



Rs. 30.00  
ISSN-0566-2257

# UNIVERSITY NEWS

*A Weekly Journal of Higher Education*

**Association of Indian Universities**

Vol. 60 • No. 43 • October 24-30, 2022

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# Industrial Consultancy in India: The Knowledge-skill Gaps Filling Measures Taken by Budding Deemed Universities

B Ganesh\*

Bringing required changes to the knowledge and skills of teaching-learning communities is the primary responsibility of academic organisations. Thus, in this post-COVID era, emerging deemed universities promote cost-effective and long-term consulting services to various institutes and industries. These measures of budding deemed universities are well tapped by the teaching-learning communities. The companies classified as micro, small, and medium enterprises have benefited the most from this boom. These paradigm shifts are optimistic and are minimizing the knowledge-skill gaps that exist in our society.

In the knowledge frontline, it is always the teaching community that triumphs and facilitates its society to grow around the imparted knowledge. But in the educational system of developing countries, 'the teaching-learning communities' are forced to learn from the knowledge banks of developed nations or from industrial and institutional leaders serving in the private sector (Reddy, En, and Tang, 2016). Many doctoral degree holders, particularly in India, are struggling to keep up with the advancements taking place around them, particularly the private sector knowledge boom. Thus, industry-academic interaction has to be strengthened to shorten the existing knowledge-skill gaps.

The National Educational Policy—2020—of the Government of India enabled the University Grant Commission to reframe its guidelines for the establishment of research and development cells in higher education institutions. This has also made it easier for many institutions and organisations to provide quality service to their clients and communities. Clients were particularly interested in the consultancy performance of emerging deemed universities, particularly in the industries classified as Micro-small and Medium-sized Enterprises (MSME).

It is widely accepted that any industry-academic interaction will impart benefits to the institute, the industry, the teaching community, the learning community, the nation, etc. In nutshell, it will contribute to the lives of our global community in many ways. Broadline collaboration is the general pattern adopted by institutes and industries for a coherent symbiotic contribution. One of the underutilised platforms in this line is 'the general consultancy services' extended by academic institutions. The major reason for this existing gap is due to the limitations of the consultants (especially the teaching community). They will be swamped

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with ongoing academic and research responsibilities, leaving little time and resources to assist needy clients. The scenarios are different in leading academics and reorganisations because they can afford to induct any type of consultancy because of their established networks, attained financial security, and achieved recognition. To get started on this path, emerging academic institutions (particularly newly inducted deemed universities) are now encouraging their faculties to lead consultancy services. Furthermore, this measure has widely started to address the needs of their clients, the learning communities; in terms of their employability index. The new-era learners are not fascinated with any type of general rank and certification of the learning center but appreciate the type of collaboration they have with leading industries, institutes, and organisations. These trends are also compelling budding organisations to keep their specific consultancy doors wide open.

Among academic organisations, the deemed universities are leading and attracting clients towards adequately buttered 'general consultancy services'. Through this self-facilitative approach, they are updating themselves to address the requirements of their needy clients. With budding IT-skilled learners, are preparing themselves to address the issue not only to satisfy their clients but also to gain skills to address 'the ever-changing mandatory changes' induced issues of their surroundings'. Leading industries are now trailing reputable universities in terms of collaborative understanding, particularly in R&D sector. This is because the deemed universities are flexible enough to look into the issues and address them with the help of appropriate forums (in needs, they used to hire and outsource professionals from relevant fields). Further, they used to extend time-bound results to their industrial clients; sustainably and affordably. In this post-COVID era, affordability can be one of the major reasons prompting industries to approach the deemed university networks. Industries are now tapping the flexibility of

administrative and executive privileges of deemed universities to resolve their issues irrespective of the significance of their issues (small or big). This change in approach has now started minimizing the existing knowledge-skill gaps in society and contributing towards a highly productive environment.

In a nutshell, the patterns of collaborative agreements between industry and institutes are changing. This is due to the industries' desire for a specific and timely resolution to their concerns. The general consultancy service sector opened by deemed universities, is now well tapped by leading industries. We can point out that the administrative and executive flexibility of budding deemed universities will add value to the future prosperity of industries; sustainably and affordably. In reverse the teaching-learning communities of the budding academic organisations (especially deemed universities) will get much more exposure, (unrestricted opportunities) to impart the required employability skills to them. Let the open doors of the deemed universities bring prosperity to the lives of the globalized human community.

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# A Brief Introduction to Academic Indexing

Geethu Varghese\*, Rohith Raja M\*\* and Venkatesh Babu K P\*\*\*

Information is an important element associated with every organization. The challenge is the effective way to keep such information in a manner so organized that it would be easy to retrieve at any time, retain its validity and be easy to understand. This requires systems that can reduce time, cost, and redundancy of information. Information specialists have devised methods to ensure those information activities are carried out at a low cost with less time. Indexing is the first essential activity wherever information has to be organized in a manner that would necessitate easy storage and retrieval.

The idea of indexing is based on the concept of creating an index. The word 'index' has its origin in the Latin word 'indicare' which means 'to show' or 'to point out' (Cleveland, 2013). The Index is basically concerned with indicating the location of an object or idea to one who does not know where that object or idea is located. Indexes are crucial tools for providing easy and quick access to the information contained in a large-sized document or a collection of documents.

The present world is obsessed with the process of scientific inventions and innovations and it is important that the works of individuals are available to the academic community. The concept of indexing and abstracting the existing literature came into significance as the number of primary documents increased over the years. The ever-increasing number of journals and their necessity for the research community adds competition between various indexing and abstracting agencies.

