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## **AIU Invites Proposals for Collaboration for Organizing ANVESHAN- Student Research Conventions – 2023-24**

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AIU invites proposals from member universities/institutions for hosting these Conventions in Five Zones - East, West, North, South, Central and One National Level Convention. Interested Member universities/institutions may send their Expression of Interest (EoI) along with proposal duly endorsed by the Head of the Institutions to AIU at the address given below:

**Dr Amarendra Pani**  
**Joint Director & Head (Research)**  
**Association of Indian Universities**  
**AIU House, 16 Comd. Indrajit Gupta Marg**  
**New Delhi – 110 002**  
**E-mail: [researchaiu@gmail.com](mailto:researchaiu@gmail.com)**

**The proposals are required to be submitted latest by May 30, 2023.** The Event will be finalized on mutually convenient dates and terms and conditions laid down by AIU. For any further query please contact on: 011-23230059, Extn-202/209, **E-mail: [researchaiu@gmail.com](mailto:researchaiu@gmail.com)**. The details can also be downloaded from AIU Website: **[www.aiu.ac.in](http://www.aiu.ac.in)**.

**N.B.: AIU is not a Funding Organization. All these events are AIU activities for which Collaboration from member Universities/Institutions are solicited. Primarily, the events will be conducted under the banner of AIU. The details of terms and conditions will be communicated on selection of the Proposal.**

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# Intended Meaning of the Terms Typically Used in the Higher Education System

S K Saidapur\*

Like in any subject, in the field of higher education also numerous terms are used rather routinely. Further, it is generally taken for granted that the meanings of such terms are uniformly perceived in the same way across the faculties and people- students, teachers, and administrators. Nevertheless, there exist some confusion and misgivings (e.g. interdisciplinary, trans-disciplinary, etc.). This article attempts to define the terms that are widely and routinely used in the higher education system and hopes for evolving clarity and a consentaneous view on the same. Good clarity on this will go a long way in evolving courses, curriculums, and teaching-learning processes in the field of higher education, especially in the context of NEP-2020.

## Modern Pedagogies

Examples of modern pedagogies include: a combination of online and offline teaching-learning processes (Blended learning), the use of Flipped classrooms, Virtual lecture halls and labs, Webinars, Seminars, Use of Online Platforms, Various Apps, Group learning, Project-based learning, Self-learning, Quizzes, Content creation, and sharing, Solving solved and Unsolved Problems, Creative and Critical thinking, etc.

## Courses

There exists considerable variation in the perception of terms like 'Discipline, Open Electives, Add on courses, Intra – and Interdisciplinary, Multidisciplinary and Trans-disciplinary', and so on among the academia. However, these terms are used extensively and sometimes indiscriminately. An attempt is made here to provide an opinion on these terms (see below):

## Discipline

A *discipline* refers to major subject domains with clear boundaries (e.g. Physics, Zoology, Botany, History, Mathematics, Sociology, etc.). Therefore, narrow specialized areas like say 'Toxicology', 'Plant Tissue Culture', 'Biostatistics', 'Mathematical Modeling', 'Systems Biology', 'Genetics', 'Biochemistry', 'Nano-chemistry', 'Corporate Social Responsibility' and so on do not constitute disciplines in the real sense. They can be regarded as sub-disciplines.

## Intra-disciplinary / inter-disciplinary

Many subject domains are fragmented today giving rise to numerous sub-disciplines or areas of study. A classic example is

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'Biology'. It was first fragmented into Botany, Zoology, and Microbiology. Later zoology was fragmented into numerous branches like Entomology, Anatomy, Physiology, Parasitology, Protozoology, Freshwater Zoology, Marine Biology, Developmental Biology, Genetics, Aquaculture, Fish Biology, Fisheries, Biochemistry, Biophysics, Biotechnology, Chronobiology, Cancer Biology, Cell Biology, Radiation Biology, Endocrinology, Immunology, Molecular Biology, Toxicology, Environmental Biology, Wildlife Biology, Evolutionary Biology and so on to name a few. Similar is the case with Botany and Microbiology. The major benefit was erecting new 'Departments' by equating such fragmented pieces of biology as 'Disciplines'. This promoted research and procurement of research grants in such specialized areas but at the cost of understanding the intricacies, complexities, and 'conceptualization' of the complex biological systems in their entirety. Now there is a cry to bring fragmented areas (the sub-disciplines) back into the fold of biology through the integration of subjects in the guise of an 'interdisciplinary' approach. Similar is the case with other science, arts, and social science subjects including languages. One wonders whether there are really any fields with clear-cut boundaries that qualify to be called *interdisciplinary* subject(s) and whether they can be accorded the status of a 'Discipline' in the real sense. The overlapping of areas between different subject areas is perceptibly ubiquitous and the fixity of boundaries between subjects is progressively eroding. In view of the rapid developments and growth of almost all subject domains, a kind of integration of closely or distantly related subjects hitherto kept out of certain disciplines is needed. As an example, the study of bio-molecules is an inseparable part of biology and it calls for integration of biochemistry with biology. Similarly, biophysical aspects have to be integrated with biology. To give another good example: the study of 'Immuno-pharmacology' makes sense only when fields like 'bacteriology, physiology, genetics, immunology, biochemistry, and chemistry' are integrated.

On the side of the Social Sciences, subjects like 'Anthropology', 'Sociology', and 'Social Work' need to be integrated and the newly evolved course could be renamed possibly as 'Evolution of Human Societies' or any other suitable terminology. Likewise, a judicious combination of subjects like 'History', 'Archaeology', 'Epigraphy' and related

domains can go together as 'Historical Sciences'. And, 'Economics', 'Commerce', 'International Laws' and 'Banking and Management' could be integrated under a discipline as 'Trade and Business Management'. Modernizing the curriculum of the higher education system through such integrations can lead to better conceptualizations. Further, it may lead to much-needed *transcended* knowledge. This is the true spirit of NEP-2020.

### ***Multidisciplinary***

A multidisciplinary approach is best suited for research rather than for teaching. Once integrations are accomplished in the curriculums as stated above teaching-learning becomes wholesome. A multidisciplinary approach involves team works and collaboration with people of *different* subject domains/expertise to tackle intricate problems.

### ***Trans-disciplinary Research***

It technically means a practice that *transgresses* and *transcends* disciplinary boundaries (e.g. Marxism, Structuralism, and Feminist Theory). It is not as simple as defining *cis* and *trans* isomers as in the field of chemistry. In the context of higher education 'trans' should denote something 'beyond' and not just 'across'. Research involving a judicious mix of different disciplines of science and/or social sciences domain leading to new transcended knowledge, new postulations, concepts, models, hypotheses or theories, and methodological uses constitute *trans-disciplinary* research. For example, religion and philosophy along with say yoga and meditation may lead to transcended knowledge. Similarly, an integrated approach to the study of history, archaeology, and epigraphy may shed new transcended knowledge hitherto not known to man. Such approaches represent trans-disciplinary research. In short, *trans-disciplinary research is a higher-order pursuit*. It is much more than mere interdisciplinary research. Therefore, making a clear distinction between the nature of interdisciplinary and trans-disciplinary research is warranted.

### ***Open Electives***

These are: specially designed courses by one department, by and large for the benefit of students of other departments, and available across the faculties. These may include basic science courses for students of Arts, Humanities, and Social Sciences. Similarly, courses from Liberal Arts may be made available to Science students.

A given department may offer a choice of special papers for their own students, but these need not be called open electives. They just represent electives!

### **Add-on Courses**

Such courses should ideally help students to get additional training in skill development: e.g. Communication, Science Journalism, Functional use of a Language, study of a Foreign Language(s), Making Documentaries and Editing Videos, Web Designing, Corporate Social Responsibility (CSR), Accounting, Computing Income Tax Returns, and Personality Development and so on. Likewise, courses on 'Indian Society', 'Brief History of India', 'Great Indian Epics and Heritage', 'International Affairs', 'Management of Water Bodies', 'Horticulture', 'Floriculture', 'Civic Sense and Public Hygiene', 'Tourism', 'Tele Marketing', 'Disaster Management', etc., can be very useful.

### **Purpose of Integration of Subjects**

Integration of closely related courses that enhance understanding of a basic discipline or subject area is of paramount importance. Such an exercise should lead to evolving entirely new courses and developing a holistic approach to a given subject domain (see examples cited above). As far as the languages are concerned, at the PG level,

it is possible to study one semester of local/regional language, one semester of Sanskrit, one semester of Hindi, and one semester of any foreign language. Such integrations through redesigned courses can go a long way in enhancing the perception and command over the language as well as the employability of the learners.

### **Liberal Arts / Liberal Education**

It is rather a difficult issue and not easy to design liberal education programs. The mere provision of unrelated courses will not amount to liberal education. Ideally or philosophically, liberal education is supposed to help expand one's horizons and ability to communicate with ease- say fluency of language, the ability for critical and analytical reasoning, coping with new or unforeseen (challenging) situations, and so on. In short, *liberal education is considered essential to well-educated persons to enable them to participate in civic life.*

In closing, the above ideas are broadly indicative and provocative. A vibrant deliberation involving eminent experts may help in further refining these ideas and also arrive at a consensus at the national /University Grants Commission (UGC), New Delhi level.

□

## **AIU Publication**

**on**

### ***REIMAGINING INDIAN UNIVERSITIES***

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

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

**PP: 372, Unpriced. Available at AIU Website: [www.aiu.ac.in](http://www.aiu.ac.in)**

# Higher Education Institutions Readiness for Implementation of National Education Policy–2020: An Insight

D Raja Jebasingh\* and Sridhar L S\*\*

The National Education Policy -2020 intends to pave the way for several transformational reforms in the Indian education system. NEP 2020 is the first education policy of the 21<sup>st</sup> century and replaces the thirty-four-year-old National Policy on Education (NPE), 1986. Built on the foundational pillars of Access, Equity, Quality, Affordability, and Accountability, this policy is aligned with the 2030 Agenda for Sustainable Development. Education plays a significant role in building a nation. The 21<sup>st</sup> Century has opened up many new challenges in the field of Higher Education. HEIs will play an active role not only in conducting research on disruptive technologies but also in creating initial versions of instructional materials and courses including online courses in cutting-edge domains and assessing their impact on specific areas. NEP aims to promote both inclusion and excellence. NEP fosters both liberal and professional education through its diverse curricula because each domain of study contributes to society and nation-building. The National Education Policy (NEP) 2020 envisages the role of higher education as providing the basis for knowledge creation and innovation for contributing to a growing national economy, more than the creation of opportunities for individual employees.

## Research Methods and Design

The research design for the study is interpretative-descriptive in nature. A qualitative research design was adopted for this study to understand the Institutional Readiness for the Implementation of the National Education Policy (NEP-2020). The qualitative approach would allow subjects more flexibility in expressing their views, without the predetermined responses usually found in quantitative research methods. The present paper is perspective in nature where the author's assessment

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of what is already known has been discussed. Secondary data were collected from the Ministry of Education (MoE), University Grants Commission (UGC), Association of Indian Universities (AIU), and research articles and other periodicals.

## NEP–2020 Proposes Reforms

The NEP-2020 proposes reforms in all areas of higher education, including its structure, curriculum and pedagogy, teaching-learning strategies, learning resources and technology-enabled learning, vocational education and skilling and employability, 21<sup>st</sup>-century learning and social and life skills, optimal learning environment and learner support, formative and summative assessment, internalization, research and scholarship, governance and leadership, and regulation and accreditation.

## Multidisciplinary/Interdisciplinary

In order to develop the all-round capacities of the students – intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner, the college should include multidisciplinary subjects as per the National Educational Policy 2020. Academic programmes are redesigned to include Multidisciplinary/Interdisciplinary courses as electives/open electives. This approach gives freedom to the student to choose their preferred options from the range of programs offered by the Institution.

NEP also focuses on interdisciplinary research among the faculty members and should be creating a platform for nurturing interdisciplinary research work.

## Institutional Development Plan (IDP)

Each and every HEIs institution should integrate its academic plans ranging from curricular design and development (CDD) to quality of teaching and learning (TL) - into its larger and robust Institutional Development Plan (IDP). The IDP shall be prepared with the joint consultation of the Board of Governors (BoG) / Governing Council Academic Council (AC) Faculty, students, and administrative staff.

### **Focus on Outcome-based education (OBE)**

The pedagogical approach of the institution is student-centric where the faculties' pedagogical approaches are constructivist, inquiry-based, reflective, collaborative, and integrative. Summative and Formative assessments and assignments are used to evaluate the student's learning outcome. The curriculum shall focus on critical thinking and problem-solving.

### **Skill Development Centre Collaboration**

NEP has put a lot of focus on skill development among the student community. Aims at providing quality vocational education through DDUKK / Skill sectors combining classroom-centered formal education and training with experience sharing of Industry practitioners and industry blended internships programmes. Hence, HEIs should initiate the process of Collaboration with the Sector Skill Council, National Skill Development Corporation (NSDC), Ministry of Skill Development and Entrepreneurship and National Skill Training Institute (NSTI) and NASSCOM Future Skills, etc.

### **Effective Industry–Academia Engagements**

Industry and academia partnerships should be encouraged more than ever before in today's fast-changing corporate and education era. Therefore, it becomes extremely imperative to pay attention to getting quality resources in the industry. Strong industry academia collaboration is necessary because it helps advance research and develop the trained workforce. It's very important for academia and industry to work together to create a future-ready workforce for the 21st century and to achieve sustainable and quality education. Its high time the Industry should create an enabling ecosystem in line with the spirit of the National Education Policy 2020. The HEIs should initiate MoUs with companies to upkeep the Institution's develop student-skilling, up-skilling in line with industry requirements, and take more skill development initiatives.

### **Academic Bank of Credits (ABC)**

Academic mobility of students across the Higher Education Institutions (HEIs) in the country with appropriate credit transfer" mechanism. It is a mechanism to facilitate the students to choose their own learning path to attain a Degree/ Diploma/Certificate. Working on the principle of multiple entry and exit as

well as anytime, anywhere, and at any level of learning. Moment student has a threshold number in the account and is from multiple disciplines one can choose from those few credits. This will facilitate HEIs to digitally store academic credits earned by the students from various recognized Higher Education Institutions (HEIs) across India for greater credit mobility between Higher Education Institutions (HEIs) As a result, credits acquired are taken into account when awarding degrees from HEIs.

### **Blended Learning (BL) /Online Education/ Virtual Learning**

HEIs should encourage faculty members to actively engage in e-content development and to offer MOOC courses that promote the blended learning edifice of learning. HEIs should bring out Institutional Level Norms, standards, and guidelines for systemic development, regulation, and a framework for the quality of BL. In order to ensure preparedness with alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible, has been covered. A dedicated unit for the purpose of orchestrating the building of digital infrastructure, digital content, and capacity building should be set up at the HEIs to look after the e-learning needs. The policy emphasizes the promotion and implementation of blended learning in Indian higher education institutions.

### **Virtual Learning Environment (VLE)**

The virtual learning environment in higher education has become significant growth. The use of the VLE in higher education may face challenges such as providing effective educational material within the VLE and teaching way and the development of suitable pedagogy. To create a working virtual learning environment, it is important to consider some key areas such as mandates of the higher educational institutions pertaining to the educational delivery methods, teaching design and requirements, the functional needs of the course delivery, and technical skills and needs of the various populations of the students and academics.

### **Setting Up of NEP Taskforce**

At the Institutional Level mandatorily a task force should be constituted for the effective implementation National Education Policy. This committee shall devise the modalities for implementation of several of NEP such as preparation Course, Curriculum, Pedagogy, Skill

development, Extension, and Examination reforms for holistic and multidisciplinary UG / PG Programmes. The Task Force should also decide to break out various emphases on research and development. The setting up task force is essential in accelerating the Institutional level policy implementation process as envisaged under NEP-2020 for reliability and sustainability.

### Outreach/Extension Programme/Centres

The Institution should encourage students to participate in extension activities to impart value-based education (VBE) which enables the students to understand the reality of the society and engage themselves in community building. These initiatives will fulfil the holistic education approach.

### Conclusion

The education sector in India, has been witnessing a massive transformation recently with technological disruptions, demand for quality education, and the implementation of National Education Policy (NEP) 2020. NEP 2020 is a game-changer, therefore, all HEIs would come up with an implementation strategy document with Institutionalised approach/framework to effectively implement the policy, thereby helping to create an ecosystem for reliable, impactful, and enhancing the quality of education. In this context, implementation of the policy in institutes of Higher education is very crucial, therefore, if one has to adopt the new paradigm shift and adapt the outcomes for sustainability in the higher education system, it very essential that all HEIs may organise programmes to sensitise / to spread awareness and provide support on various verticals of NEP. The institution should develop a new culture of multi-disciplinary flexible academic design in line with NEP. The departments / Schools should be geared with mechanisms to deal with the easy entry/exit, and credit transfer options envisaged in NEP.

It suggests that Higher Education Institutions (HEIs) should focus on research and innovation by setting up start-up incubation centers on their campuses. It's very significant that every Higher Education Institution should develop a timely and well-coordinated plan of action at the Institution level, for ensuring time-bound, smooth and effective implementation of the NEP-2020 in accordance with ideas envisaged in the NEP.

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# Authorship and Collaboration Pattern in the University News— A Weekly Journal of Higher Education from 2013 to 2022: An Evaluation

M Doraswamy\* and T Sambasiva Rao\*\*

In research analysis, the average number of authors per publication and the proportion of multi-authored papers are measured as coefficients. The presence of more than one author indicates the collaborative strength and trustworthiness of a scientific study. In general, recent research has shown that collaborative authors produce far more research outputs than individual authors. Collaboration is a key feature of effective scientific research, which is gaining prominence globally. When a researcher starts authoring papers with other researchers, it clearly signals that study assumes a lot of critical attention and acceptance. In collaborative research works, the researchers are far more motivated to work together on projects, and resultantly, more academic publications are published. All researchers and scientists are increasingly seeking better collaboration between authors in scientific studies. Therefore, collaboration is an important mechanism to improve scientific research that helps readers to understand the intricate design of scientific articles written by teams of researchers. There is a correlation between collaboration and productivity based on the number of persons involved which helps in expanding the collaboration trends in the current environment. The main advantages of scientific collaboration include access to a variety of ideas and resources, information exchange, learning new skills, producing results more rapidly and of higher quality, and boosting the quality of the publications.

## Source Journal

University News – A Weekly Journal of Higher Education published by the Association of Indian Universities is the premier forum for academics, leaders, teachers, policymakers, managers, administrators, and stakeholders interested in different facets of higher education, national and international.

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Commenced in 1929, it is now an official organ of the Association of Indian Universities. It has distinguished itself as one of the very few periodicals with consistent publication and comprehensive content. It caters to a large audience and consistently appears with clockwise regularity every Monday. In fact, it is required a reading for anyone involved in higher education. The Journal is cited internationally for information on developments in higher education in India. It is replete with information and data on Indian higher education as well as higher education worldwide.

## Review of Literature

Bhargav & Doraswamy (2023) studied an evaluation of authorship and collaboration pattern of Ph.D. theses in Mechanical Engineering submitted to Jawaharlal Nehru Technological University, Hyderabad. A total of 4998 journal articles were cited during the study period out of which 1269(25.39%) articles were by a single author and 3729 (74.61%) were contributed by two or more authors. It is clear from the study that multiple authorship patterns are prominent in the discipline of mechanical engineering and its sub-fields. In the study it has been counted that the average collaboration index was 2.42; the average degree of collaboration was 0.75, the collaboration coefficient was 0.46, and average modified collaboration coefficient was 0.46, the average relative growth rate was 0.67 and the average doubling time was 0.54.

Hussain & Chetia (2022) conducted a scientific study on authorship and collaborative pattern in the field of Nephrology. The study found that 7539 papers were published during 2012-2021 and the highest number of publications, 1166 (15.4%) was produced in 2020. The trends in multi-authored papers have tremendously increased (90.16%) compared to (9.84%) single-authored papers. It also noted that the value of the highest degree of collaboration was (0.94%) in 2021. The publication behavior of researchers shows that they are highly selective in publishing the research results in specialized articles.

Ramos Rodriguez, Lechuga Sancho & Martinez (2021) examine the authorship trend and collaboration pattern in hospitality and tourism research. The study confirmed that the collaborative nature of hospitality and tourism research; almost 80 percent of articles in the sample were co-authored. Second, over the past 30 years, the alphabetized signature model has been in decline in this field. Today, about 20 percent of articles indexed in JCR journals are signed alphabetically. Third, the first author's placement is less consistent than that of the corresponding author.

Saikia & Saikia (2020) conducted an evaluative study on authorship and collaboration pattern in the Indian Journal of Anesthesia during 2010-2019. During the 10 years period, the multi-authorship articles gradually increased compared to solo research. Yadav & Singh (2019) evaluated the authorship and collaboration pattern in the SRELS Journal of Information Management during 2008-2017. The study reveals that the multiple authorship pattern is prominent in the journal during the study period.

### Objectives of the Study

The objectives of the present study are:

1. To know the year-wise distribution and annual growth rate of publications.
2. To find out the authorship pattern of publications.
3. To measure the collaboration index, collaboration coefficient, degree of collaboration, and modified collaboration coefficient.
4. To measure the activity index.
5. To know the relative growth rate and doubling time.

