 years of age on the closing date of the advertisement.

The eligible and interested persons may **apply online** through the University **website : www.jnu.ac.in. Applications through any other mode, except online, will not be accepted.** The applicants shall upload photograph, signature, copies of essential qualifications, experience, date of birth, caste/PwD certificate, NOC from the present employer etc. **within one month of the publication** of this advertisement in the Employment News. The last date for the receipt of online application is **11.03.2022 at 11.59 PM**

Any addendum/corrigendum shall be posted only on the University website.

DEPUTY REGISTRAR (ADMN.)
JNU

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- Last Date for Registration – 05 March, 2022
- Submission of Full Research Paper/Research Project-05 March, 2022 (Full details with photograph)
- Confirmation for participation – 10 March, 2022
- Event Date – 25 - 26 March, 2022

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**Applicable only to selected candidates				

For more details and application are available online: https://www.iima.ac.in/web/fdp/apply-online

For any clarifications, please contact
Faculty Development Programme Office, Indian Institute of Management, Vastrapur, Ahmedabad 380015
Email : fdpoffice@iima.ac.in | **Phone :** +91-79-7152 4961 | **WhatsApp :** 9909038704

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B. Manuscripts including tables, figures and references should be around 3000-4000 words for articles, 2000 – 5000 words for Convocation Addresses, 1000 words for Book Reviews and 600 words for Communications.

C. All the manuscripts should typed in double-space with 12 point font and ample margin on all sides on A 4 size paper.

D. The cover page should contain the title of the paper, name, designation, official address, address for correspondence, contact phone/mobile numbers and e-mail address of all the authors.

E. One author should be designated as the corresponding author.

F. Notes, if any, should be given as Endnotes not as Footnotes.

G. Figures include relevant captions, tables include titles, description, source etc.

H. Figures and table citations in the text match the files provided

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

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

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