This article gives an overview of indexing and its relevance in the current scenario. It gives a brief idea regarding the development of the concept of indexing, the history of indexing, current practices involved with regard to indexing, and the advantages and disadvantages of indexing.

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## Development of the Concept

The concept of indexing was initially developed from the idea of textbook indexing where the major concepts of a book were to be separately marked so as to ease the process of learning. The system of numbering pages and the table of contents eventually evolved from the idea of bookmarks used in a book, where each bookmark was placed at particular locations explaining different concepts. Later, the bookmarks were collectively represented in the form of an index that pointed to the locations of the concerned concepts. This idea was further extended to primary documents such as journals, articles, magazines, books, etc. in order to help the research community to gather scattered information in a systematic and reliable manner, as initially, it was difficult to access the literature concerned to a specific study. Definitions of some of the technical terms are given here.

## Index

An index is a list of words or phrases ('headings') and associated pointers ('locators') to where useful material relating to that heading can be found in a document or collection of documents. Examples include an index which we see usually in the back matter of a book and an index used by the librarians to locate books which are known as a library catalogue.

## Indexing

Indexing refers to the operation of creating an index for information retrieval which involves the organization of data according to a specific schema or plan (Cleveland, 2013).

## Indexing Periodical

An indexing periodical is a tool that provides access to a meticulously arranged list of periodical literature that provides complete bibliographical references of published articles of primary documents, which are republished in regular intervals (Indexing and Abstracting Periodicals). It is arranged in a chronological manner to search for the location of the desired information.

## Abstracting Periodicals

Abstracting periodical, though sometimes interchangeably used with indexing, provides both

bibliographic details and abstracts of articles which the reader wants for his/her particular field of study (Cleveland, 2013).

### History of Indexing

Even before books were invented, the Greeks and Romans tried hard at discovering different ways to organize data. One of the first forms of written material they used was the papyrus scroll, but it was not very efficient when it came to information retrieval. So, eventually, there was enough written material out there to necessitate the invention of some kind of retrieval system. This necessity marked the invention of the index card which was introduced by Carl Linnaeus who is known as the father of modern taxonomy. The first table of contents appeared around two millennia ago and consisted of subjects or chapters regarding each topic which included the names of the authors and abstracts. A few centuries later, the Greeks invented alphabetization which made the idea of Carl easier (Simkin).

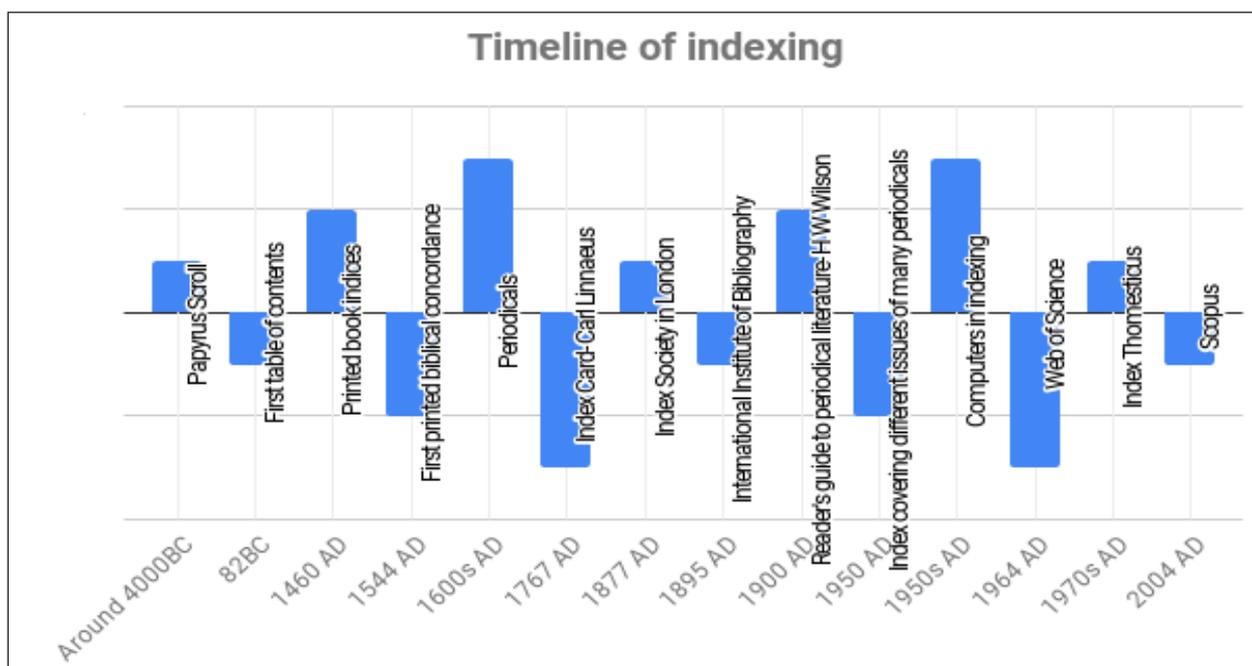
Around 2000 B.C. India and China accumulated the records of the available primary documents for easy access to the information which became vital for the society. The first systematic organization of written records occurred around 3000 B.C. There are different ways of arranging the primary documents which include alphabetical, classified, chronological, geographical and numerical methods of arrangement. Among them, the alphabetical

ordering was introduced in 900 A.D. when the encyclopedia was arranged alphabetically. Indexes from that time were of several kinds which include the below mentioned:

- Lists of terms or phrases.
- Concordances to the Bible (from the 7<sup>th</sup> century).
- Subject indexes to canonical law (from the 11<sup>th</sup> century).
- ‘Real concordances’ or classified lists of references to theological concepts.
- Subject indexes to works on ethics, natural philosophy and logic. In some manuscripts headwords and marginal references served as guides to the text (Simkin).