### Methodology

The present study is based on 2803 articles published in the University News: A Weekly Journal of Higher Education between the years 2013-2022. In order to collect the data all the article information (article name, number of authors, state/country, corresponding author, etc.) was collected from the proposed journal then the data were examined and analyzed with the help of MS-Excel software. With the aid of the appropriate equations, the data was collected and scanned to examine various aspects relating to the collaboration index, coefficient of collaboration, modified coefficient of collaboration, degree of collaboration, and relative growth rate of university news journals.

### Data Analysis

The data were analyzed according to the objectives and discussed in the following paragraphs.

#### *Year-wise Distribution of Publications and Annual Growth Rate*

Table-1 shows the year-wise distribution of publications in University News – A Weekly Journal of Higher Education and the annual growth rate during the period of 2013-2022. The Annual Growth Rate (AGR) is calculated by the formula suggested by Kumar and Kaliaperumal as mentioned below:

$$AGR = \frac{\text{End t Value} - \text{First Value}}{\text{First Value}} \times 100$$

It is evident from Table-1 that there were a total of 2803 articles published during the study period out of which a maximum of 359 (12.81%) articles

**Table 1: Year-wise Distribution of Publications and Annual Growth Rate**

S.No.	Volume No	Year	No. of articles	Percentage	Annual Growth Rate
1	51	2013	272	9.70	0
2	52	2014	243	8.67	-10.62
3	53	2015	359	12.81	47.75
4	54	2016	296	10.56	-17.56
5	55	2017	266	9.49	-10.13
6	56	2018	269	9.60	1.16
7	57	2019	348	12.41	29.27
8	58	2020	233	8.31	-33.04
9	58	2021	269	9.60	15.52
10	60	2022	248	8.85	-7.81
<b>TOTAL</b>			<b>2803</b>	<b>100.00</b>	

were published in the year 2015 followed by the year 2019 is second highest publications with 348 (12.41%) article and the year 2013 is a third highest publications with 272 (9.70%) articles. The lowest contributions have been counted in the year 2020 with 233 (8.31%) articles. It is also evident that the highest annual growth rate of publications in University News was recorded in the year 2015 (47.75) followed by the year 2019 (29.27) and the lowest annual growth rate was recorded in 2022 (-7.81).

**Authorship Pattern of University News Journal Publications**

Table 2 shows the authorship pattern of contributions in University New during the period of 2013-2022.

It is evident from Table 2 that out of 2803 articles, 1911 articles were contributed by single authors, followed by 762 articles by two authors, 98 articles by three authors, 28 articles by four authors, 2 articles by five authors, and one article contributed by six authors. It also revealed that the highest ie. 269 articles published in the year 2015 were by a single author, the highest 103 articles were published by double authors in the year 2022, and in the year 2022 highest 17 articles were published by three authors, in the years 2020 and 2021 five articles (each) published by four authors, one article published in the year 2015, 2018 and 2019 by five authors and only one article published in the year 2022 by six authors.

**Collaboration Index of University News Journal**

The Collaboration Index (CI) counted by the formula which is suggested by Lawani as:

$$CI = \frac{\sum_j^A = 1j fj}{N}$$

Where,

j = the number of authors in an article i.e. 1, 2, 3, 4.....

fj = the number of authored articles

N = the total number of articles published in a year, and

A = the total number of authors per articles

Hence, Table 3 is calculated by using the above formula thus:

CI for 2013 is

$$CI = \frac{\sum_j^A = 1j fj}{N}$$

$$= \frac{(1 \times 199) + (2 \times 66) + (3 \times 5) + (4 \times 2)}{272}$$

$$= \frac{199 + 132 + 15 + 8}{272} = \frac{354}{272} = 1.30$$

In the same way, the values of CI are calculated for all the corresponding years and displayed in Table 3.

Table 3 shows the collaboration index of the university news journal which was published during the study period. The average collaboration index of 1.38 was counted during the study period i.e 2013-2022. The highest collaboration index 1.61 was found in the year 2022 and the lowest collaboration index was 1.26 found the in the year 2016.

**Table 2: Authorship Pattern of Publications**

S. No	Year	Authorship Pattern						Total
		One	Two	Three	Four	Five	Six	
1	2013	199	66	5	2	--	--	272
2	2014	183	55	5	--	--	--	243
3	2015	269	78	11	1	1	--	359
4	2016	222	68	4	1	--	--	296
5	2017	191	62	9	4	--	--	266
6	2018	174	85	6	3	1	--	269
7	2019	249	83	12	4	1	--	348
8	2020	139	74	14	5	--	--	233
9	2021	161	88	15	5	--	--	269
10	2022	124	103	17	3	--	1	248
<b>TOTAL</b>		<b>1911</b>	<b>762</b>	<b>98</b>	<b>28</b>	<b>3</b>	<b>1</b>	<b>2803</b>

**Table 3: Collaboration Index of University News Journal**

S.No	Year	Authorship Pattern						Total	CI
		One	Two	Three	Four	Five	Six		
1	2013	199	66	5	2	--	--	272	1.30
2	2014	183	55	5	--	--	--	243	1.27
3	2015	269	78	11	1	1	--	359	1.30
4	2016	222	68	4	1	--	--	296	1.26
5	2017	191	62	9	4	--	--	266	1.35
6	2018	174	85	6	3	1	--	269	1.41
7	2019	249	83	12	4	1	--	348	1.36
8	2020	139	74	14	5	--	--	233	1.50
9	2021	161	88	15	5	--	--	269	1.49
10	2022	124	103	17	3	--	1	248	1.61
<b>TOTAL</b>		<b>1911</b>	<b>762</b>	<b>98</b>	<b>28</b>	<b>3</b>	<b>1</b>	<b>2803</b>	<b>1.38</b>

**Degree of Collaboration (DC)**

The Degree of Collaboration (DC) of university news journal publications is calculated by the formula which is suggested by Subramanyam as mentioned below:

$$DC = 1 - \frac{f_1}{N}$$

Where,  $f_1$  = the number of single-authored papers

N= the total number of papers published in a year

Hence, DC for the year 2013 is:

$$DC = 1 - \frac{f_1}{N} = 1 - \frac{199}{272} = 1 - 0.73 = 0.27$$

In the same way, the values of DC are calculated for all the corresponding years and displayed in Table 4.

Table 4 determines the degree of collaboration during the study period. The average degree of collaboration 0.32 has been counted during the

period of study. The maximum average degree of collaboration is 0.50 in the year 2022, followed by 0.40 in the years 2020 and 2021. The lowest average degree of collaboration is 0.25 in the years 2014, 2015, and 2016 respectively.

**Collaboration of Coefficient (CC)**

The Collaboration of Coefficient (CC) of the University News journal is calculated by the formula which is suggested by the Ajiferuke et al as mentioned below:

$$CC = 1 - \frac{\sum_{j=1}^A \left(\frac{1}{j}\right) f_j}{N}$$

Where,

j = the number of authors in an article i.e. 1,2,3,4,....

$f_j$  = the number of j authored articles

N = the total number of articles published in a year, and

A = the total number of authors per article

**Table 4: Degree of Collaboration of University News Journal**

S. No	Year	Single Authored Articles	Multiple Authored Articles	Total Articles	Degree of Collaboration
1	2013	199	73	272	0.27
2	2014	183	60	243	0.25
3	2015	269	90	359	0.25
4	2016	222	74	296	0.25
5	2017	191	75	266	0.28
6	2018	174	95	269	0.35
7	2019	249	99	348	0.28
8	2020	139	94	233	0.40
9	2021	161	108	269	0.40
10	2022	124	124	248	0.50
<b>TOTAL</b>		<b>1911</b>	<b>892</b>	<b>2803</b>	<b>0.32</b>

Hence, CC for 2013 is

$$CC = 1 - \frac{\sum_{j=1}^A \left(\frac{1}{j}\right) fj}{N}$$

$$CC = 1 - \frac{\left(\frac{1}{1} \times 199\right) + \left(\frac{1}{2} \times 66\right) + \left(\frac{1}{3} \times 5\right) + \left(\frac{1}{4} \times 2\right)}{272}$$

$$= 1 - \frac{199 + 33 + 1.67 + 0.50}{272}$$

$$= 1 - \frac{234.17}{272}$$

$$= 1 - 0.86 = 0.14$$

In the same way, the values of CC are calculated for all the corresponding years and displayed in Table 5.

It is evident from Table 5 that the overall average collaboration coefficient of university news journal is 0.17 during the study period. The highest collaboration coefficient is 0.27 in the year 2022, followed by 0.22 in the year 2020 and the lowest collaboration coefficient is 0.13 in the years 2014, 2015 and 2016 respectively.

#### Modified Collaboration Coefficient (MCC)

The Modified Collaboration Coefficient (MCC)

of University News journal is calculated by the formula which is suggested by Savanur and Srikanth as given below:

Hence, the MCC for 2013 is:

$$MCC = \left(\frac{N}{N-1}\right) \left\{1 - \frac{\sum_{j=1}^A \left(\frac{1}{j}\right) fj}{N}\right\}$$

$$MCC = \left(\frac{272}{272-1}\right) \left\{1 - \frac{\left(\frac{1}{1} \times 199\right) + \left(\frac{1}{2} \times 66\right) + \left(\frac{1}{3} \times 5\right) + \left(\frac{1}{4} \times 2\right)}{272}\right\}$$

$$MCC = \left(\frac{272}{271}\right) \left\{1 - \frac{(199) + (33) + (1.67) + (0.50)}{272}\right\}$$

$$MCC = (1.00) \left\{1 - \frac{(234.17)}{272}\right\}$$

$$= (1.00) (1 - 0.86) = 1.00 \times 0.14 = 0.14$$

In the same way, the values of MCC are calculated for all the corresponding years and displayed in Table 6.

It is evident from Table 6 that the overall average modified collaboration coefficient of university news journal is 0.17 during the study period. The highest collaboration coefficient is 0.27 in the year 2022,

**Table 5: Collaboration Coefficient of the University News Journal**

S. No	Year	Authorship Pattern						Total	CC
		One	Two	Three	Four	Five	Six		
1	2013	199	66	5	2	--	--	272	0.14
2	2014	183	55	5	--	--	--	243	0.13
3	2015	269	78	11	1	1	--	359	0.13
4	2016	222	68	4	1	--	--	296	0.13
5	2017	191	62	9	4	--	--	266	0.15
6	2018	174	85	6	3	1	--	269	0.18
7	2019	249	83	12	4	1	--	348	0.15
8	2020	139	74	14	5	--	--	233	0.22
9	2021	161	88	15	5	--	--	269	0.21
10	2022	124	103	17	3	--	1	248	0.27
<b>TOTAL</b>		<b>1911</b>	<b>762</b>	<b>98</b>	<b>28</b>	<b>3</b>	<b>1</b>	<b>2803</b>	<b>0.17</b>

**Table 6: Modified Collaboration Coefficient**

S.No	Year	Authorship Pattern						Total	MCC
		One	Two	Three	Four	Five	Six		
1	2013	199	66	5	2	--	--	272	0.14
2	2014	183	55	5	--	--	--	243	0.13
3	2015	269	78	11	1	1	--	359	0.13
4	2016	222	68	4	1	--	--	296	0.13
5	2017	191	62	9	4	--	--	266	0.15
6	2018	174	85	6	3	1	--	269	0.18
7	2019	249	83	12	4	1	--	348	0.15
8	2020	139	74	14	5	--	--	233	0.22
9	2021	161	88	15	5	--	--	269	0.21
10	2022	124	103	17	3	--	1	248	0.27
<b>TOTAL</b>		<b>1911</b>	<b>762</b>	<b>98</b>	<b>28</b>	<b>3</b>	<b>1</b>	<b>2803</b>	<b>0.17</b>

followed by 0.22 in the year 2020 and the lowest collaboration coefficient is 0.13 in the years 2014, 2015 and 2016 respectively.

**Number of Articles Vs Authorship Pattern**

Table-7 shows the number of articles vs authorship pattern of university news journal publications which is published during the study period.

It is evident from the Table 7 that a total number of 3862 authors have contributed 2803 articles, where single authored articles are rated highest with 1911 articles followed by two authored are by 762 articles, three authored are by 98 articles, four authored are by 28 articles, five authored papers are by 3 articles and six authored are by only one article. It can be concluded that a greater number of articles are contributed by single authors in university news journal from 2013 to 2022.

**Relative Growth Rate and Double Time of Publication**

The Relative Growth Rate and Double Time (RGR& DT) is calculated by using the following formula:

$$RGR = \frac{W2 - W1}{T2 - T1}$$

Where, RGR = Relative Growth Rate the specific period of the interval,

W1= Log<sub>e</sub> (natural log of the initial number of contributions

W2= Log<sub>e</sub> (natural log of the final number of contributions

T1= the unit of the initial time

T2= the unit of the final time

Doubling Time (DT) =  $\frac{0.693}{R}$  where R is growth rate

Table 8 shows the relative growth rate and doubling time of contributions published in University News: A Weekly Journal of Higher Education during 2013-2022. The growth rate of publications has been calculated based on RGR and DT model, which is developed by Mahapatra in 1985. It has been noticed that the relative growth rate decreases from the rate of 0.63 to 0.10 from 2013 to 2022. The mean relative growth rate for first four years during 2013 to 2016 is 0.36 whereas second block of three years mean growth rate is reducing continuously and in the last block mean growth rate is 0.10 it shows that there is a big difference in comparison to the first block. The corresponding doubling time for different years is gradually increasing from 0.10 to 6.93 from 2013 to 2022. The mean rate of doubling time for the first block to last block is increasing from 1.20 to 6.72 from 2011

**Table 7: Number of Articles Vs Authorship Pattern**

S.No	No. of authors	No. of articles	Total No. of authors	Percentage of articles	Percentage of authors
1	Single	1911	1911	68.18	49.48
2	Two	762	1524	27.18	39.46
3	Three	98	294	3.50	7.61
4	Four	28	112	1.00	2.90
5	Five	3	15	0.11	0.39
6	Six	1	6	0.03	0.16
<b>TOTAL</b>		<b>2803</b>	<b>3862</b>	<b>100.00</b>	<b>100.00</b>

**Table 8: Relative Growth Rate and Double Time of Publication**

Year	No. of Articles	Cumulative No. of Articles	Log1e	Log2e	RGR	Mean RGR	DT	Mean DT
2013	272	272	0	5.61	--	0.36	--	1.20
2014	243	515	5.61	6.24	0.63		1.10	
2015	359	874	6.24	6.77	0.53		1.31	
2016	296	1170	6.77	7.06	0.29		2.39	
2017	266	1436	7.06	7.27	0.21	0.19	3.30	3.68
2018	269	1705	7.27	7.44	0.17		4.08	
2019	348	2053	7.44	7.63	0.19		3.65	
2020	233	2286	7.63	7.73	0.10	0.10	6.93	6.72
2021	269	2555	7.73	7.84	0.11		6.30	
2022	248	2803	7.84	7.94	0.10		6.93	

to 2022. The rate of relative growth rate is decreasing when corresponding doubling time is increasing during the research period.

### Activity Index (AI)

Table 9 represents the activity index of the publications during the study period 2013-2022. Activity index calculated on the basis of publication which published by Indian authored papers and world authored papers in University News: A Weekly Journal of Higher Education during the period of study. Activity index describes the relative research efforts in a given field of research.

The activity index has been calculated by the formula which is suggested by Braun :

$$AI = \{(I_i/I_o)/(W_i/W_o)\} \times 100$$

Where,  $I_i$  = Indian output in the year  $i$

$I_o$  = Total Indian output

$W_i$  = World output in the year  $i$

$W_o$  = Total output

It is evident from Table 9 that the highest activity index has been counted in Indian articles is 100.39 in the years 2013, 2019, 2020, 2021 and 2022 respectively and the lowest activity index is 99.28 in the year 2015. The highest world activity index has been counted in the year 2015 which is 283.92 and the lowest is 0.00 in the years 2013, 2019, 2020, 2021 and 2022 respectively.

### Major Findings

1. A total of 2803 articles were published in ten volumes of University News: A Weekly Journal of Higher Education during the period i.e., 2013-2022, out of which 359 (12.81%) articles were published in the year 2015, followed by 348 (12.41%) articles in 2019 as the second highest

contributions; and there were 272 (9.70%) articles in the year 2013, having the third highest number of articles. The lowest contributions were seen in the year 2020 with 233 (8.31%) articles.

2. The highest annual growth rate of publications in university news was recorded in the year 2015 (47.75) followed by the year 2019 (29.27) and the lowest annual growth rate was recorded in 2022 (-7.81).
3. Out of 2803 articles, 1911 articles were contributed by single authors; 762 articles by double authors; 98 articles by three authors; 28 articles by four authors; 2 articles by five authors; and one article contributed by six authors.
4. The average collaboration index was recorded at 1.38 during the study period i.e., 2013-2022. The highest collaboration index was recorded at 1.61 in the year 2022, while the lowest collaboration index was at 1.26 recorded in the year 2016.
5. The average degree of collaboration was recorded at 0.32 during the period of study. The maximum average degree of collaboration was recorded at 0.50 in the year 2022, followed by 0.40 in the years 2020 and 2021. The lowest average degree of collaboration was recorded at 0.25 in the years 2014, 2015 and 2016 respectively.
6. The average collaboration coefficient was recorded at 0.17 during the study period. The highest collaboration coefficient was 0.27 in the year 2022, followed by 0.22 in the year 2020; and the lowest collaboration coefficient was recorded at 0.13 in the year 2014, 2015 and 2016 respectively.
7. The average modified collaboration coefficient was recorded at 0.17 during the study period. The highest collaboration coefficient was 0.27 in the year 2022, followed by 0.22 in the year

**Table 9: Activity Index**

Year	No. of Articles (Indian)	No. of Articles (International)	Total No. of Articles	Activity Index (National)	Activity Index (International)
2013	272	0	272	100.39	0
2014	241	2	243	99.57	209.73
2015	355	4	359	99.28	283.92
2016	294	2	296	99.72	172.17
2017	264	2	266	99.64	191.59
2018	268	1	269	100.02	94.73
2019	348	0	348	100.39	0
2020	233	0	233	100.39	0
2021	269	0	269	100.39	0
2022	248	0	248	100.39	0
<b>TOTAL</b>	<b>2792</b>	<b>11</b>	<b>2803</b>	<b>100.00</b>	<b>100.0</b>

2020; and the lowest collaboration coefficient was recorded at 0.13 in the year 2014, 2015 and 2016 respectively.

8. A total number of 3862 authors have contributed 2803 articles, wherein the single authored articles were the highest with 1911 authors, whereas, there are 1524 have contributed 762 articles. In essence, more articles were contributed by individual authors in University News from 2013 to 2022.
9. The study revealed that the relative growth rate decreased from the rate of 0.63 in 2013 to 0.10 in 2022. The mean relative growth rate for the first four years, during 2013-2016 was 0.36, whereas the second block of three years the mean growth rate was seen reducing continuously with last block mean growth rate being 0.10.
10. The corresponding doubling time for different years was seen gradually increasing from 0.10 in 2013 to 6.93 in 2022. The mean rate of doubling time for the first block to the last block was seen increasing from 1.20 in 2013 to 6.72 in 2022. The rate of relative growth decreased when the corresponding doubling time was increasing during the research period.
11. The highest activity index found in Indian articles was recorded at 100.39 in the years viz., 2013, 2019, 2020, 2021 & 2022, while the lowest activity index was 99.28 in the year 2015. The highest world activity index was recorded at 283.92 in the year 2015 and the lowest was 0.00 in the years i.e., 2013, 2019, 2020, 2021 and 2022.

## Conclusion

During the research study period of 2013–2022, 2803, articles published in University News shows a trend towards individual research. The majority of articles (1911) without collaboration have been identified. Out of 563 papers, 892 (31.82%) papers are contributed by two or more authors. The Collaboration index, the degree of collaboration, collaboration coefficient, modified collaboration coefficient, activity index, relative growth rate and doubling time were calculated from the data which is published during the research period of study. The average collaboration index was 1.38, the average degree of collaboration was 0.32, the average collaboration coefficient was 0.17, the average modified collaboration coefficient was 0.17, the average relative growth rate was 0.23, and the average time to double was 3.60. It is clear from the study findings that the majority of individual

authorship and low collaboration coefficient in the University News which reveals that individual research is predominant during the study.

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# Unauthorized Translation Work Amounts to Plagiarism: Some Dos and Don'ts

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The universe of knowledge has been broadly divided into three main subject areas, viz., Pure Sciences, Social Sciences, and Humanities and each of these areas signifies human endeavor and relation with them in their own way. Sciences signify the study of man in relation to nature, Social Sciences signify the study of man in relation to society and Humanities signify the study of man in relation to self. Each day a huge corpus of literature is produced in all these subject areas all across the world in different languages both recognized and unrecognized. It is estimated that around 4 million books are published each year worldwide through both conventional and modern means (WordsRated, 2022), around 1.88 billion websites exist in different languages, which upload millions of WebPages each day (Statista, 2023). Of all the literature produced globally, some works attain popularity and strike prominence, while a few do fairly, and still others fail to entice readers to a lesser or greater degree.