It was in the 1460s, printed book indexes appeared. Later in 1544, the first printed Biblical concordance was published. In the 17<sup>th</sup> century, a new type of development was introduced to gather information, termed as ‘periodicals’ which emerged from the idea of books which were published with blank pages along with margins in the 15<sup>th</sup> century. With the aim of designing a general index of universal literature, the Index Society was formed in London in 1877 which lasted until 1890 (Simkin).

Paul Otlet, a Belgian bibliographer and entrepreneur made an attempt to create a universal repository for all the information available in the Worlds Recorded Knowledge which led to the



foundation of International Institute of Bibliography in the 19th-century to improve the indexing approaches to available scholarly literature, which further led to modern free-text indexing. H.W. Wilson first published Reader's Guide to periodical literature in 1900. W.F. Poole first published an index that covered different issues of many periodicals in 1950. In 1950s computers penetrated the indexing area and efforts to evaluate indexing began. In order to bring out the indexing and abstracting periodicals, a large amount of literature was collected and processed, organized and stored in a machine-readable form. Such stored information is now days familiarly known as databases, which are used for the search and retrieval of information. In the 1970s, Roberto Busa along with Thomas J. Watson, founder of IBM, created a tool called Index Thomisticus to search text from the collective works of Saint Thomas Aquinas (Cleveland, 2013), (Simkin).

The World Wide Web is a huge accumulation of various databases, which have large amount of data, and hence it was important to filter this data according to its relevance (Lancaster, 2003). This need led to the formation of large databases like web of science, which came into existence in 1964, Scopus in 2004, etc.

### **Types of Indexing**

Indexes can be categorized in many ways. i.e., by arrangement or by searching structure or by specific subject fields or by purpose. Primary documents are indexed in the databases in different ways namely: alphabetical, classified, chronological, geographical and numerical (Indexing and Abstracting Periodicals)

#### ***Alphabetical Order***

It is the most common method based on the orderly principle of letters of the alphabet. The encyclopedia stands first collecting and gathering information in alphabetical order.

*Advantages:* More convenient to use and follows an order that is familiar to users.

*Disadvantages:* Problems of synonyms and scattering of entries are likely to appear.

#### ***Classified Index***

It is arranged systematically by classes or subject headings and plays an important role especially in scientific indexing.

*Advantages:* Very useful in generic searches and helps to bring similar works together.

#### ***Disadvantages***

- (i) It is not user oriented as most of the users find it difficult to use.
- (ii) It requires a secondary file to get information about the available literature.

#### ***Geographical Index***

It is a hierarchical arrangement from a broad region to a smaller region through map reference points or by setting longitudes and latitudes.

*Advantages:* It allows easy access to the information and it helps to know the recent trends in research within a specific geographical region.

*Disadvantages:* Since it is limited to only a particular geographical area, developments or progress of literature in another geographical area cannot be known.

#### ***Chronological Index***

It allows the users to browse the available primary documents by time periods and the series are indexed chronologically according to the first data recorded in the records.

*Advantages:* Helps to know the research gap in any particular field and developments which went through in that particular field from beginning to till date.

*Disadvantages:* It consumes more time and overlap of information in a particular field is likely to happen.

#### ***Numerical Index***

A numeric filing system uses an index or file plan to associate available primary documents with specific numbers which help to locate the desired content.

*Advantages:* Directs the user to the exact page number where the explanation of a concept starts.

#### ***Current Practices***

Textbook indexing is actually the responsibility of the author. But, in many cases, the authors do not take up the responsibility. Some of the publishing companies establish in-house indexing departments to cater the needs, while the others depend on freelancers to accomplish the task. On a

larger basis, considering all forms of information, namely, books, articles, journals, etc. into the picture, the practice of indexing is taken up by various indexing agencies and over time, this has led to high competition in this field (Akinwumi, 2013). These indexing agencies try and promote their brand value, through varied strategies so as to capture higher visibility in the market. Nowadays, the art of indexing is promoted by the agencies with a clear view of the monetary benefits that would arise. This also, sometimes, affect the quality of the articles published in journals.

### **Advantages**

Some of the advantages of indexing includes the below mentioned:

- Index serves as a guide to material that the user may wish to recall or that he may not know that it exists, that is, indexes are used for question of recall or discovery
- Without indexes, the searcher would waste time by turning through documents page by page, hence it saves time and effort to group together information which is otherwise scattered
- To find information on the literature of the subject fields as and when the need arises. I.e., it primarily helps the researcher to look back on ideas/events which could play a key role to enhance the quality of his/her research (Indexing and Abstracting Periodicals)
- It provides bibliographic control of literature output either by country or by subject or by kind of materials if the aim of indexing services is exhaustive coverage (Bourne, 1962)
- It facilitates librarians and information seekers for day to day reference and bibliographic work (Cleveland, 2013)
- It plays a major role in keeping the budding scholars informed about the recent developments happening in their specified area
- Serves as a filter to withhold irrelevant materials (Indexing and Abstracting Periodicals)
- To maximize the searching success of the users, it provides a system of accurate and almost complete cross-references to related information to ensure the satisfaction of information

- To make the work of individual scientists or scholars known to a larger group of researchers, this in turn helps the user to identify pioneers in the particular field
- To look up for facts/details on a topic which may not be well covered by books, encyclopedia, etc. (Indexing and Abstracting Periodicals)
- To obtain correct and complete bibliographic details of particular items of literature, when there is any doubt (Indexing and Abstracting Periodicals)
- To indicate the relationship among terms while searching

### **Disadvantages**

- Indexing need not exhibit the relevance of the data, instead, it gives a count of the data used single/multiple number of times in a theory/ event/ situation, i.e., it gives significance to quantity rather than quality.
- It takes more storage space.
- Though indexing helps us to locate particular works, it sometimes happens that we tend to overlook subtle concepts since they may not be included in the set of keywords. Certain concepts may remain unexplained, due to this.
- None of the electronic databases which have evolved contains all the information that one needs for research as issues related to subject coverage, publication coverage, date coverage, updates, and timeliness emerge (Lancaster, 1982).

### **Conclusion**

The alarming rate at which the literature is being published has made it difficult to identify new works even in small fields of specialization. Indexing has been found to be very helpful in deciding which articles are to be accessed and which are not to be accessed. Indexing has made compilation and retrieval of information quick and less costly. The significance of indexing to information units like schools, colleges, research organizations, etc. show that there has been a tremendous improvement in the concept and has helped both institutions and individual users to access relevant information at the right time, place, format and with proper understanding.

*(contd. on pg. 13)*

# Designing a Research Study

P Prema\*

Designing is a crucial aspect of any research investigation. If carefully done, it can be said that more than half of the work is over. Planning regarding methods, target groups, instruments of data collection, and data analysis techniques well ahead saves a lot of time and gives better clarity to the investigator. If decision-making is done before the work starts, there will not be any necessity to undo any field work at a later part of the stage of the study. Designing consists of an introduction, methodology of the study, population, sample to be drawn from the population, instruments of data collection, data analysis, and reporting. If the selection of the problem and definition of key variables in the title is clearly done, then designing will be easier. Stating the objectives, and hypotheses are necessary at the initial stage of the study. This is followed by the statement of the problem which includes the definition and operational definition of the key variables in the title, the scope of the study, and the expected educational outcomes of the study for implementation in future policy decisions.

## Introduction of the Problem

While introducing a research study it is necessary to show how from a broad area the work has been narrowed down to the topic stated. This is like an inverted triangle. The second aspect under the introduction is a brief review of related literature and research studies that will logically point out the need for the present research. The researcher must give a convincing justification for the selection of the problem showing the absence of research, lack of adequate and satisfactory research, lack of conclusive findings, glaring contradictions, and gaps in earlier research. Next, it is necessary to explicitly express the expected outcomes of the research to be undertaken which can potentially contribute to principles, programs, policies, and practices of education.

The fifth aspect of the introduction part is to state the scope or delimitation of the study which will show to what extent variables will be explored and the size and geographical area of the target group. Failure to decide the scope of the research will make the whole

study unmanageable and difficult to carry out. This is the framework within which the study has to be carried out; beyond the scope it is not necessary to do the work. For example, one of the author's doctoral research scholars took up a study on 'Developing Quality Education Model at Secondary Level'. Quality is a very broad concept which includes a lot of variables like institutional infrastructure, teacher competence, admission procedure, curriculum, background of the learners and the philosophy of the institution. While restricting the scope, the scholar cautiously gave operational definition and compared the concept to a rope and selected a few strands of the rope, with the assumption that if the strands are strong then the rope also will be strong.

## Statement of the Problem

Next important component of a research plan is the statement of the problem. This includes the statement of the title, research questions, assumptions, statement of research hypothesis, definition of key terms or expressions or variables, operational definition, and objectives of the study - both major and additional objectives. Research questions always emerge from the title of the study. In fact, the title decides the method, tools, and data analysis techniques employed in the research. Assumptions, presumptions, hunches and intelligent guesses that lead to the formation of hypotheses are to be stated.

This is very important because no study can be carried out without assumptions which are the basis for any research. Next aspect is the statement of the research hypothesis. In some studies, it may not be possible to state the hypothesis as in qualitative research. In fact, in qualitative research hypotheses emerge in due course of the study. Hypothesis may be replaced with research questions. Or some studies can have both research questions and hypotheses. It is very important to give a broad definition of key terms or expressions or variables in the study. Followed by this it is necessary to give an operational definition of the variables in the study. Definition of terms should be based on the context, history, relevance, frame of reference, person, and culture because a simple definition of a term which describes complex human experience is difficult.

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The linguistic aspect also should be taken care of. There may be one variable having different shades of meaning or different terms having similar meanings. This must be exhaustively explored before finally arriving at an operational definition of the terms. Followed by giving the operational definition, the objectives of the study are to be clearly stated. Major objectives always flow from the title and additional objectives that may strengthen the study may also be stated.

### **Methodology of the Study**

The third major component of a research plan is the methodology of the study or procedure for investigation. This will throw light on the description of what research method or methods are to be adopted for the study with justification at every step. The methodology is more inclusive than the method of research as methodology refers to the entire procedure for investigation. Methodology section indicates applicability, validity and credibility of the methods applied in the research with justification.

The research design may be presented in the form of a flowchart which is logical and chronological. Flowchart gives a pictorial idea at one glance about the whole work. Followed by the research design or the flowchart, the target groups which constitute the population of the study and the sample to be drawn from the population has to be mentioned with adequate justification for the size and representativeness of the sample to the population. As this paper intends to give a broad idea about the design of the research study, details of each component are not given; this will warrant writing a separate book on research methods.