As per the 26<sup>th</sup> edition of the world ethnologies 2023, there are 7168 living languages spoken all across the world by over 8 billion people (SIL International, 2023). This should give us a fair idea about the wealth of information produced globally each day in different languages. What is more interesting about this volume of information produced globally is that information seekers despite having an appetite and access to most of the literature produced can't go through it for language barriers. An average person knows three to four languages, which he can read, write and speak. An efficient polyglot person may know around 8 to 10 languages at most. This way one can easily infer that an average person across the world is deprived of going through the literature produced in around 7160 languages across the world, just because of language barrier.

The human quest to read the literature produced in languages alien to them is since ages and so

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have people sought ways and means to overcome the language barrier by way of translating the foreign languages into local or preferred languages. Translation service as is known is the way whereby a person having expertise to effectively interpret a foreign language into a favored language without diluting and losing the essence of the original language in which a book or a document is written. The word translation is believed to be originated from Latin word 'translation' which means 'to come across', while others are of the view that 'Metaphrase' has been derived from ancient Greek word 'metaphrazein', meaning word for word translation (Collins, 2023) and so is it believed that Gilgamesh a collection of Sumerian poems is the first document which was translated into different languages during Mesopotamian era (Language Network, 2021). Translation services give us an ability to read any book or document written in any foreign language or communicate with an individual who is not familiar with our language. The authentic, reliable, credible and legitimate translation service is always provided by the professional linguists, who are certified translators and language interpreters. However, of late it is being observed that every Tom, Dick and Harry has started translating books written in foreign languages and that too without seeking prior permission of the author and publisher.

It is being observed that a good number of academicians and researchers undertake unauthorized translation work of the documents written in any foreign language. The practice is more prevalent among the researchers and academicians from the field of languages. A good number of novels and other general books written in both foreign and local languages are being translated unauthorizedly. Accordingly, the undergoing discussion is about some dos and don'ts which every translator is supposed to abide by and follow while translating any document written in a foreign language into a local language or any other favored language.

## Problem Statement

Over the years a manifold growth is being

observed in the unauthorized translation works undertaken by academicians, researchers and other scholarly community in world in general and India in particular. Although translation of a work written in a foreign language to its favored language takes place in any subject area, but still, the majority of the translation work is undertaken in the field of humanities and other general writings from any foreign language to a local language or to the translators favored language. What makes one to question the authority and legitimacy of the translated work is the various dos and don'ts that are not generally followed by the translators while undertaking the translation work. A good number of translators, mostly novice, budding and the young ones may not be aware of legitimacies involved in undertaking such a work, but a seasoned or a certified translator who is actively undertaking translation works cannot plead innocent of not being aware of such dos and don'ts.

### **Need for and Importance of Translation Work**

It is being observed that of the around 24680 research journals indexed in Web of Science around 6769 (27.42%) research journals are being published in languages other than English, including, French, German, Spanish and Chinese (Clarivate, 2023). Similarly, of the 19194 research journals indexed in Directory of Open Access Journals (DoAJ) 15280 journals are published in English language, which means 3914 (20.39%) journals are published in languages other than English. Still more, of the 15280 journals published in English language only 8705 (56.96%) journals are published in English language alone, while the remaining 6575 (43.04%) journals are published in additional languages as well. As per DoAJ around 10,000 research journals are published in 80 different languages across the world with Spanish, Portuguese, Indonesian, French, Russian, Italian, German and Chinese as some of the major foreign languages in which a fair number of research journals are published globally. It can also be inferred that of the total research results published across the world nearly 55% research results are published in research journals other than English language (DOAJ, 2023). All this somewhere warrants the need and importance of translation work which requires to be undertaken in the field of research alone. Similarly, a huge corpus of literature is produced in the world, be it general writing, poetry,

prose, novels and fiction etc. which too requires to be translated and so do reputed literature lover come forward to translate the same for the benefit of one and all.

Needs and importance of translation has become even more important in this ever and fast changing world, where globalization has become the order of the day, encompassing trade, commerce, cross cultural interaction, exchange of information and more.

### **Objective of The Study**

The present study has been undertaken with the following objectives:

- To help understand the need and importance of translation work and the legalities thereof involved in undertaking a translation work.
- To deliberate on the issue of unauthorized and illegitimate translation work.
- To discuss about a good translation work and the dos and don'ts involved in authenticating and legitimizing a good translation work.
- To acquaint readers as what makes a translation work, Authentic, reliable, credible and legitimate.

### **Certified Translators/Linguist**

By and large translation work is undertaken by the trained, certified and professional linguists, who possess necessary qualifications to do justice to the actual work without affecting or diluting its actual meaning and essence. Services of certified translators can be hired on different counts given the sensitivity of the work for which same is required. However, the services of professional or certified translators are generally used in translating the high end research results published in any foreign language to ones preferred language. Still more, the general popular works undertaken in the field of Humanities and Social Sciences do have demand for translated version of document and so are certified professionals hired to undertake the work. Translation of poetry, prose, fiction, novels and other general reads is a very common practice and this sort of translation work is generally undertaken by both the author and the publishers by hiring the services of professional translators. Still more, hiring the

services of certified translators to undertake the translation work can be gauged from the discussion undertaken above on the need and importance of translation services, especially in specialized areas like scientific advancements etc.

### **Authorization Cum Permission from Author**

As is known that any literary, research or academic work which is in great demand but is not available in the preferred language of the information seeker is generally translated from the author's written language to information seekers preferred language or the language in which a particular document is in demand. Since the work is originally written by a foreign author, as such before going ahead with any translation work, it is always desirable that a translator should foremost seek the prior permission from the author and the publisher of the original work, which is both ethical and is also mandatory to avoid any kind of legal course of action which the author may initiate for unauthorized translation of his/her work. Also, both the translator and the author should possibly enter into a legal agreement with each other by laying down terms and conditions, especially concerning to share of profit earned from the sale of translated document. This should be followed by publishing the permission letter by the translator itself in the translated document alongside the title page or as one of the preliminary pages, so as to both authenticate and legitimize the translation work. It is not necessary that it is always a translator that may approach the author for his/her permission to translate the work, if the work is in great demand in other foreign languages, the author itself may lookout for potential or reputed translators to hire their services for translating a document in any other favored language. Again, here it is duty of the author to ensure that a permission or authority letter is both issued and itself published in the translated work to legitimize the translated work.

### **Copyright Violations**

Any authorization letter issued by the author to a potential translator becomes questionable the moment author issues the authorization letter to a translator without the knowledge and consent of the publisher, who in turn can challenge the same in the court of law. Authors publishing books by transferring copyright to publishers are bound by the copyright transfer agreement, as such cannot transfer

the translation rights to a third party without taking the publishers into confidence. However, those authors who publish books themselves under their own name or without transferring the copyright to publishers are at liberty to transfer the translation rights to any potential translator after entering into agreement with the author over various terms and conditions which the author may lay while transferring translation rights. The author may seek maximum share in the profit earned from selling the translated version of his/her document. The translator may be bound to translating the document in to a specific language with or without transferring copyright. In the same way the author can hire the services of number of translators interested in translating the document in their favored language.

As per the Government of India Handbook of Copyright Law, "Copyright is a right given by the law to creators of Literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings *inter alia* rights of production, communication to the public, adaptation and translation of the work." It also speaks about the slight variation in the composition of the rights depending upon the nature of work (India. Department For Promotion of Industry and Internal Trade Ministry of Commerce and Industry, 1957).

### **Intellectual Property Rights**

Producing any creative work requires a lot of effort on the part of creator and the fruit of this quality creative work is reaped by the creator in the shape of appreciations received from the lovers of creative work and so are all the creative works protected under Intellectual Property Rights (IPR). Intellectual Property Law ensures and enforces the rights of the creators in any area, be it invention, writing, publishing, arts, entertainment, soft skill, designs, music through copyrights, trademarks, patents, and other trade secrets etc. Violation of Intellectual Property can lead to litigation in any federal court for infringement of Intellectual Property (WIPO, 1967, 2020). Any authorized translation work undertaken by any individual sitting in any part of the world can be questioned for violation of intellectual property rights law and so can be an offender prosecuted in the court of law and shall be liable to compensate for the damages done to the creative work of the original author. Translators of any academic, research or

general work should always make it a point to seek the prior permission of the original authors or the one whose intellectual work stands protected under law and the violation of same is bound to drag one in the court of law.

### **Causing Monetary Loss to Author and Publisher**

A creative person, a content writer or for that matter an author has different motives to undertake creative activity, it may be his/her personal satisfaction, to receive appreciations from the masses, to showcase his/her creativity or many more reasons can be there. Whatsoever, earning money is one of foremost reasons also which impels an individual to produce an intellectual work and then earn money by selling the same. A good number of authors produce content in the form general books, academic content, research work, novels, fiction, poetry and other type of prose with the sole purpose to make some earnings. But the moment, a translator comes in-between and translates his/her document in any other language without the knowledge and consent of the author, the author is bound to suffer monetary losses including publisher. Any work which attains popularity among masses and is in great demand to be made available in any other preferred language, it is the sole responsibility of the author and publisher to seek means of translation to make the document available to masses in their preferred language. This way neither the author nor the publisher suffers any monetary losses. But the moment, same work is translated unauthorizedly, the author is bound to suffer monetary losses.

### **Sharing Profits**

As is known to all that every published document carries a price tag, signifying it has an economic value. In the same way every translated document has an economic value. This impliedly also means that a translated document can equally help an author or for that matter a publisher to earn the profit in the same way as an original or actual document can. Given this fact, a translator can also make monetary gains by selling the translated work of some other authors. If the translation work has been undertaken with the due permission of the author then the profit earned from selling the translated work is supposed to be shared between both the author and the translator as per the terms and conditions decided before

undertaking the translation work. But the moment translation work is undertaken unauthorizedly, which means the translator is not bound by any legal document as such is liable to make monetary gains illegally, thereby causing the monetary loss to both the author and the publisher as well.

It is always advisable that both the translator and the author should enter into an agreement with each other before going ahead with the translation work and should amicably decide over the percentage share each can take from the profits earned from the sale of translated work. Those undertaking translation work without the knowledge and consent of the author, even if they share the profit earned from the translated work with the author will still render their translation work unauthentic, illegitimate and plagiarized.

### **Credibility to Do Justice to The Original work**

There may be many people who desire to undertake translation of any specific document in their favored language or their mother tongue for the benefit of all those deprived of going through the original work due to language barrier. The question arises, can any Tom, Dick and Harry undertake the translation of any desired document and the answer is no. Translation work is a very specialized job and is generally undertaken by the certified professionals known for their translation acumen. The biggest danger involved with any translation work is whether the translator would be able to do justice to the original work in the translated version. It is an accepted fact that translators somewhat fail to maintain the true essence of original work in the translated work and this is where an authors take utmost care in hiring the services of those translator that are known for their expertise and so should one be able to do justice to the original work in its translated version. The credibility of the translated work rests solely with the ability and expertise of the translator. If a translator has a proven track record of his/her past works, nobody can question his/her credibility, but the moment any Tom, Dick and Harry unauthorizedly undertakes translation work, that work is bound to be questioned for its credibility.

### **Having Necessary Qualification in Both the Languages**

Authorization letter to undertake a translation

work by the author corroborates the credibility of the translator and authenticates the genuineness of the translation work done. It is a proven fact that an efficient translator is the one who has good command over both the languages, as such shall be able to translate the work to the same degree as the actual work without affecting its originality, quality and taste. Similarly, novice and untrained translators are known for distorting and downgrading the actual work and such works are more often found as unauthorized. The ability to translate any document in itself is a qualification, but to be a well-known and recognized translator one should possess the necessary qualification which may be required in any given field. Like for translating any scientific advancement published in any foreign language, one should preferably have good knack of the scientific terminology and technical language used. Similarly, translating medical advancements should ideally be undertaken by a recognized medical practitioner. Having professional, academic and linguistic qualification is one of the prerequisites to be a good translator and absence of same is bound to raise questions over the credibility of the translated work.

### **Translating Sensitive Documents**

Translating religious scriptures is a very common practice across the world and this is primarily for two main reasons, one is demand and two advocators of any particular religious doctrine do want their religious thought to be propagated among those who do not know or know very less about their religious belief system. However, translating such a sensitive document, involving belief system involves a lot of danger, which more or less is like walking on a double edged sword. Translation of religious scriptures should always be undertaken by those who are expert in the religious testament, as any slightest of distortion in the essence of the original work may lead to public outcry. Given the sensitivity of the document, no novice or budding translator can afford to undertake such a forceful or mammoth task.

### **Authenticity and Legitimacy of Translation Work**

The authenticity and legitimacy of the translated work can be corroborated solely by the author of the original work. It is the author of the document

who can substantiate that the translated work is at par with the original work and by no means has been compromised with the essence, quality and freshness. If there is any distortion in the translated work, it is only the author who can point it out and can put facts together and straight. The authenticity of the translated work can only be corroborated if the translator has sought necessary permission from the author of the original document and has put the same before the author for substantiation before its release or before making the document public. In the same way permission to undertake the translation work of a specific document by the translator from the author again substantiates that the work done is legitimate as such can be used and quoted for all purposes. What will enhance the legitimacy of the document is by publishing the permission or authorization letter itself in the translated document. Still more, the authorization letter impliedly also means that the author is satisfied with the qualification and ability of the translator, as such has been granted the permission.

### **Conclusion**

In the light of above discussion, it can be emphatically said that any unauthorized translation work is as good as theft, amounting to plagiarism and this theft is not only limited to unauthorizedly translating others work without his knowledge and consent but also causing monetary losses to the author and publisher. Any unauthorized translation work also amounts to disregarding and disrespecting Intellectual Property Rights along with copyrights violation, which by all means can be challenged in the court of law and the violator can be forced for compensating the damages done on different counts, include imprisonment. This clearly reflects that any unauthorized translation work amounts to plagiarism and can be challenged and questioned under institutional policy on Promotion of Academic Integrity and Prevention of Plagiarism as rolled out by the University Grants Commission of India in 2018 (UGC, 2018). One found guilty of plagiarism can ruin his/her flourishing career. An unauthorized translation work apart from being questionable for its credibility is equally questionable for its authenticity and legitimacy. Every novice and budding translator in any field should take due note of some dos and don'ts and one cannot plead innocence of not being aware of such dos and don'ts. A prior

permission from author and publisher followed by necessary terms and conditions is the prerequisite for undertaking translation of any work is what an aspiring translator should ensure before going ahead with the translation work.

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# Women Studies Centers: Challenges and Opportunities

Shobha Shinde\*

Women's Studies has been a part of the larger Women's Movement in India. The founding point of Women's Studies goes back to the 1974 report "Towards Equality" published by the Committee on the Status of Women, appointed by the Government of India, in 1972. It described the distressing conditions of women in the spheres of health, employment, societal status, and political participation, bringing these questions to the forefront of the issues of the day.

This prompted the Indian Council of Social Science Research (ICSSR) to fund projects in universities, which was a major development in the trajectory of women's studies programs. The SNDT University, Mumbai became a centre for such research in 1985. University Grants Commission (UGC) was also instrumental in introducing Women's Studies as an interdisciplinary subject in higher education. In 1986 UGC brought out the guidelines for the development of Women's Studies in universities and colleges across India. Extension activity with various development projects was added later. The scope of Women's Studies was defined as "transformation of spheres of knowledge production". The Women's Studies programme was found to be an instrument for women's development and as an input to deepen the knowledge base of various disciplines. Women's Studies was to be understood not merely in the context of research, and teaching but also action. Women's voices were to become complementary tools for national development and social upliftment.

Women's Studies in India today are facing many challenges and have to keep pace with the changing global trends without losing focus on the local realities. The decades-old format of Women's Studies has to be reframed and Women's Studies has to emerge in a new garb involving fresh perspectives. Multidisciplinary approaches, adopt new methodologies at the same time to remain rooted in the social realities of a diverse complex country like India. Women's studies Centers across the country have to rise like a phoenix from the ashes of the past, with an eye to the future that beckons us. But should at the same time remain firmly tied to the present.

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## Challenges before Women's Studies Centers

The policymakers in higher education and the government need to pay urgent attention to the decadence which has spread across the Women's Studies Centers in the universities of India. An innovative scheme, which was to adopt a woman's approach besides that of women's involvement in all aspects of national growth has today fallen to a new low because of the apathy of academics educationists, administrators, and bureaucrats. Their short-term policies have discouraged women's studies pedagogies, methodology, and perspectives which need to be included in all research. The demand of the times is that there has to be constant revising, and reviewing of Women's Studies so that new theories and strategies can be developed, Today the challenges which Women's Studies Centers face are enlisted below :

- 1) The peripheral position of Women's Studies Centers in universities has to change to bring Women's Studies into the mainstream of knowledge and education systems.
- 2) Today financial constraints keep on haunting all Women's Studies Centres and are a matter of great concern for the very survival of the centers.
- 3) The Women's Studies Centers are regarded merely as showpieces in universities to attract National Assessment and Accreditation Council (NAAC) grades.
- 4) The universities must be compelled to change the UGC Women's Studies Centers into regular university depts.
- 5) Faculty positions are to be filled from contractual to sanctioned posts.
- 6) State governments should be compelled by the UGC and Ministry of Higher Education to accept the responsibility of granted posts and give concurrence to posts.
- 7) The headships of Women's Studies Centers must not be entrusted as additional responsibility to already overburdened professors of the university departments.
- 8) Invisible barriers and glass ceilings which discourage women from studying STEM fields

need to be removed. STEM should change to STEAM to include Arts in this field.

- 9) Structural problems faced by women remain --- societal expectations, organizational policies, biases and lack of care structures. Violence against women in all forms is a grave challenge which prevents women from equal and full participation in the nation's development.
- 10) Navigate work life challenges through discussions and training programs for skills, competencies and capabilities development specially designed for women.
- 11) Bridge courses, certificate courses, workshops, gender sensitizations programs should be conducted by all Women's Studies Centers for all those in governance, legislature, judiciary, police, and professionals.
- 12) Women's Studies Centers have a role to play to embrace equity and bridge the gender divide. This becomes an imperative today as the UN theme for the International Women's Day, 2023 is "DigitAll: Innovation and Technology for Gender Equity."
- 13) Women's Studies Centers must take up the challenge of the different ways to train women to develop more humane smart cities, robots that care for the elderly and the sick, sustainable energy systems as well as ways to fully understand biological data.
- 14) Women's Studies Centers must design courses to widen their scope to include Queer Theory, lesbians, gays, bisexuals, transgender, intersex, as well as the LGBTQ community. They are to be made an integral part of the explorations and research to be undertaken by Women's Studies Centers.
- 15) Women's Studies Centers must revise the syllabi to study the needs of people with Disabilities. This can be an emerging field of inquiry.
- 16) Women's Studies have an important role to play in Sustainable Development rests on three

interrelated pillars – economic development, social development, and environmental protection. A fourth pillar has been proposed, the preservation of cultural diversity.

Sustainable development is a multifaceted, dynamic, and all-pervasive process. Gender equality and environmental goals are mutually reinforcing. It becomes a moral and ethical issue. Women's Studies Centers must undertake the responsibility of training students and personnel in the art of the three (3) Rs. Reduce/Reuse/Recycle – the only available formula for sustainability.

- 17) Women's Studies Centers must prepare a knowledge base and increase employability opportunities for students who offer their courses.

### **Conclusion**

Today, Women's Studies Centers all over Indian universities are on the verge of closure. It is an emergency situation that demands immediate attention. Vice Chancellors claim a paucity of funds and stringent rules for faculty appointments. But the need for Women's Studies as a multidisciplinary and inter-disciplinary branch of knowledge has been firmly established and acknowledged. What is required is a positive policy change toward the needs of the Women's Studies Centers. A gender perspective has entered all aspects of public and social life. A valuable human resource that encompasses fifty percent of the population is to be nurtured and cherished through the participation of all stakeholders. Research projects and social outreach programs are to be adopted and gender diversity is to be made a strength of the Indian polity. Women's Studies Centers have to build upon the belief that "social" and "scientific" are intrinsically interlocked in the discourses of gender.

Joint efforts are to be urgently taken to bring back all Women's Studies Centers to their overdue status as important contributors to the resource development of our nation. What is required is a strong will and planning to execute the goals and mission of the Women's Studies Centers.

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# Detoxing Indian Higher Education System through 4 'D's

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**Bhushan Patwardhan, National Research Professor, Ministry of Ayush, Government of India, Formerly, Chairman, National Assessment and Accreditation Council, Chairman (additional charge), Indian Council for Social Science Research, and Vice Chairman, University Grants Commission, New Delhi delivered the Convocation Address at the 55<sup>th</sup> Convocation Ceremony of the Rabindra Bharati University, Kolkata, West Bengal on May 08, 2023. He said, " Education has the power to shape the minds of the young generation. However, it is also a double-edged sword. The university should be instrumental in grooming students to become responsible citizens and good human beings. In this process, the political experience can play an important role. My humble advice to the young graduates on this pious occasion will only be to face any odds and calamities courageously and enjoy life meaningfully without losing sight of our rich cultural heritage which is based on the principles of sustainability and the good of humanity." Excerpts**

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It is indeed my honour and privilege to deliver the 55<sup>th</sup> Annual Convocation Address at Rabindra Bharati University (RBU). This is a very special occasion for me because RBU was established in 1962 to mark the birth centenary of the legendary thought leader Rabindranath Tagore, the first Indian recipient of the Nobel Prize for Literature. This progressive State University remains a center of excellence for higher learning in performing arts, fine arts, language, literature, and social sciences.