### **Method of Research**

While designing a research study the scholar should know different types, approaches, and methods of research to choose one or more appropriate for his or her own topic. Broadly research is classified into qualitative and quantitative based on the approach. Qualitative approaches are more demanding on the part of the researcher because they are interpretative, intending to describe, portray, summarise, interpret, discover patterns, generate themes, understand individuals, order groups, raise issues, demonstrate, explain, set causality, explore, test, discover commonalities, differences, examine application and operation of same issues in different countries (Cohen.) Another classification of types of

research based on purpose is basic, applied, evaluation, quantitative and qualitative. Content analysis and action research may be added based on the needs. Almost all publications on research methodology discuss the different methods of research as survey, correlational, causal-comparative, experimental, case study, narrative research, and ethnographic research.

Thorough knowledge of sampling procedures that are applicable to the different types of research is an essential condition for carrying out good research. Before describing the sample, it is necessary to define the population parameters so that one can understand the sample statistics which represent the population. Broadly there are two types of sampling- random sampling and non-random sampling. In quantitative studies, the random sampling technique is commonly employed while in qualitative approaches non-random sampling technique is used as the samples may be limited in number. For example, a study on dyslexic children can adopt only non-random sampling techniques.

The researcher may select random sampling, simple random sampling, stratified sampling, cluster sampling, and systematic sampling based on the need. Of course, there are several variations in sampling procedures like double random sampling. Purposive sampling is also done in some cases. A description of each of the methods is not within the purview of this paper. Determining the sample size is a crucial problem. In quantitative studies, 10% of the population may be chosen as a sample. Sampling errors may be minimised through random selection of the sample. One should avoid sampling bias also. In qualitative research non-random sampling techniques are to be adopted. For example, research on spastic children or dyslexic children cannot adopt a random sampling procedure; the available children are selected for the study. This is an example of purposive sampling.

### **Measuring Instruments of Data Collection**

Broadly tools may be classified into observation schedules, interview schedules, questionnaires, achievement tests, aptitude tests, affective tests, projective tests, or personality tests. A researcher may use available standardised tools or construct his own tools depending on the need of the study. One can also modify standardised tools and establish their validity and reliability. Most of the doctoral research scholars of the author have used more than one tool for data collection which is known as triangulation of tools. For instance, one scholar employed questionnaires,

interview schedules, and observation as the tools for research. In order to develop a set of competencies required for teachers of English in technical institutions, one scholar used content analysis to analyse the curriculum available, interviews to get information from teachers, and an observation schedule to observe the performance of English teachers to assess the competencies. Many scholars employed a combination of interview, achievement tests, performance tests, and observation as tools for data gathering. Triangulation of tools enhances the objectivity of the data, analysis, and generalisability of research findings.

Deciding on the type of measuring instruments appropriate for the study is crucial. It must be remembered that in social sciences measurements can be only approximate and can never be exact. Further, the difference between two points in a scale is not the same as in 2" and 4"; 4" and 6". Or the weight of 20 kilos is twice more than 10 kilos, whereas an attitude score of 35 is qualitatively different from a score of 70. It is always better to use more than one measuring instrument or data-collecting tool to make the study more objective. While describing the instruments of data collection the source of the tool, if it is already available, explaining its validation procedure or construction of the tools with adequate justification, detailed description of the contents, scoring procedure, how the tool is to be administered, validation, are to be mentioned. It is always better to use more than one measuring instrument or data- collecting tool to make the study more objective.

The types of data will decide measuring instruments. Broadly, there are four types of data: 1. nominal 2. ordinal 3. interval and 4. ratio. Nominal variables are categorical like gender economic status, test scores, ethnicity and so on. Ordinal variables exist as a continuum like rank, height, and weight of the individuals. Interval variables are both nominal and ordinal; they are having equal intervals like rank order. A score of 80 is higher than 40 but we cannot say one with an 80 score knows twice as much as one who gets 40. Ratio variables have zero points. For example, height, weight, time, speed, distance, pressure, and volume can be expressed in zero value also. Ratio variables are not common in educational research as they are mainly physical variables. Quantitative variables exist on a continuum ranging from low to high, less, or more.

In correlational research or experimental studies, dependent variables and independent variables are

common. Dependent variables are influenced by independent variables that may not be manipulated. In causal- comparative or experimental studies, these variables are important components without which such research cannot be carried out. For example, causal comparative study on the influence of malnutrition on the academic achievement of primary children, we have a dependent variable which is academic achievement and an independent variable which is malnutrition. Another example is the effect of listening to Carnatic music in enhancing memory. Here memory is the dependent variable and music is the independent variable. While listening to classical Carnatic instrumental music was the independent variable of the study, attention, and memory were the dependent variables. These two became the independent variables at the second stage of the study because it was explored how attention and memory enhanced through exposure to music improves academic achievement which was the dependent variable. Many scholars of the author have used more than one research method for their research. One study was a combination of survey, experimental and case study approaches; another was a combination of content analysis and experimental designs. In one study observation and case study approaches were used. This is known as triangulation of research methods. Triangulation of methods used provides a more comprehensive picture of the target groups and the research problem. One scholar used observation and case study as the methods for research. Another Scholar employed content analysis and experimental design for her research.

### **Establishing Validity and Reliability**

As has been mentioned earlier, the standardisation of measuring tools is crucial for research in social science. The Standardisation means establishing validity and reliability of the data -gathering instruments. Validity refers to the truthfulness of a tool in measuring the intended variables. If the tool measures what it wants to measure, then it is valid. Validity is a matter of degree - it may be highly valid, moderately valid, or generally invalid. In general, there are four types of validity - content validity, criterion validity, construct validity, and consequential validity. Content validity is important in achievement tests. This refers to the degree to which a test measures an intended content area; this is also known as expert validity or face validity. Criterion related validity is of two types – one is concurrent and another is predictive validity

which shows how well scores on a test are related to scores on another tool on a criterion. At the same time, predictive validity is the ability of a test to predict future performance based on scores in the given test. For example, competitive examinations such as JEE, GRE, NEET, TET are said to have this predictive validity. Concurrent and predictive validity are determined by correlating performance in one test with another. Construct validity of a test is the ability of the tool to measure a variable that the study explores like intelligence, achievement, motivation, personality, etc. Content validity and construct validity are the same.