At the outset, I take this opportunity to congratulate all the graduating students, rank holders, and medalists. Convocation is a celebration of educational success as they get ready to advance their careers, shoulder responsibilities, and face real-life challenges. My humble advice to the young graduates on this pious occasion will only be to face any odds and calamities courageously and enjoy life meaningfully without losing sight of our rich cultural heritage which is based on the principles of sustainability and the good of humanity.

## Remembering Rabindranath Tagore

This university stands on the land which has witnessed Indian Renaissance which was brought about by religious and social reformers like Raja Ram Mohan Roy and Swami Vivekananda, spiritual masters like Ramakrishna Paramahansa, the scientists like Jagadish Chandra Bose, and Prafulla Chandra Ray, revolutionaries and freedom fighters like Khudiram Bose and Netaji Subhash Chandra Bose, and litterateur like Sarat Chandra Chatterjee. It is but appropriate that I begin my convocation address by paying my humble respect to these legends and to Gurudev Rabindranath Tagore on this special occasion.

I take this opportunity to recall some of his visionary ideas on education whose concrete manifestation we find in his famous Santiniketan experiment. As we all know, Rabindranath was not a product of the formal education system which was introduced by the British during the colonial times, yet, by virtue of his being born as a poet of profundity, Tagore had a deep understanding of human nature which has shaped his views on the role of education. For him, education is a means to cultivate the minds and thereby cultivate the creative genius in man than burden him with loads of information to be mastered by rote learning. Tagore saw the shortcomings of the British system of education in terms of inhibitions the system puts on creativity.

The *Santiniketan* experiment was a concrete alternative to this type of education. Tagore's characterization of Santiniketan as *Tapovan*- i.e. pursuit of knowledge within the surrounding of Nature, is significant as it stresses the basic difference between the Indian and the Western idea of University. For Tagore, the Indian idea of the university is based on the idea of a Sage in the forest whereas the Western idea of the university is based on the model of a City. So, the debate between India and the West is to be on the nature of a University as harmoniously tuned to Nature, and a University as tuned to an ever-expanding but regimented City by conquering Nature. In *Tapovan* he writes, "Indian civilization has been distinctive in locating its source of regeneration, material and intellectual, in the forest, not the city. The unifying principle of life in diversity, of democratic pluralism thus became the principle of Indian civilization".

Embodying Tagore's philosophy of education, the *Santiniketan* experiment addressed two important

issues in the colonial context. The first issue was that of response to the Western system of education either by copying it or rejecting it and the second issue was that of the aim and nature of the indigenous education system, its contents, and its medium of instruction. But beneath these issues lies the fundamental philosophical question of the role of tradition and culture that defines our identity on the one hand and on the other hand our relationship with the Universe. What this meant in the colonial context was how we hold on to our cultural and civilizational identity and at the same time respond to the Western culture and civilization. Tagore did not see these two as separate issues, that is, our having a unique civilizational identity and at the same time our being a global citizen. His cosmopolitan bent of mind did not see the East and the West in isolation. He had his unique conception of human perfection to be attained through education of which two necessary conditions are freedom and creativity.

### **Purpose of Education: सा विद्या या विमुक्तये**

Tagore's views on education provoke us to ponder over, yet again, the cause or the purpose of education. In fact, when way back in 1906 Tagore was asked to write a basic concept note (*gathan patrikā*) for the formation of the National Council of Education of Bengal, he had asked this question of the fundamental cause or purpose (*kāraṇ beej*) of forming this Council.

It is not difficult to imagine that Tagore's question about the root cause of the formation of the Council is really a question about the purpose of education itself which still needs a comprehensive answer. The question about the purpose or the goal of our education is a perennial question that leads to an inquiry into the philosophy behind the very idea of purpose or goal. In the ancient Greek tradition Aristotle in his *Nicomachean Ethics* has elaborated the principle of *teleology* i.e. goal orientedness as the governing principle of everything. According to him, everything that exists has a function (*ergon*). We define anything be it an object, an action, an institution, or a system, in terms of the function or the task for which it is made. Aristotle further says that the goal or the purpose (*telos*) of anything lies in performing its function well for which that thing is made. This means that the final purpose (*telos*) of anything lies in that thing itself and is not external to it.

Extending Aristotle's teleological argument to the system of education we may ask two interrelated questions viz. 'What is the function of education?'

and 'What is the goal or the purpose of education?' These questions have been answered from many quarters voicing as diverse concerns as raised by philosophers, educationists, humanists, legislature, policymakers, technocrats, and parents. All these concerns pertain to the teleology of education. As is well known, in our context, the British education system that was introduced in India during the colonial period was primarily to meet the needs of the colonial administration and to provide the British with English-speaking and modern-educated personnel. But this system was not of any use to the Indian masses. Its scope and effectiveness were extremely limited. Therefore, response to this system from social, religious, and political reformers was mixed and varied but the question of the goal or the aim of education was always at the center of India's freedom movement.

In this context, we see that for Sri Aurobindo the aim of education is to integrate the physical, mental, and spiritual aspects of human existence so as to make man an integral human being. For Swami Vivekananda the aim of education is character building and strengthening of the mind. For Mahatma Gandhi, the aim of education is to overcome the dialectic between human beings and 'machine' or 'technology' through *Buniyadi Shiksha* or *Nayi Talim* through which an ideal society can be formed of small, self-reliant communities consisting of ideal citizens as industrious, self-respecting and generous in a small cooperative community. Vinoba Bhave conceives the aim of education as a trilogy involving the head, heart, and hands. Sri Aurobindo's integral education and J. Krishnamurti's philosophy of the right kind of education lucidly articulate the purpose of education. All these have been attempts to de-colonize the Indian education system.

### **Quality of Education**

The teleology of education, that is, the theory of the *goal* of education has become vitally important in the midst of present-day unprecedented technological advancement, globalization, uneven economies across nations, and the democracies across the world in this century. All these factors propose diverse teleological answers to the question of education. It has been observed that educational systems of profit-driven market economies all over the world are producing 'generations of useful machines' than cultivating young minds to become the most 'complete citizens'

which are the very backbone of free and fair democracy. The intrinsic value of knowledge which is at the heart of any system of education is best expressed in Indian tradition, especially in Vishnu Purana as “that which does not bind is action and that which liberates is knowledge” (तत्कर्म यन्न बन्धाय सा विद्या या विमुक्तये). Similarly, *Ishopanishad* says ‘There is nothing so purifying as wisdom in this world’. (न हि ज्ञानेन सदृशं पवित्रमिह विद्यते). These can be taken as one of the parameters of the quality of education in terms of the underlying philosophical worldview and the theory of knowledge. The ancient Indian education system was meant for the holistic development of an individual in all dimensions to contribute to local, national, and global well-being in the spirit of (सर्वं भवन्तु सुखिनः and वसुधैव कुटुम्बकम्). Education is one of the most important aspects of human life which can be judged to have or lack quality. However, there is no readymade and once-for-all definition of ‘quality’ or ‘good’ education. The present-day consensus on the idea of quality is that though education is a system of learning—whether formal or informal—it is essentially, to use the current terminology, a formation of *capabilities* of various kinds, the lack of which is likely to make a person’s life poorer. Following this, one can say that the ‘quality’ of education or a ‘good’ education is all about fulfilling the task of human development by capability formation. In fact, ‘development’ is the key term in the present-day discourse on quality or good education.

Philosophers, litterateurs, scientists, and educationists across the world and from ancient to modern times have highlighted the centrality of human development through various formulations acknowledging the fact that the process of education is not restricted to schools alone. The family, the peer group, and the society at large provide appropriate contexts for the intended human development in or through education. Philosophers and educationists have discussed whether education i.e. organized knowledge is intrinsically valuable or it has only instrumental value. In the ancient Greek tradition, philosophers like Aristotle argue that education, i.e. knowledge has intrinsic value. They identify the intrinsic value of education with the intrinsic value of self-realization of man which is not for any exterior end but for its own sake. The intrinsic value of education as a system of organized knowledge is thus identical to the intrinsic value of self-realization which emancipates man from ignorance, bondage, and misery.

As quality education requires metaphysical grounding, it also requires a robust epistemology, i.e. a theory of knowledge. Ancient Indian and Greek philosophers have developed theories of knowledge (*pramāṇa-sāstra*) by delineating knowledge proper from popular belief and opinion; a genuine inquiry from dogma, or a true cognition from false cognition. In Indian tradition the term *vidyā* is paired with *darśana* and *jñāna* in this sequence: *darśana*, *jñāna*, and *vidyā*. *Darśana* literally means ‘to see’ and in the context of Indian knowledge systems it means ‘to see, or have a glimpse of, or have a point of view of reality (in a particular way)’. Such a point of view results in the knowledge of reality (*jñāna*) which is organized or systematized in the form of *vidyā* which means a discipline of thought which can be acquired by learning. Such disciplines of thought are classified into (a) *ānvīkṣikī* (review, reasoning, logic or critical examination of perceptual knowledge), (b) *trayī* i.e. study of the three Veda-s, (c) *vārtā* (practical knowledge, i.e. agriculture and commerce), and (d) *dandanīti* (polity or science of governance). This fourfold scheme covers almost all aspects of education that are needed for preparing oneself to lead a meaningful life in accordance with the highest goal of life, i.e., liberation from suffering and misery. It is interesting to note that despite differences in their metaphysical outlook the Hindus, the Buddhists and the Jains agree on the removal of suffering as the highest goal of knowledge. In the present context of quality and education, we can safely say that the comprehensive nature of this system of education touching upon all aspects of life makes it a ‘good’ or ‘quality’ education system. The merit of ancient Indian thinking about the whole enterprise of knowledge lies in its spelling out the structure of knowledge and the conceptual distinctions and detailed classification of key notions which are often used in pedagogical discourse.

In the post-independent, especially in the last half-century, education has been widely viewed as a marketable commodity. In the current scenario, it is necessary to ponder over asking a few questions: Who is an educated person? What do we expect an educated individual to be familiar with, understand, and be able to do, regardless of degrees and certificates, specializations, and careers/occupations? What habits of mind, attitudes, predispositions, and values should education nurture? These questions are linked to the basic purpose of education and what we mean by educatedness.

## **Educatedness**

A whitepaper published in the year 2022 by the National Assessment and Accreditation Council (NAAC) explains various aspects of educatedness and higher-order cognitive capacities as an integral part of education. Educatedness, that is the quality of being educated gives us the capacity to pursue well-being along all the dimensions of life. From the perspective of well-being, employability is only one of the parameters to pursue economic well-being, which in turn is just one of the components of well-being in general. Economic well-being is an important consideration in the design of curricula, but the shrill hype of employability is not only unbalanced but also harmful to the human future when pursued at the cost of other forms of well-being. It is commonly criticized that the majority of graduates are ‘unemployable’. However, un-employability is only a symptom of the problem, not its cause. The cause, which makes our system of education dysfunctional, lies in the fact that we mass-produce *degree holders* who are not *educated* in the real sense of the word.

What should we expect from a university graduate - an educated person with 15-16 years of formal education irrespective of disciplinary specialization is a key question. The desired attributes of educatedness may include the capacity for independent learning, intellectual curiosity, and communication; access to information and critical understanding, ideas of academic knowledge; capacity for critical thinking, inquiry, and problem-solving; pragmatic intelligence; ethical judgment; citizenry and appreciation of aesthetics and beauty. The glorification of hollow degrees produced by the existing university factories churning out unemployable graduates on an assembly line continues with higher intensity.

We must place educatedness at the heart of higher education and drastically rethink the nature of our syllabi, assessment practices, classroom pedagogy, and teaching-learning materials. In this entire process, teachers are expected to play a vital role. In today’s world teaching is no more a monopoly of teachers or institutions. Students cannot be treated as empty boxes where teachers are authorized to stuff information as per a set curriculum. With the advent of electronics, computers, and multimedia, the teacher-centric, one-way, passive teaching process, which dominated for several decades, is now almost obsolete. Today, teachers are not even

needed to provide information because it is easily available and in fact, students are much smarter to get it faster. Advances in Artificial Intelligence and social robotics can make such typical teachers redundant. The new pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and enjoyable.

## **National Education Policy---2020**

The National Education Policy (NEP)---2020 prepared under the chairmanship of Padma Shri, Padma Bhushan, Padma Vibhushan Prof K. Kasturirangan has offered a unique opportunity to bring long-overdue reforms to the education system. The very purpose of education as stated in NEP 2020 is “to develop good human beings - capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper and creative imagination, with sound ethical moorings and values”. The NEP 2020 recommends that education must develop ‘higher-order’ cognitive capacities, such as critical thinking and problem-solving as well as social, ethical, and emotional capacities and dispositions.

The principles of access, equity, employability, and quality have been central to India’s education policies and recommendations since the Kothari Commission Report in 1966 and the first National Education Policy in 1968. During these years some progress on access and equity has been achieved, but our quality and employability have been hardly satisfactory. The quality of education has been going down steeply, despite best efforts. The main reason for this is the ineffective implementation of earlier policies and insufficient attention to *WHAT* students learn and *HOW* they learn. If we value what was expected to be adopted by independent India, that is Bharat, as articulated by Prof J.P. Naik and many others, it is necessary to focus on ‘educatedness’ and not merely on degree qualifications. For this to happen our attention to the Four Ds – De-colonizing, De-regulating, De-politicizing, and De-legitimizing (*Revisiting all the facts laden with biases that were legitimated in History and presenting correct facts extracted through the scientific methodology of historiography*), is necessary.

## **Decolonizing Education**

Although India became independent in 1947, its history, culture, and science extend back thousands

of years in antiquity. During the periods of foreign invasions in the Middle Ages and later during the British colonial period this rich heritage was either suppressed or in certain cases even destroyed, and in its place, the foreign language and culture were imposed on Indian soil. During the colonial period, more than the physical destruction of buildings and libraries, the traditional Indian knowledge system and the system of education imparting this knowledge along with the moral and religious belief systems were exposed to, to use philosopher K.C. Bhattacharya's term 'cultural subjugation'. The purpose of this subjugation was to establish the superiority of the conqueror's culture in all its varied aspects and thereby generating a sense of inferiority and creating an attitude of doubt in the minds of Indians towards their own culture and civilizational achievements in the past in such areas like mathematics, science, astronomy, medicine, and practical sciences like economics and so on. Prof K.C. Bhattacharyya says that this "slavery of ideas" was far more destructive than political subjugation. Indian universities based on the British system of education were focused on subverting the cultural identity of Indians and developing human resources needed as a workforce, mainly to produce clerks and bureaucrats to serve the rulers. These universities primed by Macaulay's strategy of introducing an English language-dominated education system replacing the traditional knowledge systems with Western theories in various branches of knowledge, ensured the erosion of local languages, cultures, and Indian knowledge systems. This resulted in the suppression of Sanskrit and regional languages endorsing the supremacy of English.

Establishing convent schools, colleges, and universities in Mumbai, Kolkata, Chennai, and many other cities triggered the process of superimposing the British education system in India. However, it must be acknowledged that as an exception a few individual Englishmen and British officers did help to preserve Sanskrit and Indian knowledge systems and even introduced technology education. Thus, in 1791 Jonathon Duncan established Benaras Sanskrit College, and Lord Mount Stuart Elphinstone of Bombay Presidency established Hindu College in 1821 which was renamed twice as Poona College in 1851 and as Deccan College in 1864. James Thomason established Engineering College in Roorkee in 1847 and in 1857 three major Universities were established in Calcutta, Madras, and Bombay.

What is termed as the colonial mindset consists of a sense of inferiority and an attitude of doubt toward one's own heritage. We need to break out of the stranglehold of this colonial mindset. We must liberate ourselves from the mono-cultural mono-lingual dominance thrust upon the knowledge institutions. However, it must be emphasized that decolonizing does not mean discarding or replacing the modern system with an ancient knowledge system. Decolonizing the mindset must be an intellectual exercise to regain cultural identity as '*Atma Sanman*' and to understand the value and contemporary relevance of traditional knowledge systems in the modern world. We need to adopt transdisciplinary approaches respecting both indigenous knowledge and Western scholarship for bringing innovation, academic excellence, flexibility, professionalism, and self-reliance so as to serve national development and the larger cause of humanity.

### **De-regulating Education**

Transforming the higher education regulatory system aligned to our traditions and value systems is a prominent pointer of NEP 2020. Educational regulation should be based on principles of autonomy, empowerment, and hand-holding rather than a policing activity. Admittedly, the current educational system is over-regulated and underperforming. The excessive emphasis on inputs, together with centralized, rigid, and mostly outdated requirements related to infrastructure, faculty qualifications, curriculum implementation, etc. have resulted in an inspectorial regime restricting innovation and the pursuit of excellence. It is essential to create checks and balances, minimize conflicts of interest, and avoid concentrations of power. Such a "light but tight" strategy for regulating higher education in contrast to its mechanistic and disempowering nature may help reduce the concentrations of power within a few bodies. It can also address the issues of conflicts of interest with increased accountability. Regulations are necessary to ensure the principles of equity and affordability of education. The regulations should not differentiate between public and private, minority and majority, and central or state institutions, but should keep quality, equity, accessibility, and affordability as a common goal. One of the most important objectives of regulations in the education sector is to ensure and improve quality. Periodical assessment and accreditation undertaken by NAAC have helped higher education institutions in improving quality. Trust based empowerment and handholding may

work better than the regulation-driven, inspectorial, or policing approaches.

In sum, it is necessary to transform the current regulatory system mainly based on ‘mistrust’ into a ‘trust-based’ transparent approach with self-declaration, self-regulation, and self-discipline. Deregulation does not mean freedom without accountability and anarchy. A broad framework of regulations to ensure quality, equity, accessibility, and affordability. The higher-order penalties should be in place for those who violate the principles of transparency, honesty, and integrity, and compromise academic and public interests.

### **De-politicizing Education**

Historically speaking, the temples of knowledge and education in India have received the highest respect and priority from rulers all over the world. The patronage from generous Kings and Queens has been responsible for the promotion of education. The ancient Ashram system as well as several universities like Nalanda were generously supported by the then dynasties. The rulers have been relying on the wisdom of scholars and teachers to resolve critical matters. Nani Palkhiwala used to say that in our culture *Rajyasatta* (the Political power) is there to protect *Gyanasatta* (the power of knowledge) and the political power must have the base of a *Gyanasatta*, which is morality. In our culture, Shriram used to go to Vashishtha Muni, Shrikrishna to Sandipani, Shivaji Maharaj to Ramdas, and Tukaram Maharaj. Unfortunately, today the *Gyanasatta* has become helpless and is being overpowered by the *Rajyasatta*.

In the modern world support from the Government is vital for any knowledge society to sustain and grow. The governments may be run by people with different agendas, ideologies, and interests. Politics in education and politics of education are linked through the government at various levels including the legislative, executive, and judicial. It is desired that knowledge and education should meaningfully and positively influence political decisions resulting in evidence-based policies. However, when these relationships become skewed, authoritative, competitive, and or overpowering for economic, social, and or ideological motives it can lead to the undesired politicization of education.

The Indian constitution defined education as a State subject, however, after the amendment in 1976 it came in the concurrent list of subjects that enables the Central Government to legislate the Education

sector. This makes the situation complicated if the two governments have different viewpoints. A recent example regarding the conduct of examination during the Covid19 pandemic where the Central and State governments had different views which had to be resolved by the Supreme Court. In any case, whether the government should overpower the decision-making in educational institutions just because of its legislative or financial privileges remains a critical question.

Education has the power to shape the minds of the young generation. However, it is also a double-edged sword. The university should be instrumental in grooming students to become responsible citizens and good human beings. In this process, the political experience can play an important role. However, educational campuses should not be used as political battlegrounds which can only adversely affect the basic purpose and quality of education. Academic governance should be left to the academic community. As a sponsoring and funding body, the government may provide a broad policy framework. However, the Ministries should not influence the academic leadership to toe the line for any specific political ideology and refrain from indulging in routine governance and academic decision-making.

Academic faculty has a major role to play in ensuring institutional autonomy. The selection of academic leadership such as Vice Chancellors should be based on pure merit following principles of transparency. Should the Ministers occupy any academic positions or chair important bodies such as Senate as ex officio right needs discussion and if so should there be qualification eligibility are the critical questions. Teachers with high academic standing and reputation can positively influence the government. Teachers must inspire students to take education seriously and not become puppets of politicians. Teachers must present themselves as role models and ensure that students stay away from any kind of violence. Teachers must protect universities and students from antisocial elements. They must channel the youthful energy for nation-building and creativity to promote civil society.

### **De-legitimizing Education**

Every nation has a history of its people, its dynasties, its intellectual, cultural, religious traditions, and belief systems in which people take pride. However, the writing of history is always a

contested matter, and more so when history is written under colonial conditions. Such history certainly tends to be biased towards the colonizer and its life world. For the most part during the colonial period, this precisely happened with writing the history of India's cultural, religious, and scientific heritage. The writing of Indian history in the post-colonial era is influenced by certain ideologies and thus has become a matter of dispute since it is alleged that facts are suppressed or altered and a narrative is created which is not true to the Indian perspective. There is a strong feeling for corrective measures to bring to light the 'true' history of India's past. For this to happen, we must re-imagine our University System based on the re-discovery of science, philosophy, and culture of Indian origin. In the past, a few exemplary efforts in this direction were made which include Banaras Hindu University established by Pandit Madan Mohan Malaviya, and Visva Bharati by Gurudev Rabindranath Tagore. Although structurally different, both these universities are based on recognition of the intrinsic values strongly rooted in Indian ethos and scientific temperament. Even today, while several national institutes have been established, not a single university has reached even close enough to the vision of Pandit Malaviya or Gurudev Rabindranath Tagore in terms of holistic education in a multidisciplinary environment coupled with Indian ethos and pedagogy. An emphasis should be laid on the solid foundations of education our Indian culture has built, by our forefathers. The medium of instruction must be a mother tongue.

In order to give credence and legitimacy to the historical accounts of our past from an Indian perspective, instead of popular beliefs and opinions, we must have a rigorous and scientific methodology of historiography. For this, we must revitalize existing universities on the foundations of our cultural heritage integrating advances in science, technology, social science, contemporary art, and humanities. Speaking about the *Santiniketan* experiment Tagore had said that "in this school, a nucleus has been formed, round which an indigenous University of our own land will find its natural growth—a University which will help India's mind to concentrate and to be fully conscious of itself; free to speak the truth and make this truth its own wherever found, to judge by its own standard, give expression to its own creative genius, and offer its wisdom to the guests who come from other parts of the world".

Tagore's hope for the indigenous University can be turned into reality by taking a few bold steps. The *first* is to shed the colonial mindset and understand our true history and cultural heritage. *Second*, respect the value systems, cultures, and languages without losing sight of the importance of English at the global level. *Third*, embrace the technology-led innovation path without losing sight of sustainability principles. *Fourth*, revive and recognize diverse artisan skills among the diverse population as part of education. *Fifth*, ensure respect and mainstream agriculture in university education. *Sixth*, involve business, industry, governments, voluntary organizations, and society in the teaching-learning process. *Seventh*, remove redundancy at all levels including academic faculty, courses, content, pedagogy, and governance. *Eighth*, remove the blue-collar versus white-collar divide by ensuring equal weightage to skill mastery and degree education ensuring equitable recognition of skills providing accountability-linked autonomy, and encouraging deserving organizations to innovate the new India-centric university models integrating ancient and modern approaches. *Ninth*, finally, it is possible to simultaneously offer high-quality education, knowledge, and skills that can meet the aspirations of the young to earn a respectable living, and at the same time, attend to national needs and serve the cause of humanity.

### **Future Trends**

The main focus of education should be on social, academic, cultural, professional, and intellectual development to enable students to be engaged citizens as also to get prepared to earn a respectable livelihood. Typically, education is holistic in nature for all-round development, training is specific to inculcate skills necessary to get jobs. Education need not be focused merely on current needs or getting ready for Industry 4.0 or such. The contours of future jobs and education are becoming visible with the advent of automation and smarter social robots. While several jobs will be lost many more will be created. Future jobs will require entirely different knowledge and skill sets. Future jobs will also need more creativity, cognitive ability, critical thinking, passion, and compassion. Future education will have to address the need for new jobs. The advances in automation, AI, ML, and robotics may soon take over several functions of professionals including teachers and doctors. Eminent entrepreneur and investor Vinod Khosla predict that robots might replace doctors by 2035. This prediction

is also applicable to a conventional teacher. Just a few years ago a robot named Xiaoyi, developed by Tsinghua University and a leading AI company iFlytek Co., Ltd., had taken the national medical licensing examination in China and passed the test with a score much above the highest percentile. Recent studies indicate that robots show great promise in teaching restricted topics with the effects almost matching those of human tutoring. Education 5.0 may be dominated by collaborative robots where teachers and students together become CoBots. Already AI-based voice-assisted devices like Siri, and Alexa, chatbots like Eliza, and humanoid robots like Asimo, Sophia, and our own Indian Mitra are in action. Classrooms of the future may feature robots that assist the human teacher and help them to enhance their capabilities. It is now amply clear that the education sector can no longer ignore the technological advances that are real and present.

The business of education is also thriving all over. The Indian Ed Tech industry is expected to reach USD 4 billion by 2025. A few Edu Tech startups have already emerged as unicorns in our country. It is estimated that by 2026 just the online education industry may cross 11 billion.

Admittedly, unlike in the Gurukul system, today's education is no longer in the domain of charity. A reasonable cost of education may be recovered from fees with scholarship support to needy deserving students. However, it is crucial to strike a balance between business and charity to ensure inclusivity

and affordability and also avoid commodification and profiteering.

The early signs of disruption are already palpable. The unprecedented speed of future technology is superseding our ability to change. Digital technology, artificial intelligence, data analytics, blockchain, and such advances offer new analytical tools relevant to the education sector. The Chat GPT may be just a small beginning of the big disruption in the future. As we see in the side mirror of a car, the future educational transformation is much nearer than it appears. We must be ready to welcome the revolution and get ready for the transformative change without losing sight of our cultural identity and social needs and global good. The Universities must get ready to meet these challenges to ensure that the prediction by Peter Drucker is proved wrong.

*“Thirty years from now the big university campuses will be relics. Universities won't survive. It is as large a change as when we first got the printed book”. - Peter Drucker 1998*

Before I end my convocation address, I thank all at RBU. I hope the Rabindra Bharati University as a leading university in arts, humanities, and social sciences can take the lead to bring the desired reforms in our education system as we celebrate the *Azadi Ka Amrit Mahotsav*.

Thank you one and all.

Jai Hind! Vande Mataram! .

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## CAMPUS NEWS

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### **National Conference on Biotechnology for Sustainable Development and Human Welfare**

A two-day National Conference on 'Biotechnology for Sustainable Development and Human Welfare' was organized by the Department of Biotechnology, Jamia Hamdard, New Delhi in collaboration with the Department of Biotechnology and the Department of Science and Technology, Ministry of Science and Technology, Government of India, recently. The event was sponsored by DBT and DST (SERB), Government of India. The Chief Guest, Prof. Asim Ali Khan, Director General of Central Council for Research in Unani Medicine (CCRUM), Ministry of AYUSH, Government of India graced the event with his presence and enlightened the participants about the need for interdisciplinary research and collaboration between industry and academia as well as research institutions. The presidential speech was delivered by Prof. M Afshar Alam, Vice Chancellor, Jamia Hamdard, New Delhi in which he said that hunger, poverty, and climatic changes are big challenges that the world is facing, for which a coordinated and dedicated research-based approach and implementation is required. Prof. M Z Abdin, Organizing Secretary of the conference informed that the Department of Biotechnology, Jamia Hamdard is engaged in various biotechnological research projects and has been granted patents.

More than 250 scientists, delegates, and researchers working in the field of biotechnology, agriculture, and sustainable development presented their research papers and views on cutting-edge technologies and ongoing research in the field of biotechnology to achieve the United Nation's Sustainable Development Goals. There were eleven Plenary talks and twenty-five invited talks on a variety of important topics related to sustainable development which contributed to addressing the global challenges we are facing and what measures we can take to solve the hurdles.

The oral presentations by seventeen researchers and poster presentations by more than sixty Ph.D. students illuminated their important and advanced research works carried out in their labs from different

backgrounds throughout India and communicated/published in peer-reviewed journals.

Prof. Deepak Pental, in his keynote lecture, talked about the past and future of agriculture. He mentioned that the major developments in the 20<sup>th</sup> century have helped to beat the scarcity of food but as the global population is continuously increasing and under-nutrition is still rampant in many parts of the world. His focus was on the positive role of genetically modified crops to fulfill global food needs. Dr. Sudhanshu Vрати shared his work on the development of the Indian rotavirus vaccine. As part of the Indo-US vaccine action programme, his team established the safety and efficacy of the 116E rotavirus vaccine 'Rotavac' and launched it for commercial use. The vaccine has since been prequalified by the WHO.

Prof. S P S Khanuja described the importance of organic farming in order to cultivate health and nutrition in farmers' fields. He concentrated on strategic agriculture which opens the possibilities for farmers to enter into ventures of novel nutraceutical products that today the world is crazy about, for preventive healthcare. This approach of enabling farmers with the scope of nutraceuticals farming offers high-value agriculture and better incomes.

Dr. Ajit Kumar Shasany and Dr. Viswanathan Chinnusamy highlighted the importance of genetic modifications in crops to get the desired traits for sustainable crop production. They were inclined to develop crops by genome editing technique (CRISPR/Case) falling under SDN1 and SDN2 because of exemption from stringent GM rules. Such crops can be released for commercial cultivation for the benefit of farmers and consumers. Dr. A K Panda introduced the concept of cellular engineering for the frontline of medical biotechnology. He discussed the applications of tissue engineering, gene therapy, and cell therapy particularly immunotherapy of cancer. Dr. Vibha Ahuja elaborated on the series of guidelines that have been issued from time to time by regulatory authorities to provide scientific guidance for R & D and biosafety evaluation of products of modern biotechnology.

Dr. Sanjay Kumar talked about the development of a Bio-based economy using Himalayan bioresources. He mentioned that there is enough opportunity to utilize Himalayan bioresources for socio and economic development through biological interventions and at the same time, conservation and propagation of these resources is also essential. Dr. Aseem Bhatnagar marked out the relevance of incubation centres to high-end research labs and highlighted the uniqueness of Jamia Hamdard incubation centre.

Dr. M K Reddy discussed the improved agronomic performance in rice crops. His team successfully improved the architecture of rice plants by increasing the tiller number, grain length, panicle branching, and spikelet number to enhance the rice yield using the Cas9 system. Dr. Niranjana Chakraborty described the mechanism of action of stress-responsive genes in chickpeas.

All invited talks from different themes like sustainable agriculture, environment sustainability, pharmaceuticals and nutraceuticals, IPRs, entrepreneurship, infectious diseases, molecular medicine, and nano-diagnostics were very lively.

The valedictory session was conducted after the prize distribution to winners of oral and poster presentations. The vote of thanks was proposed by Dr. Javaid Ahmad Sheikh, Convener of the event. The event ended with the 'National Anthem'.

### **Workshop on Research Methodology**

A five-day Workshop on 'Research Methodology: Hands-on Training' is being organized by the School of Social Sciences and Languages, Vellore Institute of Technology, Chennai during June 05-09, 2023. The event for Ph.D. Research Scholars in Social Sciences discipline will enrich the scholars in various aspects of qualitative and quantitative methodology with special emphasis on the use of innovative technology and software in the field of research, so as to make them creative as well as more critical and reflective on varied research facets. The Topics of the event are:

1. Mixed Methodology.
2. Narrative Analysis in Qualitative Approach.
3. Textual Analysis in Qualitative Approach.
4. Thematic Analysis in Qualitative Approach.

5. Factor Analysis and SEM Model.
6. Qualitative analysis using QDA Miner Lite.
7. Qualitative Research: Grounded Theory.
8. Focus Group Discussion in Qualitative Approach.

For further details, contact Organising Secretary, School of Social Sciences and Languages, Vellore Institute of Technology, Vandalur-Kelambakkam Road Chennai, Tamil Nadu – 600 127, Phone No: +91 44 3993 1555. For updates, log on to: [www.chennai.vit.ac.in](http://www.chennai.vit.ac.in).

### **Workshop on Research Challenges and Opportunities**

The one-week *Karyashala* High-end Workshop on 'Research Challenges and Opportunities in AI-based Smart Grid Systems' is being organized by the Department of Electrical and Electronics Engineering, National Institute of Technology Puducherry, Karaikal from June 05-11, 2023. The event is sponsored by SERB under the Accelerate Vigyan Scheme. The research scholars and PG scholars of AICTE-approved institutions and also the limited number of PhD and PG scholars of host institute may participate in the event.

The increased developments of Information and Communication Technologies accelerates the development of Smart-Grid Technologies in recent years. Lots of issues are arising in the integration of distributed energy resources and ICT into the existing grid system such as wide-area monitoring, control, protection, communication, and security for effective and reliable operation of the electrical power networks. Artificial Intelligence (AI) has been deemed suitable for balancing the control and supply of energy within the network. It has been able to improve the performance of smart grids in terms of dynamic clustering, increasing-price evolution, improving fault isolation mechanisms, creating self-organization capabilities, and adapting self-diagnosis techniques in the system. Therefore, the workshop is focusing on a discussion of various issues, challenges, and opportunities in incorporating AI techniques into smart grid systems. The Contents of the event are:

- Policies and Strategies for Smart Grid.
- Mathematical Foundations for AI/ML.

- Issues in Integration of Renewable Energy Sources into Smart Grid.
- Advanced Metering Infrastructure and Dynamic Pricing in Smart Grid.
- Phasor Measurement Unit (PMU) and Wide-Area Monitoring in Microgrid.
- Demand Response and Wholesale Energy Market.
- Predictive Analytics on High Penetration Distributed Energy Resources to Smart Grid.
- Microgrids for Transportation Electrification.
- Use cases of AI, ML, DL in Smart Grid.
- Decision Support Systems for Smart Grid.
- Computational Methods and Artificial Intelligence Studies in Smart Grids.
- AI for Electrical Grid Stability with Hybrid Renewable Energy Systems.
- ICT, IoT, Real-time Monitoring and Control.
- Smart Grid Communications and Network Security.
- Hands-on Training.

For further details, contact Coordinator, Dr. S Thangavel, Associate Professor, Department of Electrical and Electronics Engineering, National Institute of Technology Puducherry, Thiruvettakudy, Karaikal-609609, contact numbers: 09443676688/09786090467 and 097516 43007. E-mail: [karyashalanitpy@gmail.com](mailto:karyashalanitpy@gmail.com). For updates, log on to: [www.nitpy.ac.in](http://www.nitpy.ac.in)

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## AIU News

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### **Faculty Development Programme on Advanced ICT Tools**

The eight-day Faculty Development Programme on ‘Advanced ICT Tools’ was organized by the Association of Indian Universities, New Delhi in collaboration with the Academic and Administrative Development Centre, Berhampur University, Berhampur from February 14–21, 2023. In total, 41 faculty members from different colleges and universities of the country participated in the programme. There were about fifteen sessions covering various topics and hands-on training on the effective use of ICT for transforming pedagogy and empowering students; online/blended learning; MOOCs for teaching and learning; enhancing education using easy-to-use and open-source tools for learning; understanding learning management systems; developing suitable pedagogical methods for various classes; ICT use for research and publications; and human-centric technology for teaching and learning. The sessions were designed to provide a comprehensive understanding of advanced ICT tools for teaching and research and practical sessions were also included to ensure that the participants gained hands-on experience. About 13 distinguished speakers from state universities, central universities, Cambridge University, and other Institutes of National Importance, e.g. IIT, IIIT, and IIM delivered their sessions during the programme.

The inaugural ceremony of the event started with the lighting of the lamp and *Saraswati Vandana*. Dr. Mrutyunjay Swain, AADC Nodal Officer, Berhampur University, Berhampur and the Convener of the event delivered the welcome address. Dr. Raj Kishore Kampa, Programme Coordinator, introduced the guests and the theme of the programme. Dr. P K Mohanty, Chairman, PG Council, Berhampur University, and Prof. Geetanjali Dash, Vice Chancellor, Berhampur University and Dr. Amarendra Pani, Director(I/c) and Head, Research Division, Association of Indian Universities addressed the participants. Dr. Saswat Sourav Mohapatra, Joint Coordinator proposed the vote of thanks to the invited guests and participants.

Prof. Manas Ranjan Patra, Professor of Computer Science, Berhampur University spoke on the topic ‘ICT Tools for Preparing towards University 4.0’. The discussion centered on the technological advancements and tools universities must adapt to keep up with the fourth industrial revolution. Prof. Patra emphasized the importance of incorporating Information and Communication Technologies (ICT) in the education system to enable universities to offer students a more flexible and personalized learning experience. He also discussed the challenges and opportunities of implementing these tools, such as increasing student engagement and improving the quality of education. Overall, the talk provided

valuable insights into how universities can leverage ICT tools to prepare for University 4.0 and meet the evolving needs of students and the workforce.

Dr. Shiba Prasad Panigrahi, Veer Surendra Sai University of Technology, Burla delivered a lecture on 'Basic Structure Doctrine Vs. Paradigm Shift in Pedagogy'. Dr. Panigrahi explored the possibility of a paradigm shift in pedagogy, which could help address the shortcomings of the traditional education system and promote a more inclusive and equitable approach to education.

Prof. Siba K Udgata, Department of Computer Science, University of Hyderabad delivered his lecture on 'Online Teaching and e-Content Development during and Beyond Pandemic'. Prof. Udgata talked about the shift to online teaching that occurred during the pandemic and the challenges that came with it. He discussed the importance of e-content development in ensuring the quality and effectiveness of online education and the need to focus on creating engaging and interactive content that can keep students motivated and interested in learning.

Prof. Aryabartta Sahu, IIT Guwahati deliberated on the topic 'Open Source Tools for Teaching and Learning'. Prof. Sahu discussed the benefits of using open-source tools for teaching and learning and highlighted some popular open-source tools widely used in education. He also demonstrated how these tools can be used effectively in online and offline learning environments.

Prof. Bulu Maharana, Sambalpur University, Odisha discussed 'The Role of MOOCs in the Open Education Ecosystem: Current Trends and Future Prospects'. Prof. Maharana talked about the current trends in Massive Open Online Courses (MOOCs) and their potential to transform the open education ecosystem. He discussed the benefits and challenges of MOOCs and highlighted some of the key players in the MOOC market. He also discussed the potential future prospects of MOOCs in providing accessible and affordable education to learners across the world.

Dr. Gurpreet Singh Josan, Associate Professor, Punjabi University, Patiala spoke on the topic 'Learner-Centric Models for Online Teaching'. Dr. Josan emphasized the importance of designing learner-centric online courses and presented various

learner-centric models for online teaching. He discussed the characteristics of learner-centric models and highlighted the advantages of adopting such models for effective online teaching.

A special invited lecture on 'Human Centric Technology for an Inclusive Education System' was delivered by Prof. Manoj Dora, Director, Centre for Intelligent Supply Chains, |Chair in Sustainable Production and Consumption, School of Management, Anglia Ruskin University of Cambridge. The session was highly interactive with insightful discussions on how to make use of technology and ICT tools for disadvantaged groups of learners.

Prof. Rakesh Mohanty, Veer Surendra Sai University of Technology, Burla spoke on 'Joy of Creativity, Innovation and Research'. Prof. Mohanty talked about the importance of creativity, innovation, and research in education and research. He discussed how these elements can be integrated into the teaching and learning process. He emphasized the need for a collaborative approach toward research and innovation and highlighted the role of teachers in nurturing creativity and innovation among students.

Prof. Ashish Khosla, Shoolini University, Solan, Himachal Pradesh delivered on two important issues related to ICT tools and their application by faculty members. The first topic was 'Effective Use of ICT for Transforming Pedagogy and Empowering Students' which focused on the role of Information and Communication Technology (ICT) in enhancing the quality of teaching and learning experiences for students. Prof. Khosla emphasized the importance of using innovative ICT tools and techniques to transform traditional teaching methods and create learner-centric environments that encourage student participation and engagement. In the second session, Prof. Khosla spoke on 'Enhancing Education Using Easy-to-use Open Source and Freemium Tools' which discussed the potential benefits of using Free and Open-source Software (FOSS) in education.

Dr. Manoj Kumar Dash, IIITM, Gwalior handled the next two sessions on 'Application of ICT Tools for Teaching and Research' and 'ICT Tools for Research and Bibliographic Management'. He provided some hands-on training to all the participants.

The session on 'Maximizing Research Productivity and Impact through ICT Tools' was

delivered by Dr. Sevukan, Pondicherry University, Kalapet, Puducherry. Another session on 'Research Contents, Tools and Techniques for Research Support Service' was delivered by Dr. Samir Kumar Jalal, IIT Kharagpur. Both, Dr. Sevukan and Dr. Jalal discussed how different ICT tools like Grammarly, Mendeley, and Latex including the research database can be used to maximize research productivity.

Prof. Parthasarathi Mukhopadhyay, Kalyani University, West Bengal discussed 'The Four Quadrants of the Virtual Learning Environment: E-contents, E-tutorials, Web Resources, and Assessments' proposed by the Department of Higher Education, Government of India. He elaborated on various open-source software for each quadrant.

The Valedictory Session of the programme was attended by several dignitaries, faculty members and other participants. Convener, Dr. M Swain, Nodal Officer, AAU-AADC, Berhampur University welcomed the guests, followed by an address by Dr. Amarendra Pani. Dr Pani said that Berhampur University, Berhampur is one among 10 universities in India selected for undertaking collaborative activities and programmes directed towards training and capacity-building of faculty members and administrative functionaries to deal with hybrid/blended learning with a focus on the latest pedagogical reforms. Coordinator, Dr. R K Kampa presented a brief summary of the various sessions held during the programme. The Vice Chancellor, Berhampur University, Prof. Geetanjali Dash addressed the audience. Expressing her satisfaction at the successful organisation of the event, Berhampur University, Prof. Dash assured that more such programmes will be organised for improving the skills of teachers and administrative staff of the university and colleges. The Chief Speaker of the session, Prof. A K Pujari, Former Vice Chancellor, Sambalpur University, Sambalpur and Former Vice Chancellor of Rajasthan Central University delivered his talk on the 'Usefulness of Various ICT Tools for Teaching and Research'. The Chief Guest, Prof. Amarendra Narayan Misra, Former Vice Chancellor, Khallikote University, Berhampur delivered the valedictory address. Finally, the session ended with a vote of thanks by Dr. Saswat Sourav Mohapatra, Joint Coordinator of the programme. Certificates were distributed to the participants. Dr Tamoghna Acharya, Associate Professor, Department of Marine Science, Berhampur University was adjudged as

the 'Best Participant' for his enriching discussions during various sessions and performance in the test.