The reliability of a measuring instrument is its dependability or trustworthiness. It is the degree to which a test consistently measures what it is measuring. Reliability provides information about measurement error which means the fluctuations which are inevitable in the scores due to factors such as person and test. No test is perfectly reliable, but the smaller the measurement error the more reliable the test is. There are five different general approaches to reliability. They are: stability, equivalence and stability, internal consistency, and inter-rater or inter judge reliability. Stability is the test-retest reliability; this means on repeated measurements the scores are almost the same. If there is not much variation in the performance of the students in the parallel or alternative test then there is equivalence. Equivalence and stability refer to performance which is correlated with alternative tests. The Internal consistency of a test is calculated by split - half method or using the Kuder Richardson formula. Inter-rater reliability refers to more than one person using the same tool for data collection to arriving at similar scores; the less the variation the more the reliability of the tools.

Next it is necessary to decide the method of data analysis and statistical procedures that should be adopted for the study. The data collected using measuring instruments are to be analysed using approved statistical techniques. There are two types of data - mainly descriptive and inferential; descriptive statistics includes graphs, measures of Central Tendency like mean, median, mode, measures of variability, normal curve, measures of relative position and measures of relationship. Inferential statistics refers to standard error, tests of significance such as analysis of variance, multiple comparisons, factorial analysis, analysis of covariance, multiple regression, Chi-square and the like.

## **Components of a Research Report**

After doing hard work and spending a lot of time in the various processes of research, it is necessary to properly write a report of the research work. This is a challenging task indeed because the report must be clear, comprehensive, and at the same time crisp. It is broadly accepted that there are five chapters in a Research report: 1. Introduction 2. Review of related literature and Research studies 3. Procedure for investigation 4. Analysis of data and interpretation 5. Major findings, recommendations, and conclusions.

The introduction chapter should be preceded by a preface and acknowledgement. Major components of the first chapter are an introduction showing how from a broad area the problem was narrowed down, followed by a brief review of related literature and major or classical research studies. The need for the study and the scope of the study is to be explicitly mentioned. This is followed by a statement of the problem, title, definition of key terms, operational of key variables, assumptions, hypothesis and or research questions, objectives -major and additional.

The second chapter describes studies done abroad with classical studies if any, and studies done in India, followed by inferences drawn from the studies quoted. It must be remembered that this portion is not just a mere summary of the studies given, but a critical account of the gaps identified in earlier researches, in terms of methodologies, target groups, tools, samples, statistical analysis, and contradictory findings.

The third chapter explains the procedure for investigation which includes the method of the study, design of the study, population, sample for the study, tools or measuring instruments with all details, and data collection procedure.

Chapter four on analysis of data and interpretation presents a detailed account of how data were analysed, what statistical techniques were employed, inferences from the statistical tables obtained from calculations, and interpretations based on inferences. Inferences logically lead to the findings which are to be given in the last and fifth chapters.

Mainly the final chapter presents a restatement of the problem, a summary of work done, major findings, additional findings, discussion, policy recommendations with the action plan, and suggestions for further research.

## Conclusion

Budgeting of time is crucial because all investigations are time bound, especially while investigating flagship programmes of the Government. Right from deciding on the methods, population, and the sample, designing and validation of tools of data collection, deciding, designing and validating intervention strategies, if any, as in the case of experimental approaches, data collection, analysis and reporting are to be given a tentative time schedule. Similarly in funded research projects it is necessary to adhere to the estimated expenses as far as possible; or else one may have to spend extra amounts of money feeling the burden at the end. The concluding items of a research report are bibliography, following approved styles of presentation, appendices, map of geographical area where data were collected from the population, copies of tools used for the study like observation, interview schedule, rating scales etc. The scoring procedure also is to be given and reports of preliminary study, pilot study and final study in the form of a table are to be given. A good piece of research always begins with careful designing which

will help in error free carrying out of the investigation and all scholars must keep in mind this crucial aspect of research.

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(contd. from pg. 8)

Thus, indexing is the process of pointing out the locations of the original works along with a brief abstract and the bibliography of the research articles so as to help the researchers in finding the appropriate articles in the respective fields (L, 1994). The otherwise tiresome work of gathering information from the existing literature related to one's preference becomes easier. Indexing functions as a funnel which takes information from the documents and puts it together into neat alphabetized lists that facilitates the user in retrieving the information.

The purpose of indexing is to reduce search space and that of abstracting is to reduce the evaluation time (Cleveland, 2013). We conclude this paper stating that the two systems are to be merged efficiently through a single tool which would make the reduction of search space and time more reasonable, and the concerned users have access to much-organized bit of information. Newer searching tools like Google Scholar are being introduced which allow access to a wider range of information with better options to search.