### **Online Faculty Development Programme on Technological Advancement**

A five-day Online Faculty Development Programme on 'Technological Advancement in Tourism and Hospitality Industry' was organized by the Association of Indian Universities, New Delhi in collaboration with the Academic and Administrative Development Centre (AADC), Amity School of Hospitality (ASH), Amity Academic Staff College, Amity University Haryana, Gurugram from March 20-24, 2023. About 310 participants from all over India registered for the programme.

The Inaugural Session commenced with the lamp lighting (virtual) and *Saraswati Vandana*. The opening address was delivered by Dr Sanjna Vij, Programme Director, Amity Academic Staff College, Amity University Haryana. Dr Vij highlighted that the tourism and hospitality industry is one of the most dynamic and fast-growing industries in the world, with constant innovation and technological advancements. It is, therefore, important for us as educators to keep abreast of these developments and equip ourselves with the knowledge and skills to train and prepare our students for the changing demands of the industry.

Prof. Dr. Vikas Madhukar, Pro-Vice Chancellor, Amity University Haryana addressed how the industry is growing after the pandemic. He also stressed the use of technology and its integration, implementation, and advancements in the forthcoming years. He also focused on the productivity and profitability for both customers and organisations.

The session was followed by the address of Vice Chancellor, Prof. P B Sharma. He focused on technology, millet, and healthy food for the healthy mind and soul. Prof. Manohar Sajani, Dean, Faculty of Hospitality and Tourism and Director, Amity Institute of Travel and Tourism, Amity University Uttar Pradesh briefed the relevance of the service industry and its upgradation towards 6.0, use of chatbots, etc.

Dr. Amarendra Pani, Director (I/c) and Head, Research Division, Association of Indian Universities (AIU), New Delhi explained how technology can be deployed to enhance the customer experience before,

during, and after the trip. Maj. Dr. Gulshan Sharma, Director General, International Chamber for Service Industry (ICSI) focused on incorporating the travel trade, to give the research projects to the students. He also focused on implementing domestic tourism as an integral part of the syllabi. He also motivated the participants to be part of the MICE industry.

Mr. Ashish Kumar, Co-Chairman, FICCI Travel Technology and Digital Committee addressed the session and explained the adaptation factor in the tourism and hospitality industry. He also focused on technological content and advised the participants to run at the pace. A brief address was delivered by Prof. Garima Parkash, Director, Amity School of Hospitality, Amity University Haryana. She also proposed the vote of thanks to the dignitaries. The session was moderated by Dr. Ruchika Kulshrestha, Organising Secretary of the Faculty Development Programme. The session was coordinated by Mr. Akshay Nain, Faculty, Amity University Haryana.

Mr. Ashish Srivastava, Hospitality Manager, IIT Mandi, Himachal Pradesh was the resource person of the session on 'Optimization of Front Office through Technology'. The moderator of the session was Mr. Akshay Nain. Mr. Srivastava profoundly explained the topic with the help of a PPT and said that cloud-based technology, self-check-in technology, specialized mobile apps, smart mobile keys, digital concierge technology, robotic staff, artificial intelligence-based smart virtual assistants and chatbots are the major technological advancements in the hotel front office.

The resource person, Mr. Arunangshu Bhattacharya, Deputy Director and Professor, Amity School of Hospitality, Amity University Haryana spoke on 'Next Generation Hotels'. The moderator of the session was Mr. Mohammad Soyav. Mr. Bhattacharya profoundly explained the topic with the help of a PPT and said that today most traditional hotels operate in silos defined by brands and spaces. Next Generation Hotels will build bridges to access new resources, balance resources to bring new life to existing capabilities, mobilize current resources for new partnerships and merge outside potential into new opportunity areas. He said that the changes in the tourism, travel and hospitality industry are challenging hotels to move beyond brand identity and extend and deepen their relationships with travelers. The characteristic features of next-generation hotels

will be contactless payments, mobile door keys, facial recognition, personal voice assistance, hotel robots, online monitoring systems, chatbots and artificial intelligence, he further said.

Dr. Kunal Seth, Professor, Amity School of Hospitality, Amity University Haryana was the resource person of the session on 'Intelligent Cooking'. The moderator of the session was Dr. Vinod Kumar Chauhan. Dr. Seth explained the topic with the help of a PPT and said that intelligent cooking is the usage of intelligent cum smart cooking machines that work through the internet to cook food and are controlled by mobile phones. According to him, these machines are easy to use, have wireless connectivity and are programmed with several step-by-step guided cooking recipes. Intelligent Cooking cooks a particular food for the optimal required time and at the optimal temperature to produce the best taste, aroma and texture. It has proved to be a revolutionary innovation for people with special abilities. The Internet of Things and Artificial Intelligence has made it possible for people with a special ability to feel more empowered as they are not dependent on anyone.

Mr. Anil Shashwat, Founder and Director, Holiday Host, New Delhi was the resource person of the session on 'Virtual Technology: A Game Changer in Tourism'. The moderator of the session was Ms. Anishka Pachauri. Mr. Shashwat explained the topic with the help of a PPT and said that evolving virtual technology is making an impact on how people travel and the functioning of tourism-related businesses. According to a Google study, 74% of travelers plan their trips with the assistance of the Internet. The Internet revolution has spurred people to explore those regions or locations which were a distant dream for travelers.

Dr. Varsha Khetrpal, Head, Planning, School of Art and Architecture, Sushant University, Gurgaon was the resource person of the session on 'Strategies for Sustainable Green Hotels and Design: A Technical Approach'. The moderator of the session was Mr. Shivansh Soni. Dr. Khetrpal explained the topic with the help of a PPT and said that sustainable green hotels significantly reduce harmful impacts on the environment by adopting green practices in terms of their maintenance, services, logistics, products and supplies. The core elements revolve around reducing waste, saving energy, and cutting

down on water usage. There are many steps a hotel must take to move toward sustainability.

The session on 'Impact of Robotics in Tourism Industry' was handled by the resource person Dr. Anila Thomas, Associate Professor and Head, Department of Tourism and Travel Management, Jyoti Nivas College, Bangalore. The moderator of the session was Ms. Anishka Pachauri. Dr. Thomas explained the topic with the help of a PPT and said that the tourism industry is deploying robots to fundamentally change the tourist experience. Tourists can ask these robots questions, find out information and even get them to perform key tasks. Further, there are a variety of other uses for robots within the tourism, travel, and hospitality industry. Among the most innovative uses of robots within the tourism industry so far is, Travelmate, a robotic suitcase, which removes the hassle of travel.

The resource person, Dr. Pankaj Tyagi, Professor, Chandigarh University spoke on 'Artificial Intelligence in the Travel Industry'. The moderator of the session was Mr. Subir Kumar Malakar. Dr. Tyagi explained the topic with the help of a PPT and said that Artificial Intelligence made advances in many industries since it was invented. The ever-changing travel industry is also taking advantage of Artificial Intelligence to revolutionize the way it operates. Thanks to Artificial Intelligence, travelers no longer need to visit travel agencies to book flights or search for accommodation. Artificial Intelligence assistants and Intelligent chatbots have now taken the place of travel agents allowing travelers to book flights and accommodations and hire vehicles online.

The session on 'Relationship between Pedagogy, Learning and Technology' was handled by Dr. Amitabh Dey, Principal, IHM Guwahati. The moderator of the session was Dr. Kumari Shiwani. Dr. Amitabh Dey explained the topic through PPT and said that Pedagogy is defined as the specific approach educators take to get their message across to a group of students. Technology-based pedagogy involves using electronic or digital tools, media and resources to enhance a student's learning experience. The use of technology-based applications in pedagogy creates a hands-on, interactive experience for students in all disciplines of all ages.

Mr. Munish Kohli, Human Resource Manager, Four Points by Sheraton, New Delhi was the resource

person of the session on 'New Technological Pathways in HR Practices in Hotels'. The moderator of the session was Dr. Kunal Seth. Mr. Kohli said that many technological advancements have been introduced in the human resource management sector to make the system more transparent, convenient and efficient. Human Resource Technologies have emerged as the prime focus for organisations, helping them to reach their goals. If a company is quick enough to adapt to any business line, HR technologies can help in identifying and leveraging the skills of the staff members and employees to assist the business in excelling in a new direction.

The resource person, Mr. Deeptiman Bhattacharya, Assistant Training Manager, Taj Sats Air Catering Limited, Bengaluru spoke on 'F&B Guest Experience through Technology'. The moderator of the session was Dr. Kumari Shiwani. Mr. Bhattacharya explained the topic with the help of a PPT and said that incorporating technology in the food and beverage outlets is vital for improving efficiency and the customer experience. By providing new technological mechanisms, food and beverage outlets enjoy increased online visibility, customer satisfaction and reduced expenses.

The session on 'Technological Trends in Room Division' was handled by Ms Neeraj Sharma, Executive Housekeeper, GMR, New Delhi. The moderator of the session was Dr. Vinod Kumar Chauhan. Ms. Sharma explained the topic through PPT and said that room service apps, HD voice-controlled and touch screen thermostats, service robots, smart bathrooms, interactive TV's, In-Room Tablets, showers customized to body temperature, greener linens, air filter systems, in-room exercise, smart lighting, MP3 docking stations, etc. are major technological trends in hotel rooms. Starwood Hotels provide keyless entry to guests through its SPG app. More and more hotels are expected to switch to app-based entry systems soon. Hotels are increasingly adding thermostat technology that will allow guests to adjust the temperature in their rooms with a smartphone, even if they aren't on the premises.

Dr. Milind, Principal, School of Tourism and Hotel Management, NSHM Knowledge Campus, Durgapur and Kolkata was the resource person of the session on 'Ethics of Artificial Intelligence in Tourism and Hospitality Industry'. The moderator of the session was Mr. Subir Kumar Malakar. Dr.

Milind explained the topic with the help of a PPT and said that artificial intelligence ethics is a set of guidelines that advise on the design and outcomes of artificial intelligence. He said that the Artificial Intelligence systems must not compromise with safety, security, and privacy of tourists and hotel guests. AI systems must be transparent and prioritize and safeguard consumers' data rights and provide explicit assurances to users about how their personal data will be used and protected. Further, AI systems must be capable of actively defending themselves from malicious cyber-attacks.

During Valedictory Session, Chief Guest was Prof. Manohar Sajnani, Dean, Faculty of Hospitality and Tourism, Director, Amity Institute of Travel and Tourism, Mentor, Amity School of Film and Drama and Amity School of Communication, Amity

University, Uttar Pradesh. The moderator of the session was Mr. Akshay Nain. Prof. Manohar Sajnani said that technology is constantly evolving and there is a notable rise in digitization and technological developments in the tourism and hospitality industry. The data available on tourism and hospitality-related websites provide smart recommendations to tourists and hotel guests in terms of flight deals, car rentals, room bookings, sightseeing, etc. Contactless travel has become a major trend in the tourism and hospitality industry nowadays. Also, robots are widely getting used in the tourism and hospitality industry to provide prompt & flawless service to tourists and hotel guests. Travel Blogs are also in trend which helps tourists in exploring any particular tourist destination worldwide. The vote of thanks was proposed to all the esteemed resource persons of the programme. □

### **The Association of Indian Universities**

The Association of Indian Universities (AIU), is one of the premier apex higher education institutions of the Country established in 1925. It is a research-based policy advice institution to the Government of India in the field of Higher Education, Sports, and Culture. Since its inception, it has been playing a vital role in shaping Indian higher education. Most importantly, AIU is vested with the power of according equivalence to Degrees/Qualifications offered by the universities across the world with those offered in India. AIU has also been mandated by the Department of School Education, Ministry of Education, Government of India to accord equivalence to the Indian Boards for the Secondary/Senior Secondary Examination vide Gazette Notification. AIU is a think tank body with the responsibility of undertaking academic activities such as: conducting Research Studies in higher education; acting as the bureau of information on higher education; liaising with international bodies and universities for the internationalisation of Indian higher education among many others. AIU conducts inter-university sports and cultural events at national and international levels. As a National Sports Promotion Organization (NSPO) it promotes sports among Member-Universities and maintains the standards in sports.

Being an apex advisory institution, it constitutes an integral part of all major decision-making committees and commissions in the country. As a representative body of Indian universities, it facilitates cooperation and coordination among Indian universities and liaises between the universities and the Government (Central as well as the State Governments) and also National and International bodies of higher education in other countries in matters of common interest. Whereas all the Indian universities benefit from its contribution, at present it has a membership of about 898 universities including 14 overseas universities from other countries viz. Bhutan, UAE, Kazakhstan, Mauritius, Malaysia Nepal, as Associate Members.

Some of the legends among many, who served AIU as its Presidents are Dr. Sarvepalli Radhakrishnan, Dr Zakir Hussain, Dr. Syama Prasad Mukherjee, Dr K L Shrimali A.L Mudaliar, Dr Akbar Hydary, Prof A C Woolner, Pandit Amarnath Jha, Sir Maurice Gwyer, Dr K L Shrimali, Prof Shiv Mangal Singh 'Suman', Prof M S Gore, Prof M S Adiseshiah, Prof M S Valiathan.



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# THESES OF THE MONTH

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## SCIENCE & TECHNOLOGY

**A List of doctoral theses accepted by Indian Universities  
(Notifications received in AIU during the month of March-April, 2023)**

### AGRICULTURAL & VETERINARY SCIENCES

#### Entomology

1. Ankit Kumar. **Seasonal activity of major insect pests and bioefficacy of newer insecticides against Shoot and Fruit Borer, *Earias vittella* (Fabricius) on okra.** (Dr. R P Singh), Department of Entomology, Bhagwant University, Ajmer.

### BIOLOGICAL SCIENCES

#### Life Science

1. Chandra Shekhar Kumar. **Entry and assembly of pathogenic viruses.** (Prof. Manidipa Banerjee), Kusuma School of Biological Sciences, Indian Institute of Technology Delhi, New Delhi.

2. Yadav, Yamini. **SER/THR phosphatases PP1 $\gamma$  and PP2Ca in regulating neuronal insulin signaling and insulin resistance.** (Prof. Chinmoy Sarkar Dey), Kusuma School of Biological Sciences, Indian Institute of Technology Delhi, New Delhi.

#### Zoology

1. Agarwal, Deepali. **Ethnological studies on *Funambulus Pennantii Pennantii* in urban and semi-urban areas of Agra.** (Dr. Reshma Bhatnagar), Department of Zoology, Dayalbagh Educational Institute, Agra.

2. Jain, Rahul. **Synthetic organophosphate toxicity leading to neurodegenerative disease: Assessment through biological, neuronal and molecular parameters.** (Dr. Priyanka Gautam), Department of Zoology, Dayalbagh Educational Institute, Agra.

3. Parul. **Studies on polymeric nanoparticles loaded with synthetic pyrethroid and essential oil from plants against malaria vector.** (Dr. Lalit Mohan), Department of Zoology, Dayalbagh Educational Institute, Agra.

4. Ratan, Prashansa. **The study of epigenetic changes associated with aging in mammals.** (Dr. Shabad Preet and Prof. Matteo Pellegrini), Department of Zoology, Dayalbagh Educational Institute, Agra.

5. Sharma, Shivani. **Bioefficacy of essential oil based nano-insecticidal formulations against**

***Anopheles Stephensii* and *Culex Quinquefasciatus*.** (Dr. Lalit Mohan), Department of Zoology, Dayalbagh Educational Institute, Agra.

6. Singh, Neha. **Effect of synthetic pyrethroids on expression of human ortholog neurodegenerative genes in *Caenorhabditis elegans*.** (Dr. Priyanka Gautam), Department of Zoology, Dayalbagh Educational Institute, Agra.

7. Yadav, Kapil Singh. **Evaluation of Biorational Pesticides against Shoot and Fruit Borer, *Earias vittella* (Fabricius) on Okra, *Abelmoschus esculentus* L. (Moench).** (Dr. R P Singh), Department of Zoology, Bhagwant University, Ajmer.

### EARTH SYSTEM SCIENCES

#### Environmental Science

1. Khan, Mohd Aamir. **Bioremediation of xenobiotics (RDX and carbofuran) polluted soils.** (Prof. Satyawati Sharma and Prof. Abhishek Sharma), Centre for Rural Development & Technology, Indian Institute of Technology Delhi, New Delhi.

### ENGINEERING SCIENCES

#### Biochemical Engineering

1. Singh, Shefali. **Development of liquid biopsy methods for lung cancer detection.** (Prof. Ravikrishnan E), Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi, New Delhi.

2. Tyagi, Arti. **Total internal reflection fluorescence and scattering imaging for biological applications.** (Prof. Ravikrishnan Elangovan), Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi, New Delhi.

3. Vora, Dhvani Sandip. **Mechanistic insights into RNA-guided genome editing nucleases.** (Prof. D Sundar), Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi, New Delhi.

#### Biomedical Engineering

1. Tiwari, Sachchidanand. **Synthesis and**

**characterization of PI3-K $\delta$ /HDAC6 dual inhibitor and chemo drug coencapsulated biodegradable polymeric nanoparticles for cancer therapy.** (Prof. Harpal Singh), Department of Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

### Chemical Engineering

1. Parihar, Prashant Udaysinh. **Hydrodynamics of three phase radial, flow reactor: experiments and reactor model for hydroprocessing.** (Prof. Vivek V Buwa and Prof. Ravi Kumar Voolapalli), Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Tiwari, Mohit. **Development of novel nanostructures and nanocomposites for melamine detection.** (Prof. Sudip Kumar Pattanayek), Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Tripathi, Komal. **Modulating active sites to decipher primary carbon source for methanol and dimethyl ether synthesis from coal/biomass derived CO<sub>2</sub> rich syngas via tandem catalysis.** (Prof. K.K.Pant and Prof. Sreedevi U.), Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi.

### Civil Engineering

1. Abdullah, Ansari. **Seismic hazard evaluation of Jammu Region and risk assessment of tunnels in the Himalayas.** (Prof. K.S. Rao, Prof. A.K. Jain and Prof. D. Shirole), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Fatima, Syeda Warisul. **Studies on *Streptomyces Mobaraensis transglutaminase* for biotechnological applications.** (Prof. Sunil Kumar Khare), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Ganorkar, Kavita Pradiprao. **High strain rate characterisation of fiber reinforced concrete and its application in blast resistance design.** (Prof. Tanusree Chakraborty and Prof. Manmohan Dass Goel), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

4. Mandhaniya, Pranjal. **Finite element analysis of moving load on ballasted and ballastless rail tracks.** (Prof. J.T. Shahu and Prof. Sarvesh Chandra), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

5. Ravinder. **Data-driven modeling and physics-informed machine learning for glass discovery.** (Prof. N.M. Anoop Krishnan), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

6. Singh, Himanshu Pratap. **Experimental investigation of rheological characteristics of coking coal slurry and numerical analysis of diffusivity in solid liquid slurry.** (Prof. Deo Raj Kaushal), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

7. Tripathi, Moulshree. **Mathematical approaches signifying the streambed and aquifer properties in a combined GW-SW system.** (Prof. B.R. Chahar, Prof. P. Dietrich and Prof. P.K. Yadav), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

### Computer Science & Engineering

1. Baby, Britty. **Computer vision-based neuro-endoscopic surgical video analysis and evaluation systems.** (Prof. Chetan Arora, Prof. Ashish Suri and Dr. Subhashis Banerjee), Amar Nath and Shashi Khosla School of Information Technology, Indian Institute of Technology Delhi, New Delhi.

2. Bansal, Aruna. **Hypergraphs as a conceptual model for mediating translations between data models.** (Prof. Kolin Paul), Amar Nath and Shashi Khosla School of Information Technology, Indian Institute of Technology Delhi, New Delhi.

3. Gandhe, Anand. **A study of web usage mining through pattern analysis of web data in educational institute.** (Dr. V. K. Sharma Dr. Bommaniker Dhanasekaran), Department of Computer Science & Engineering, Bhagwant University, Ajmer.

4. Gupta, Nisha. **To study and evaluate classified preservation algorithm in association rule mining for partitioned database.** (Dr. Kalpana Sharma), Department of Computer Science & Engineering, Bhagwant University, Ajmer.

5. Shubhani. **Counterexample-guided equivalence checking.** (Prof. Sorav Bansal), Amar Nath and Shashi Khosla School of Information Technology, Indian Institute of Technology Delhi, New Delhi.

6. Siddiqui, Mohammed Kamran. **Artificial intelligence based advanced protected e-payment system for online payment.** (Dr. Kalpana Sharma and Krishan Kumar Goyal), Department of Computer Science & Engineering, Bhagwant University, Ajmer.

7. Verma, Rakesh. **Pattern discovery and analysis through web content mining to extract knowledge in education system.** (Dr. V. K. Sharma and Dr. Bommaniker Dhanasekaran), Department of Computer Science & Engineering, Bhagwant University, Ajmer.