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# Preparing a Package on Inclusive Education and Testing its Effectiveness

Zehra Banu\*

It's crucially and an urgently needed issue in education. Inclusion of socially backward classes, economically weaker classes, physically disabled students, gender discriminated students in the mainstream system of education is an issue which has attracted the world in recent years. The main cause of illiteracy and deprivation of these students lies in the problem of non- inclusion of these students in general educational institutions. The UNESCO convention against discrimination in education in 1960 and many other international and National Human Rights laws against the prohibition of any type of discrimination in educational opportunity have all made it a point that- inclusive education is a requirement of the time. At the ground level implementation of the issue of inclusive education needs strengthening. The understanding of the very concept of inclusion, its avenues methods, strategies, policies, and extent of execution is still not clear to our teachers and teacher educators. They lack the training and attitude towards handling the situation of education with diverse needs. An understanding of the dimensions of inclusive education amongst teachers and teacher educators is a dire need of the hour. In view of this need, the research initiative of "Preparing a package on inclusive education and testing its effectiveness" was undertaken.

The pre-service teachers are the base for the future education system of the country these teachers indeed are the pivot for strengthening the education scenario in the coming years. The understanding and practical expertise of these pre-service teachers regarding inclusive class handling are in fact that ground which needs to be nurtured. In view of this necessity, the present research initiative was taken thereby a package was developed to enhance the expertise of these pre-service teachers to handle an inclusive class. The package developed was implemented on a group of math pedagogy students in B.Ed 1st year. The effectiveness of the package was evaluated via an experimental research design. The

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topic of research, therefore, is 'Preparing a package on inclusive education and testing its effectiveness'. The main objectives of the research were:

1. To develop a package on inclusive education concepts and dimension
2. To test the effectiveness of the package on the pre-service teachers

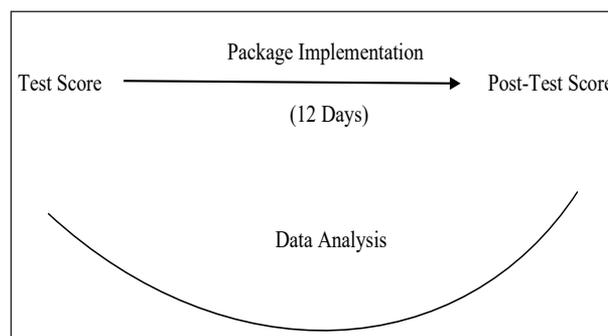
## The Hypothesis

The Null Ho was framed that "There is no significant difference between pretest and posttest scores of the group"

## Methodology

Pre-test and Post-test single group experimental design were adopted (Fig. 1). It was implemented on a group of 20 students of B.Ed. 1st year pedagogy subject. A Pre-Test was administered to them. Later the package developed was implemented on them for a period of 12 days. After the completion of the package a Post-test was taken and the effectiveness of the package was evaluated on the score of the Pre-test and Post-test.

Fig.1: Single Group Pre-Test Post-Test Design



The sample chosen for the study was through purposive cluster sampling method. Where an entire group of 20 pedagogy students of B.Ed 1st year 2019-20 was selected because of the ease of administrative formalities and control of experimental design. Two tools were used for the research namely Self Made Awareness Scale and Package on Inclusive Education.

### ***Self-Made Awareness Scale***

This tool was developed to test the Pre & Post awareness status of the sample regarding inclusive education. The tool consisted of 25 items scaled on three-point scale (Agree, disagree & Unsure). The items were made on various aspects of Inclusive Education concept, policies, tools, techniques & understanding. The items were prepared after a rigorous exercise of assessing the broad areas of inclusive education concept & dimensions. In these areas various sub-areas like concepts, policies, broad guidelines, extra infrastructure, teacher skills were identified and items were finally framed. The final draft of the tool consisted of 25 items in which item number 3, 4, 19, 20, 21, and 22 were positive statements where agree option was positively scored at 3 marks and disagree with 1 mark. The other items were all negatively framed where this disagreement was scored at 3 marks and agreement with 1 mark and the unsure option was scaled at 2 marks. The same tool was used for the pre-test before the implementation of the package and post-test after the implementation of the package. The score of the pre-test and Post-test was statistically evaluated to draw the result of the effectiveness of the package.

### ***A Package on Inclusive Education***

Development of the package was done in five stages:

#### ***Stage 1: (Analysis Phase/Content Selection)***

This phase is the basic phase for the package development, during this phase On the basis of the objectives and the task to be undertaken in the inclusive education concept are identified. The broad areas which are included in inclusive education understanding are decided and selected like:

- Concept of I.E.
- Area of I. E.
- Strategies to cater to I. E. areas
- Infrastructure knowledge needed in I. E.
- Attitude of teachers to cater I. E.
- Policies and conventions for I. E.
- Hurdles in I. E.

#### ***Stage 2: Design Phase***

The design Phase is the 2nd stage towards the development of the package on the basis of the first

phase output strategies were designed to prepare the module on the areas and content of inclusive education, the major strategies identified were group discussions, role play, worksheet development, brainstorming. On the basis of these strategies identified, the format of each module design was finalized as- Objectives of module, Activities of module, Outcomes of module, Materials needed for the module and a final draft of this module design was developed.

#### ***Stage 3: Development Phase***

The development phase lies on the foundation of analysis and design phase. At this stage, a clear plan of each module its content, objectives, strategies, material support needed, training activities and output is specifically designed for the entire package. This phase gives a clear impression and idea of the package.