## Electrical & Electronics Engineering

1. Agarwal, Kamal. **Performance of spectrally-efficient signalling techniques in networks with battery-assisted energy harvesting nodes.** (Prof. Shankar Prakriya), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Jain, Vandana. **Design and implementation of solar PV grid interfaced systems and applications to EV charging.** (Prof. Bhim Singh), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Kingra, Sandeep Kaur. **Exploring computing applications with non-volatile memory.** (Prof. Manan Suri), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

4. Venkatesh, Khammammetti. **OTFS based orthogonal multiple access in high delay and Doppler wireless channels.** (Prof. Saif Khan Mohammed), Department of Electronics Engineering, Indian Institute of Technology Delhi, New Delhi.

5. Vishal Kumar. **Performance optimization of tunable RF MEMS based devices.** (Prof. Shibban Koul and Prof. Ananjan Basu), Center for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi.

## Electronics & Communication Engineering

1. Ahamed, Z. Ghose. **High definition image error concealment using novel encoded image data hiding over wireless channel.** (Prof. V. K. Sharma and Dr. Anuj Jain), Department of Electronics & Communication Engineering, Bhagwant University, Ajmer.

2. Ahmed, Z. Ameer. **Design and development of neuro-fuzzy based multi-level inverters using FPGA.** (Prof. V. K. Sharma and Dr. Anuj Jain), Department of Electronics & Communication Engineering, Bhagwant University, Ajmer.

3. Mathur, Bhawna. **Efficient mobile ad-hoc network using predictive link sustainability model.** (Prof. V. K. Sharma and Dr. Anuj Jain), Department of Electronics & Communication Engineering, Bhagwant University, Ajmer.

## Energy Studies

1. Pareek, Saurabh. **Studies on graphitic carbon nitride nanostructures for photovoltaic applications.** (Prof. Supravat Karak), Department of Energy Studies & Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Singh, Sugandha. **Performance analysis of uneven span Greenhouse Integrated Semitransparent Photovoltaic Thermal (GiSPVT) system.** (Prof. T.S. Bhatti and Prof. G.N. Tiwari), Department of Energy Science & Engineering, Indian Institute of Technology Delhi, New Delhi.

## Material Science and Engineering

1. Shrikanth, S. **Some aspects of the elastic anisotropy of solids.** (Prof. Rajesh Prasad and Prof. Suresh Neelakantan), Department of Materials Science and Engineering, Indian Institute of Technology Delhi, New Delhi.

## Mechanical Engineering

1. Atulkar, Ashok. **Tribological investigation with textured piston rings to improve the performance of IC engine lubricated with fresh and silicate complexes nano-material blended oils.** (Prof. R.K. Pandey and Prof. P.M. V. Subbarao), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Joshan, Yadwinder Singh. **Two-dimensional modeling and analysis of thin electroelastic structures with application to actuator and sensor device design.** (Prof. Sushma Santapuri), Department of Applied Mechanics, Indian Institute of Technology Delhi, New Delhi.

3. Sharma, Hemant Kumar. **Nanoindentation studies of HgCdTe epitaxial films and CdZnTe single crystal substrates.** (Prof. Rajesh Prasad and Prof. Rajesh Kumar Sharma), Department of Applied Mechanics, Indian Institute of Technology Delhi, New Delhi.

## Textile & Apparel Design

1. Dixit, Priyal. **Study of composite nonwoven structure on the properties of needle punched fabric.** (Prof. S.M. Ishiaque, Prof. S.D. Joshi and Prof. Abhishek Dixit), Department of Textile and Fibre Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Samuchiwal, Saurabh. **Development and onsite validation of Sequential Microbial Based Anaerobic-Aerobic Reactor Technology (SMAART) for textile effluent treatment: Mechanism elucidation and life cycle assessment.** (Prof. Anushree Malik), Centre for Rural Development & Technology, Indian Institute of Technology Delhi, New Delhi.

## MATHEMATICAL SCIENCES

### Mathematics

1. Patel, Dhiraj. **Random sampling in reproducing kernel subspaces.** (Prof. S. Sivananthan), Department of Mathematics, Indian Institute of Technology Delhi, New Delhi.

ment of Mathematics, Indian Institute of Technology Delhi, New Delhi.

## PHYSICAL SCIENCES

### Chemistry

1. Jadon, Manisha. **Crystal engineering of azolate-based frameworks: Synthesis and structural chemistry.** (Prof. A. Ramanan and Prof. Tapan Bera), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.

2. Mishra, Preeti. **Functional activity of uranyl ( $\text{UO}_2^{2+}$ ) ion in response to biologically relevant hetero-atomic organic donor substrates.** (Prof. Jai Deo Singh), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.

3. Savita, Ravi Kumar. **Study of corrosion inhibition efficiency of *Cannabis sativa* extract for mild steel in different acidic medium.** (Dr. Rekha Israni), Department of Chemistry, Bhagwant University, Ajmer.

4. Sonam Kumari. **Expression, purification, and functional characterization of WhiB proteins of mycobacterium tuberculosis.** (Prof. Prof. Shashank Deep), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.

### Physics

1. Tayal, Shilpa. **Multi-modal and high resolution quantitative phase and fluorescence imaging systems for biological applications.** (Prof. D.S. Mehta), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

2. Bansal, Himanshu. **Computational modeling of optogenetic control of neuronal signaling.** (Prof. Sukhdev Roy), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

3. Garg, Diksha. **Feasibility studies of optical spectroscopic sensing in agri-food applications.** (Dr. Amartya Sengupta), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

4. Jain, Akalank. **Fault tolerant quantum computing: Diagrammatic approaches.** (Dr. Shiroman Prakash), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

5. Khan, Mohd Yasir. **Collective behaviour in non equilibrium active matter.** (Prof. Sujin B Babu), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

6. Saraswat, Deepak. **Knowledge discovery with hybrid data mining approach.** (Prof. Preetvanti Singh), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

7. Sharma, Rohit. **Multi objective optimization of multiple depot vehicle routing problem using swarm intelligence technique.** (Dr. Sanjay Saini), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

8. Singh, Swati. **Game theoretic and quantization approaches for Indian games: Some select strategies.** (Prof. Dayal Pyari Srivastava and Prof. C Patvardhan), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

9. Urvashi. **High frequency studies of the interaction of micro nanoparticles with proteins and pathogens.** (Prof. K Soami Daya and Prof. Rainer Adelung), Department of Physics and Computer Science, Dayalbagh Educational Institute, Agra.

10. Verma, Ashwani Kumar. **Highly anisotropic metal nanostructures for SERS-based trace-level molecule detection.** (Prof. R.K. Soni and Prof. D.S. Mehta), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

11. Verma, Chandra Prakash. **Optical studies of ion irradiated silicon based photonic structures.** (Prof. G. Vijaya Prakash), Department of Physics, Indian Institute of Technology Delhi, New Delhi. □



## THE NATIONAL UNIVERSITY OF ADVANCED LEGAL STUDIES (NUALS)

Kalamassery, Kochi, Kerala

No. NUALS/Admn./Regr./151/2023 Dated: 01.05.2023

### NOTIFICATION FOR THE POST OF REGISTRAR

The National University of Advanced Legal Studies (NUALS), Kochi, invites applications for the **TENURE** post of **REGISTRAR**. For further details, visit the University website "[www.nuals.ac.in](http://www.nuals.ac.in)". The last date for receipt of applications is **31.05.2023**.

**REGISTRAR (i/c)**

Shri Pandurang Shikshan Prasarak Mandal,  
Pandharpur, Sanchalit  
UMA Mahavidyalaya, Pandharpur Dist. Solapur  
P.B.No. 32, Datta Nagar, Karad Road, Pandharpur,  
Tal. Pandharpur, Dist. Solapur (Maharashtra) 413303  
Phone : 02186-224444/229000  
(Affiliated to Punyashlok Ahilyadevi Holkar Solapur  
University, Solapur)

Non-Minority

AIDED

Applications are invited for the post of PRINCIPAL from the  
Academic Year 2023-2024.

Sr. No.	Subject/Designation	Total Vacant Posts
1	Principal	01

Note :

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

Place : Pandharpur

Secretary

Teerthankar Education Society's  
Dr. Shivajirao Kadam College of Pharmacy,  
Kasabe Digraj,  
Tal. Miraj, Dist. Sangli-416305

(Affiliated to Shivaji University, Kolhapur)  
(Non-Grant)

WANTED

Applications are invited from eligible candidates for  
the following post:

Sr. No.	Name of Post	Vacant Post	Unreserved (Open) Post
1	Principal	01	01(Open to all)

Note: For detailed information about posts,  
qualifications and other terms and conditions, please  
visit University website: [www.unishivaji.ac.in](http://www.unishivaji.ac.in).

Place:

Date :

Chairman  
Teerthankar Education Society  
Kasabe Digraj, Sangli - 416305

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DON BOSCO COLLEGE  
M.G. Road, Panjim, Goa 403 001  
(Self-financing Programs affiliated to Goa University)  
Ph. No. 0832-2421929, 2221986,  
Email: [collegeoffice@donbosco.ac.in](mailto:collegeoffice@donbosco.ac.in)

VACANCIES

Applications are invited from eligible candidates for  
the following posts:

Sl No.	Contract Basis	Nos.
1	Computer Application	4
2	Business Management	3
3	Tourism and Travel Management	3
4	Social Work	2
5	Mass Communication	3
6	English	2
7	History (Lecture Basis)	1

Note : For detailed information about qualification  
and other terms and conditions, please visit College  
website : <https://donbosco.goa.ac.in/staffvacancies>.

Director

**MARY MATHA ARTS & SCIENCE COLLEGE**

(Government Aided College Affiliated to  
Kannur University & Minority Institution  
of the Diocese of Mananthavady)

**Vemom P.O., Mananthavady, Wayanad,  
Kerala - 670645**

**Web: [www.marymathacollege.ac.in](http://www.marymathacollege.ac.in),**

**E-mail : [mmcmntdy@gmail.com](mailto:mmcmntdy@gmail.com)**

**Phone: 04935 241087 (Off.)**

**Manager: 9447092067, 9447410831**

Applications are invited from candidates for appointment in the following Vacancy:

**UGC Librarian - 01 Post (Community merit )**

Qualification as per Kerala Govt. & Kannur University Rules & Statutes. Application forms are available in the College office as well as on the College website : **[www.marymathacollege.ac.in](http://www.marymathacollege.ac.in)**. Duly filled application form should be submitted in the office of the Manager, Mary Matha Arts & Science College, Mananthavady, Wayanad-670 645 **within 30 days** from the date of publication of this notification.

Mananthavady  
18.05.2023

**Manager**

**NIRMALA INSTITUTE OF EDUCATION**

Altinho, Panaji, Goa

Phone : 2225633

**VACANCIES**

Applications with full Bio-data are invited from Indian citizens for the following below posts for the Bachelor of Education programme on Full time Regular basis or on Contract basis for the academic year 2023-2024 onwards.

The Applications need to be received by **12<sup>th</sup> June, 2023** during office hours.

1. Asst. Prof. in Methodology of Teaching Geography (01 No.)
2. Asst. Prof. in Education (01 No.)

For more information, candidates are requested to view the Institute's **website : [nirmalainstitute.org](http://nirmalainstitute.org)**.

Sd/-

**Dr. Delia Antao  
Officiating Principal**

19/5/2023

**Sonopant Dandekar Shikshan Mandali's  
SONOPANT DANDEKAR ARTS, V. S. APTE COMMERCE AND  
M.H. MEHTA SCIENCE COLLEGE  
Palghar, Dist. Palghar - 401404**

APPLICATIONS ARE INVITED FOR THE FOLLOWING **CLOCK HOUR BASIS POSTS**  
FOR THE ACADEMIC YEAR 2023-24  
**AIDED**

Sr. No.	Cadre	Subject	Total No. of CHB Posts	Category
1	Assistant Professor	Botany	02	02 - OPEN
2	Assistant Professor	Chemistry	08	08 - OPEN
3	Assistant Professor	Commerce	02	02 - OPEN
4	Assistant Professor	Economics	02	02 - OPEN
5	Assistant Professor	Physics	02	02 - OPEN
6	Assistant Professor	Zoology	08	08 - OPEN
7	Assistant Professor	Mathematics	04	04 - OPEN
8	Assistant Professor	English	01	01 - OPEN
9	Assistant Professor	Geography / Environmental Science	01	01 - OPEN
10	Assistant Professor	Philosophy	01	01 - OPEN

The above posts are open to all, however, candidates from any category can apply for the post.

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

Candidates having knowledge of Marathi will be preferred.

“Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18<sup>th</sup> July 2018, Government of Maharashtra Resolution No. Misc.- 2018/C.R.56/18/UNI-1 dated 8<sup>th</sup> March, 2019 and University Circular No. TAAS/(CT)/ICD/2018-19/1241 dated 26<sup>th</sup> March, 2019 and revised from time to time”.

Remuneration of the above post will be as per University Circular No. TAAS/(CT)/01/2019-2020 dated 2<sup>nd</sup> April, 2019 & University Circular No. CTAU/23/2021-2022 dated 26<sup>th</sup> January, 2022.

The Government Resolution and Circular are available on the website [mu.ac.in](http://mu.ac.in).

Application with full details should reach the PRINCIPAL, S.D. ARTS, V.S. APTE COMMERCE, M.H. MEHTA SCIENCE COLLEGE, PALGHAR, Kharekuarn Road, Palghar (W), Dist. Palghar – 401 404 within 15 days from the date of publication of this advertisement. This is University approved advertisement.

Sd/-  
PRINCIPAL



GOVERNMENT OF INDIA

**Ministry of Education**  
**Department of Higher Education, Technical Section – I**

**Invitation of Applications for the post of Director, IIT (BHU) Varanasi**

Applications are invited for appointment to the post of Director of Indian Institute of Technology (BHU) Varanasi. The Director of an IIT is the academic and administrative head of the Institution. He/she is expected to have a minimum of 5 years' administrative experience and leadership qualities to head an Institute of National importance. The candidate/ person should be a Ph.D. with first class or equivalent at the preceding degree, preferably in a branch of Engineering. In exceptional cases, candidates with Science, Mathematics or Management degrees may be considered. He/she should have an outstanding academic record throughout and a minimum of 10 years teaching experience as a Professor in a reputed Engineering or Technology Institute or University and should have guided Ph.D. students. The applicant should preferably be less than 60 years of age on the last date of receipt of the applications. The post carries a fixed pay of Rs. 2,25,000/- (Revised) per month, with allowances as per rules.

2. Interested individuals may apply giving their detailed resume in the prescribed format clearly bringing out research, teaching, industry-academia collaborations and administrative achievements, along with a two-page justification in support of their candidature, a two-page vision statement for the institution and contact details of at least two distinguished individuals well acquainted with their work. The application typed in the prescribed format along with enclosures may be sent by Registered/Speed Post to **The Under Secretary (TS.1), Department of Higher Education, Ministry of Education, Room No. 428 "C" Wing, Shastri Bhawan, New Delhi-110001** so as to reach the Ministry on or before **20<sup>th</sup> June, 2023**. The detailed advertisement and the format of application is URL: [https://www.education.gov.in/sites/upload\\_files/mhrd/files/advertisement/adv\\_iit\\_bhu\\_2023.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/advertisement/adv_iit_bhu_2023.pdf)



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**भारतीय शिक्षक प्रशिक्षण संस्थान, गुजरात**

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	B.A.-B.Ed. (Integrated)	English, Gujarati, Sanskrit	4 Year
Post Graduate	B.Ed.-M.Ed. (Integrated)	Maths, Science	3 Year
	M.Ed.	Education	2 Year
	M.Sc./M.A. M.Ed. (Innovative & Integrated)	Maths, Physics, Chemistry, Botany, English, Gujarati, Sanskrit	3 Year
Research Programme	Ph.D.	Education	3/4 Year

Apply online on IITE website: [www.iite.ac.in](http://www.iite.ac.in) up to 10<sup>th</sup> June 2023

(Please Visit University Website for Intake and other details)

Date : 07.05.2023

For any query Email: [admission2023@iite.ac.in](mailto:admission2023@iite.ac.in)

Registrar, IITE

**Dayanand Education Society's  
Dayanand College of Pharmacy  
Barshi Road, Latur-413531**

**WANTED**

Applications are invited for the post of **Assistant Professor, Associate Professor and Professor** in Dayanand Education Society's, Dayanand College of Pharmacy, Latur. The application should reach within **15 days** from the date of publication of this advertisement to below mentioned address.

Sr. No.	Post	Subject	Total Posts	Post Reservation
1	Professor	Pharmaceutics	08	Open-03, SC-01, ST-01, DT/VJ-01, OBC-01, EWS-01
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacognosy		
		Pharmacy Practice		
2	Associate Professor	Pharmaceutics	13	Open-05, SC-02, ST-01, DT/VJ-01, NT(C)-01, OBC-02, EWS-01
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacognosy		
		Pharmacy Practice		
3	Assistant Professor	Pharmaceutics	14	Open-03, SC-02, ST-01, DT/VJ-01, NT(B)-01, NT(C)-01, OBC-03, EWS-02
		Pharmaceutical Chemistry		
		Pharmacology		
		Pharmacognosy		
		Pharmacy Practice		
		Pharmaceutical Quality Assurance		

**Educational Qualification:**

- As prescribed by Pharmacy Council of India, New Delhi, Govt. of Maharashtra and Swami Ramanand Teerth Marathwada University, Nanded.

**Salary and Allowances:**

Pay scale and other allowances shall be as per the norms of PCI, Govt. of Maharashtra and Swami Ramanand Teerth Marathwada University, Nanded.

**Note:**

- Prescribed application form & detail advertisement are available on the University website [www.srtmun.ac.in](http://www.srtmun.ac.in).
- Candidates employed anywhere, should submit their application through proper channel & by registered post only.
- No T.A./D.A. will be paid for attending the interview.
- Attested Xerox copies of S.S.C. Certificate, Degree, Experience Certificate, Marks memo, etc. should be attached with the application.

Address for correspondence: **The Principal, Dayanand Education Society's, Dayanand College of Pharmacy, Barshi Road, Latur.**

Principal

Secretary

President

**Dr. Rafiq Zakaria Campus II**

**Dr. Rafiq Zakaria College for Women**

Navkhanda Palace, Jubilee Park, Aurangabad  
NAAC Accredited B+

**Minority Institution**

**APPOINTMENT**

The Applications are invited for the following teaching post in Contributory Hourly Basis for Grant in Aid Section, teaching and non teaching positions in Non Grant Section, for one academic year 2023-2024 only. Eligible Candidate shall file their application with the Principal, in office hours **within 15 days** of publishing this advertisement.

Sr. No	Particulars	No of Post
<b>Assistant Professor on C.H.B GRANT IN AID 2023-2024</b>		
1	English	3
2	Urdu	2
3	History	1
4	Political Science	1
5	Economics	3
6	Chemistry	4
7	Mathematics	2
8	Zoology	3
9	Botony	3
10	Analytical Chemistry	2
11	Computer Science	4

Sr. No	Particulars	No of Post
<b>Assistant Professor on Fixed Pay Non GRANT 2023-2024</b>		
1	M.A English	2
2	M.A Urdu	2
3	M.Sc Chemistry	2
4	B.C.S (B.Sc Computer Science)	2
5	B.A Sociology	2
6	B.A Psychology	2
7	B.A Home Science	2
<b>Non Teaching Staff on Fixed Pay Non GRANT 2023-2024</b>		
1	Junior Clerk	4

**Eligibility:** As per the UGC, Government of Maharashtra & University Norms and Rules of Appointments.

**Note:** In service candidates should apply through proper channel. No TA/DA will be paid to the candidates for attending the Interview.

**Dr. Maqdoom Farooqui  
Principal**





**Jalna Education Society's  
R. G. Bagdia Arts, S. B. Lakhotia Commerce &  
R. Bezonji Science College, Jalna-431203 (Maharashtra)**

**WANTED**

Applications are invited from the eligible candidates for the following posts of Assistant Professor on **Grant-in-aid Basis** for Senior College. Eligible candidates should submit their application along with all necessary documents **within 15 days** from the date of publication of the advertisement. The candidates from Reserve Category should submit one copy of their application to the Dy. Registrar (Special Cell), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad by also **Registered Post only**.

Sr. No.	Subject	Post	Reservation
1	Physics	03	SC-01, ST-01, OBC-01, EWS-01, OPEN-01
2	Chemistry	01	
3	Commerce	01	

Permission as per NOC No. JDHEAurangabad/NOC/2019/16, Dated 25/04/2023 and subject to the final decision of W.P. No. 12051/2015 before Hon. Bombay High Court, Bench, Aurangabad.

- Note:** 1) For more detailed information about post qualifications, norms, salary and other terms and conditions, please visit college website: [www.jesjalna.org](http://www.jesjalna.org)
- 2) Eligible candidates should send their application by registered post on the address given below: **The Principal, Jalna Education Society's, R. G. Bagdia Arts, S. B. Lakhotia Commerce & R. Bezonji Science College, Durga Mata Road, Jalna-431203.**

**P.R. Bagdia**  
Chairman

**S.G. Bhakkad**  
Secretary

**Dr. G. M. Agnihotri**  
Principal

**K.M.S.P. MANDAL'S  
SANT RAWOOL MAHARAJ MAHAVIDYALAYA,  
KUDAL, DIST. SINDHUDURG - 416520**

APPLICATIONS ARE INVITED FOR THE POST

**PRINCIPAL**

FROM THE ACADEMIC YEAR 2023-2024

**AIDED**

The advertisement is approved subject to the final decision in the Writ Petition No. 12051/2015.

The above post is open to all, however, candidates from any category can apply for the posts.

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

Candidates having knowledge of Marathi will be preferred.

“Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18<sup>th</sup> July, 2018, Governments of Maharashtra Resolution No. Misc-2018/C.R.56/18/UNI-I dated 8<sup>th</sup> March, 2019 and University Circular No. TAAS/(CT)/ICD/2018-19/1241 dated 26<sup>th</sup> March, 2019 and revised from time to time.” The Government Resolution & Circular are available on the **website : mu.ac.in**.

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

Application with full details should reach the **HON. GEN. SECRETARY, K.M.S.P. Mandal's, SANT RAWOOL MAHARAJ MAHAVIDYALYA, KUDAL, Tal. Kudal, Dist. Sindhudurg (M.S.) - 416520 within 15 days** from the date of publication of the advertisement. **This is University approved advertisement.**

Sd/-  
**HON. GEN. SECRETARY**

**AL-SABAH EDUCATION & WELFARE SOCIETY AURANGABAD**  
**Dr. A.P.J. Abdul Kalam College of Education (Urdu Medium)**  
 YOUSUFIYA COLONY, PARBHANI -431401  
 (A Minority Institution)  
 Approved By Govt. of Maharashtra & N.C.T.E, Bhopal  
 Affiliated to S.R.T.M. University, Nanded

**WANTED**

**(Permanent Non-Grant)**

Applications are invited for the following posts in Dr. APJ Abdul Kalam College of Education, Parbhani, on permanent non-grant in-aid basis run by the Al-Sabah Education & Welfare Society, Aurangabad. Eligible candidates should submit their application along with all necessary documents with photograph **within fifteen days** from the date of the advertisement by registered post.

Sr No.	Post	No of Posts	Subjects	Qualification
1	<b>Assistant Professor</b> (Perspectives in Education)	02	Sociology/Psychology / Social Science)	M.A (55%) + M.Ed. (55%)+ SET/NET/ Ph.D. (Education)
2	<b>Assistant Professor</b> (Pedagogy Subjects)	04	Maths/Science/Social Science (History, Geography) Urdu/English	M.Sc./M.A. (55%) + M.Ed. (55%) + SET/NET/ Ph.D. (Education)
3	<b>Lecturer</b> Health & Physical Education	01 Part Time	Physical Education	M.P. Ed (55%) SET/ NET/ Ph.D. (Education)
4	<b>Lecturer</b> Performing Arts (Music/Dance/Theatre) Fine Arts	01 Part Time	Fine Arts	Post Graduate degree in Fine Arts with 55% marks

1. Pay Scales as per U.G.C, State Government & Swami Ramanand Teerth Marathwada University rules from time to time.
2. No. T.A/D.A will be paid to attend the interview.
3. Relaxation of 5% may be provided from 55% to 50% of the marks at the master's level of the SC/ST categories.
4. All attested Xerox copies of certificate and other relevant documents should be attached with the application form.

**Address for Correspondence :**

Incharge Principal  
 Dr. A.P.J Abdul Kalam College of Education,  
 Yousufiya Colony, Parbhani, M.S.

**Shaikh Mansoor Mustafa**  
**President**  
 Al-Sabah Education & Welfare Society, Aurangabad  
 Mobile No. 8668621965

**WANTED**

*(Permanent Non-Granted)*

Applications are invited for the post of Principal to be filed in **Dr. APJ Abdul Kalam College of Education (Urdu Medium)**, Parbhani (Permanent Non-Granted) run by Al-Sabah Education & Welfare Society, Aurangabad, Maharashtra, a Minority Institution. Eligible candidates should submit their applications along with all necessary documents **within Fifteen Days** from the date of the Advertisement by registered post only.

Sr. No	Name of Post	Number of Post	Reservation
1	PRINCIPAL	01	UNRESERVED

**Educational Qualification:-**

1. Academic and professional qualification will be as prescribed for the post of Lecturer.
2. Ph.D. in Education.
3. Ten years teaching experience out of which at least five years teaching experience in a secondary teacher educational institution.

Provided that, in the event of non-availability of eligible and suitable candidates for appointments as Principal/Head as per above eligibility criteria, it would be permissible to appoint retired Professor/Head in Education on contract basis for period not exceeding one year at time. Till such time the candidates complete sixty-five years of age. The term of appointment of the College Principal shall be tenure with eligibility for reappointment for one more term only after a similar selection committee process.

**Salary & Allowances :-**

Pay scales as per the U.G.C, State Government and Swami Ramanand Teerth Marathwada University's rules from time to time. (Pay Scale Rs. 37400-67000+AGP Rs.10000).

**Note:-**

1. No T.A/D.A will be paid to attend the interview.
2. Eligible candidates those who are already in services should submit their application through proper channel.
3. All attested Xerox copies of certificate and other relevant documents should be attached with the application form.

**Address for Correspondence:**

Principal  
 Dr. APJ Abdul Kalam College of Education,  
 Yousufiya Colony, Parbhani, M.S.

**Shaikh Mansoor Mustafa**  
**President**  
 Al-Sabah Education & Welfare Society, Aurangabad

**SANGOLA TALUKA SHETKARI SHIKSHAN PRASARAK MANDAL, SANGOLA, SANCHLIT  
VIDNYAN MAHAVIDYALAYA, SANGOLA**

Tal. Sangola, Dist. Solapur, Maharashtra  
(Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur)

**(AIDED NON-MINORITY)**

Applications are invited from eligible candidates for the following Posts of Assistant Professor:

Sr. No.	Subject Designation	No-Objection Certificate given by Govt. of Maharashtra Vacant Posts	No-Objection Certificate given by Govt. of Maharashtra Posts Reservation
1	Chemistry	01	Open – 01
2	Physical Education	01	S.T. – 01
3	Mathematics	01	VJ- A – 01
4	Zoology	01	OBC.- 01
<b>Total Post</b>		<b>04</b>	

**CONDITIONS :-**

1. Open post is open to all, however, candidates from any category can apply for the post
2. Educational Qualification and other requirements are as prescribed by the UGC Notification dtd.18<sup>th</sup> July, 2018, Govt. of Maharashtra Resolution No. Misc 2018 / C.R.56 / 18 UNI-1 dated 8<sup>th</sup> March, 2019 and University Circular No. PAHSUS/Estt./7<sup>th</sup> pay/2019/2285/ dated 25<sup>th</sup> March, 2019.
3. A relaxation of 5% shall be allowed at the Bachelors as well as at the Masters Level for the candidates belonging to SC/ST/OBC (Non-Creamy Layer) / Differently abled for the purpose of eligibility and assessing good academic record for direct recruitment.
4. Reserved candidates, who are domiciled out of Maharashtra State will be treated as open category candidates.
5. Reserved candidates should also to send a copy of their application to the Deputy Registrar, Special Cell, Punyashlok Ahilyadevi Holkar Solapur University, Solapur.
6. Application received after the last date will not be considered. The College will not be responsible for postal delay, if any.
7. Reservation for PWD, Women and Disable persons will be as per the Govt. norms.
8. Reserved category candidates shall produce the Caste Validity Certificate as per the directives issued by the State Government vide Circular No. BCC-201/Pra.Kra.1064/2011/16B dated 12-12-2011.
9. Reserved category candidates (except SC/ST) shall produce Non-Creamy Layer Certificate at the time of interview.
10. Reservation for VJNT Categories is internally transferable.
11. Applicants who are in service must send their application through proper channel.
12. Applicants are required to account for breaks, if any, in their academic career.
13. T. A. D.A. will not be paid for attending the interview.
14. Applications with full details should reach through the channel Secretary, Sangola Taluka Shetkari Shikshan Prasarak Mandal, Sangola to Principal, Vidnyan Mahavidyalaya, Sangola, Tal. Sangola, Dist. Solapur-413307 **within 15 days** from the date of publication of this advertisement.
15. Incomplete application will not be entertained.
16. All the Terms & Conditions are applicable as mentioned in the NOC letter No. JDHESolapur/NOC/ 2019/11 dated 25.04.2023 from Hon. Deputy Secretary, Higher and Technical Education Dept. Govt. of Maharashtra, Mumbai.
17. All the Terms & Conditions are applicable as mentioned in the GR Dated 12.11.2021 from Higher and Technical Education Department of Government of Maharashtra.
18. Please note that the recruitment procedure initiated by the advertisement subject to decision by Hon. Bombay High Court, Aurangabad Bench on Writ Petition No. 12051/2015.
19. This is University approved advertisement.

**Place : Sangola**

**Date :**

**Secretary**  
Sangola Taluka Shetkari Shikshan  
Prasarak Mandal, Sangola  
Tal. Sangola, Dist. Solapur - 413 307

**ASSOCIATION OF INDIAN UNIVERSITIES**  
**AIU HOUSE, 16, COMRADE INDRAJIT GUPTA MARG,**  
**NEW DELHI-110 002**

No. AIU/Admn./Rectt./2023/

Dated : 09.05.2023

**VACANCY NOTIFICATION**

Association of Indian Universities (AIU), an apex Inter-University Organisation invites applications from eligible candidates for appointment by direct recruitment (Sl. No.1&2) on regular basis (failing which by deputation) and on contractual basis (Sl. No.3&4). Duly completed applications should reach AIU **within 30 days** from the date of publication of advertisement in the Employment News:

Sl. No.	Name of Posts	Pay level of the posts as per 7 <sup>th</sup> CPC	No. of posts
1.	PS to SG	Level-10	01
2.	Research Assistant	Level-6	01
3.	Consultant	Rs.50,000/Rs.60,000/Rs.70,000/- pm consolidated	01
4.	Young Professionals (YPs)	Rs.50,000/- pm consolidated	05

**A. Educational Qualifications, eligibility and other requirements etc., for regular appointments are as under:**

**1. PS to SG, One Post, Pay Level-10**

**Age Limit: 35 years** (relaxable by 5 years for employees of Government Departments/Autonomous Bodies/ Institutions of Higher Education of the Central/State Government.

**Essential:**

- i. Bachelor's degree from a recognised university;
- ii. At least 3 years of experience in Central/State Government Departments/Autonomous Bodies/ Institutions of Higher Education of the Central/State Government/Public Sector Undertakings at the level 7 or equivalent;
- iii. Skill Test Norms [Dictation 10 mts @ 110 w.p.m. and Transcription: 50 Minutes.

**Desirable:**

- i. Good communication and inter-personal skills with ability to manage/schedule appointments travel and meetings;
- ii. Proficiency and experience in working on computers for emails, internet, word, and data processing application; ability to draft letters, notes, memos, presentation.

**2. Research Assistant, One Post, Pay Level-6**

**Age Limit: 35 years** (relaxable by 5 years for employees of Government Departments/Autonomous Bodies/ Institutions of Higher Education of the Central/State Government.

**Essential:**

- i. Master's Degree from a recognised university with consistently good academic record with a minimum of 4 years' experience in teaching/ research in Central/ State Government Departments/ Autonomous Bodies/ Institutions of Higher Education/ Public Sector Undertakings/ NGOs/ Corporate/Consultancy Organisations at the level of PB-1 (Rs. 5200-20200) with GP of Rs. 2800 or equivalent; **OR**
- ii. Bachelor's Degree from a recognised university with consistently good academic record with a minimum of 6 years' experience in teaching/research in Central/ State Government Departments/ Autonomous Bodies/ Institutions of Higher Education/Public Sector Undertakings/ NGOs/Corporate/ Consultancy Organisations at the level of PB-1 (Rs. 5200-20200) with GP of Rs. 2800 or equivalent;
- iii. Proficiency in working on computer applications, data analysis and word processing.

*Cont'd on Page 53*

**B. Educational Qualifications, eligibility and other requirements etc., for contractual appointment are as under:**

**3. Consultant:01 (on contract for six months) Age Limit:** Not exceeding 65 years

**Essential:** The candidates retired from Govt. Sector at the level of Joint Secretary/Deputy Secretary/ Under Secretary or equivalent level having relevant work experience in the field of Establishment/ General Administration/Higher Education Administration in Govt. departments/ Autonomous Bodies/ Universities.

**Note:** The remuneration to the Consultant shall be paid @ of last pay drawn (basic pay plus DA) minus pension plus DA subject to maximum of Rs.70,000/- pm for the candidate retired from the post of Joint Secretary or eq. level OR Rs.60,000/- pm for the candidate retired from the post of Deputy Secretary or eq. level and OR Rs.50,000/- pm for Under Secretary or eq. level.

**4. Young Professionals (YPs)-05 (on contract) for one year), Remuneration Rs.50,000/- per month (Fixed)**

**Age Limit:** Not exceeding 30 years.

**Essential:** Master's degree in relevant subject or possessing any Professional Degree with at least 55% marks or an equivalent grade in a point scale from a recognised university with consistently good academic record after a study of 5 years or more acquired after 10+2 or BE/B. Tech or 2 years PG Diploma in Management or CA or ICWA.

**Desirable:** Persons with additional qualifications, research experience, published papers and post qualification experience in the relevant field will be preferred. The YPs should have excellent communication and interpersonal skills with a strong flair for in-depth handling of requisite work.

**General instructions and guidelines:**

- 1) Employment of the Association shall be governed by the Rules and Regulations, Bye-Laws and service conditions, as may be notified by the Association from time to time;
- 2) The crucial date for determining the age limit shall be the closing date for receipt of applications;
- 3) Mere fulfillment of eligibility criteria shall not necessarily entitle an applicant to be called for test/interview. The Association reserves the right to relax any of conditions and shortlist the applicants in a manner as it may specify;
- 4) Relaxation in marks shall be permissible to SC/ST candidates as per Government of India rules/guidelines;
- 5) No person shall be appointed to any post unless:  
He/she produces a certificate of health and medical fitness from a registered medical practitioner;  
He/she produces documentary evidence to substantiate his/her qualifications and antecedents as prescribed for the post;
- 6) Appointment through direct recruitment shall initially be on a probation for a period of two years from the date of appointment, which may be extended by another one year by the competent authority for reasons to be recorded in writing; provided that in the case of a person, who prior to his/her appointment had served in a Central/State Government/ University/Other Institutions of Higher Education for more than five years in a similar capacity satisfactorily, the appointing authority may reduce the period of probation by not more than one year;
- 7) Where a person during his period of probation is found unsuitable for holding the post or does not complete the period of probation satisfactorily, the appointing authority may:  
In case of a person appointed by direct recruitment, terminate his/her services without notice; or extend his/her period of probation by not more than one year beyond which no extension of probation shall be permissible.
- 8) Applicants who are already employed in Government Departments/Autonomous Bodies/Institutions of Higher Education shall apply through proper channel and submit No-objection Certificate and Vigilance Clearance from their employer at the time of interview;

- 9) The seniority shall follow the order of ranking at the time of selection. Persons appointed as a result of an earlier appointment will be senior to those appointed as a result of a subsequent selection;
- 10) Persons appointed in a substantive or officiating capacity to a higher grade shall retain their relative seniority in the lower grade;
- 11) In cases where the date of joining is the same and ranking has not been specified, the inter-seniority will be determined with reference to age, the elder person being deemed senior;
- 12) Where a person selected initially on a temporary basis is confirmed subsequently in an order different from the order of merit indicated at the time of his/her selection, seniority shall follow the order of confirmation and not the original order of merit;
- 13) Cases which are not covered in the above guidelines would be determined by the Governing Council;
- 14) Selection of candidate may involve written examination or skill test or interview or both as the Association deemed fit:
  - (i) Selection of candidates for the positions in Pay Level-8 and above shall be through interview;
  - (ii) Group B posts below Pay Level-8 shall be through written test;
  - (iii) The syllabus for the written examination shall be as prescribed by the Association. All the candidates who fulfill the minimum qualifications/criteria for the post applied shall be called for the examination;
  - (iv) Applications received for such posts shall be screened for shortlisting by a Committee constituted by the Appointing Authority;
  - v) The maximum number of candidates to be called for interview for a post shall not ordinarily exceed five for one post. The Association, if necessary, may undertake screening of applications, conduct of written examination, skill test and preparation of merit list or outsource the entire process of activities to an outside agency.
  - vi) The upper age limit prescribed for direct recruitment shall be relaxable by 5 years in case of candidates belonging to Scheduled Castes, Scheduled Tribes, Other Backward Classes, PwD and Ex-Servicemen categories as per Govt. of India rules/guidelines notified from time to time;
  - vii) Upper age-limit as prescribed for direct recruitments shall not be applicable in case of Internal Candidates applying for direct recruitment;
  - viii) Vacancies notified for direct recruitment may be filled up on deputation basis by taking officials of appropriate grade on deputation for specified period (s) from the Central/State Governments, Autonomous Bodies and/or Higher Educational Institutions.
  - ix) No TA/DA shall be payable to applicant for any journey performed for attending the test/interview.
  - x) The posts shall carry allowances as per the AIU Rules.
  - xi) The Association reserves the right of not filling any advertised post(s) without assigning any reason.
  - xii) The Association reserves the right to increase or decrease the number of posts to be filled-up.
  - xiii) Canvassing in any form or on behalf of a candidate shall lead to disqualification of the candidate.
  - xiv) The envelope containing application should be super-scribed as "Application for the post of.....".
  - xv) Prescribed application form can be downloaded from the AIU website: <http://www.aiu.ac.in>
  - xvi) Applications on prescribed form complete in all respect along with application fees through Demand Draft of Rs.1000/- for Group 'A' posts listed at Sr. No.1, Rs.500/- for Group 'B' posts listed at Sr. No.2 for general candidates and Rs.500/- for Group 'A' posts, Rs.250/- for Group 'B' posts for SC/ST/OBC/PwD candidates and Rs.500/- for Consultant and Young Professionals (YPs) favoring Association of Indian Universities, payable at New Delhi should reach to the Secretary General, Association of Indian Universities, AIU House, 16, Comrade Indrajit Gupta Marg, New Delhi 110 002 **within 30 days** from the date of publication of advertisement in the Employment News.
  - xvii) Disputes, if any, shall be subject to jurisdiction of Delhi Courts only.

**Secretary General**



**National Institute of Educational Planning and Administration (NIEPA)  
(Deemed to be University u/s 3 of the UGC Act, 1956))  
17-B, Sri Aurobindo Marg, New Delhi – 110016**

**Admission Notice for the  
Master of Arts in Education and Development**

**ACADEMIC SESSION: 2023-24**

Applications are invited from eligible candidates for admission to the Master of Arts in Education and Development (MAED), a two-year full-time programme, offered by the National Institute of Educational Planning and Administration (NIEPA).

**Eligibility Criteria:** A 3-year or 4-year bachelor's degree in any discipline recognised by the corresponding statutory regulatory body or equivalent qualification from a foreign educational institution.

**Selection Procedure:** Selection of candidates will be based on their performance in written test and interviews conducted by the institute.

**Application Procedure:** All applicants interested in admission must apply ONLINE through the official website: <http://www.niepa.ac.in>.

Applicants should read carefully the prospectus and the instructions given in the website before filling in the application form.

**Application Fee:** A non-refundable fee of Rs. 1000/- for General & OBC-CL category candidates and Rs. 500/- for OBC-NCL/SC/ST/PwD/EWS/Women category candidates.

**Prospectus:** For prospectus, test syllabi, and any general query, please visit: <http://www.niepa.ac.in>.

For any specific query please send email on e-mail: [maedadmission@niepa.ac.in](mailto:maedadmission@niepa.ac.in) and contact on Phone: 011-26544823.

<b>Important Dates</b>	
Online Application Starts	22.05.2023
Online Application Closes	28.06.2023
Written Test	07.07.2023
Personal Interviews	14.07.2023
Declaration of Final Results	21.07.2023
Admissions	26.07.2023
Commencement of the Classes	31.07.2023



**SOMAIYA**  
VIDYAVIHAR UNIVERSITY

S K Somaiya College



## Admissions Open

### Post-graduate Diploma in Polyurethane Technology (PGDPU)

A Collaborative Programme with Indian Polyurethane Association (IPUA)



#### Key Features:

- A Joint academia-industry-Taught Programme for Academic and Industry Enthusiasts
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- Designed in Accordance with NEP-2020 Policy for Industry Collaboration and Micro Credentials
- Two-semester Programme with One Compulsory Internship for Six Weeks in Relevant Polyurethane Industries
- After Completing the PG Diploma, the Student Will Have the Chance of Upgrading the Diploma by Taking One Year Programme in MSc or MTech to Earn the Respective Degree

#### Eligibility:

BSc Chemistry/BE Chemical Technology/Any Science Graduate with Chemistry as one of the subjects, with 50% marks at graduation level or students with chemical or polymer industry experience are invited to apply

**Fee per semester:**  
₹50,000/-

**Last Date of Application:**  
15<sup>th</sup> June, 2023

**Total Intake: 24**  
(50% seats are reserved for the IPUA  
Industry sponsored candidates)



📍 Somaiya Vidyavihar University, Vidyavihar (E),  
Mumbai-400 077, India.

☎ +91 8657 4056 71

🌐 admissions@somaiya.edu | 🌐 somaiya.edu

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