#### ***Stage 4: (Implementation Phase)***

This is the practical implementation stage of the package the purpose of the phase is to actually practically use the package on the targeted group. The package is implemented for 12 days, one hour on a group of 20 B.Ed. first year students, this phase is the core of the package effectiveness testing and it promotes the understanding of the inclusive education concept amongst prospective teachers, ensuring the absorption of the idea of inclusive education schools

#### ***Stage 5: (Evaluation Phase)***

This phase measures the effectiveness and efficiency of the package. Actually small levels of evaluations are done after each module implementation and an overall evaluation via post-test is done after the entire implementation of the module. Final package with 10 modules on inclusive education was developed. The package consisted of the following modules:

1. Inclusive education concept
2. Inclusive education areas
3. Strategies for slow learners to accommodate in inclusive class
4. Strategies for gifted learners to accommodate in inclusive class
5. Strategies for physically handicapped children in routine/ inclusive class (types of physical handicapped: blind, deaf, dumb, etc.)
6. Strategies to handle culturally and economically deprived children

7. Attitude and approach to handling inclusive class
8. Policies and conventions for inclusive education
9. Overcoming hurdles in inclusive class
10. Innovative ideas to handle inclusive class

### ***Statistical Technique***

Mann Whitney U test was used to test the hypothesis of the study. This statistical technique was chosen to test the difference between the mean of the pre-test scores and post-test scores of the small sample group of  $N < 30$

### ***Procedures/Steps of the Research***

- Step 1) The research design was prepared.
- Step 2) The tools were developed:
  - (a) Awareness of the scale and
  - (b) Package on inclusive education was developed
- Step 3) Sample was chosen.
- Step 4) Pre-test on the sample was administered and Pre-test score was collected on awareness scale.
- Step 5) Package was implemented for a period of 12 days (1 hour per day) keeping control of the experiment (same resource person, same setting).

- Step 6) Post-test was administrator and the Post-test score was collected on awareness scale.
- Step 7) Statistical evaluation was done (Pre-test & Post-test scores were compared).
- Step 8) Result was drawn.

### **Finding and Conclusion**

The total score of the pre-test and post-test was analysed using the Mann Whitney U test. The calculated value of you was 9 which is very less than the table value of Mann Whitney at N (20) and 0.05 significance level which is 127. Thus, the null hypothesis was rejected and the conclusion was drawn that there is a difference in the score of the Pre-Test and Post-Test of the awareness thus indicating that the package has an effect on the sample after experimentation. The package on inclusive education is effective in developing the awareness of teachers towards inclusive education.

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

Dhiraj Ambade\*

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

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

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

ICT has emerged as one of India's most potent

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Table -1: ICT Based Application in Schools**

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

**Table -2: ICT in Higher Education**

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

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

### ICT in School Education

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

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

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

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

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

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

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

**Table-3 Percentage of Institutions having ICT Related Infrastructure**

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

*Source: AISHE19-20 page 33.*

can aid in the acquisition of educational skills and competence.

### **Complete Adoption of ICT in Indian Education: Some Barriers**

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

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

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

### **Blended Learning as a Contemporary Practice in HEI in India**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Conclusion

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

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## Success Demands Passion

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**Debashish Bhattacharjee, Vice President, Technology and New Materials Business, Tata Steel delivered the Convocation Address at the 41<sup>st</sup> Convocation Ceremony of the Indian Institute of Technology (Indian School of Mines), Dhanbad on August 13-14, 2022. He said, "You will face failures – have faith and do not waver from your dream. If you do not know what your heart is telling you (many of you will not, I did not at your age), persevere. You will know when your heart agrees. You will have success along the way – remain humble and create opportunities for others. Nobody succeeds on his or her own. We always stand on the shoulders of giants. Others – your parents, teachers, friends, even people unknown to and unseen by you—create opportunities which make you succeed." Excerpts**

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I am excited today to be speaking to you, especially the graduating students with dreams in your eyes. I thank the honourable Director Prof. Rajiv Shekhar, for inviting me and providing me this opportunity. I feel immensely honoured.

I will tell you a few stories from my life that have had lasting effect on me and have made me what I am. I hope there will be learnings from these stories about how to handle life in all its uncertainties. If you find nothing to learn, you would have heard a few stories anyway. So here it goes...

My first story starts from my school life, I did not do very well in Class 11, which was a crucial year, as all of you would know. Three things happened. Parents panicked, father started looking for a quick entry into a job, and mother consulted astrologers. I realized I had to get help and up my game. And, somehow, my teachers kept their faith in me and promoted me to Class 12. I was taken by my parents to sit in exams and interviews for Govt jobs. In these I did very well. In the final interviews I would be asked if I would join before or after my class 12 exams, I would say – never. In spite of my bad results, somewhere deep in my heart I knew I wanted to do something else. My parents gave up looking for a job, my teachers provided my extra tuition, and I became a little more focused. I passed JEE and joined Engineering at Jadavpur. From my first year in Metallurgy & Materials Dept, I loved the subjects. I topped each of the 4 years.

After B. Tech, I joined a company, giving in to the chorus of the family where father has retired from service. But soon left salaried income and joined Masters at IIT Kanpur, where I topped.

Much to the pride of the family and also sorrow

of departure, I joined Cambridge. The monthly stipend in those days, 33 years ago, was GBP 225. But money did not matter. I absolutely loved the project and I was part of a very lively and social research group. I did not look back. Continued to do a post-doc.

I joined my current company in 1996 at a position two places from the bottom of a 13-level hierarchy. Salary was commensurate. But I loved the work. There was independence. For example, I could work on artificial intelligence in 1996 using manually entered data and a programme that a couple of us wrote ourselves in FORTRAN77. The freedom to work on anything one wanted to was an enormous motivation. I could follow my heart - money did not matter. I have stuck to the company ever since.

This freedom helped me explore areas others would not try. It helped me propose schemes and ideas that were new to the organization. We introduced company sponsored Chair Professorship at key institutes, including IIT-ISM, for the first time we had Visiting Scientists scheme to place leading experts within the company's R&D.

Overcoming the failure in school gave me the confidence later in life to boldly take forward new ideas without the fear of failure. I could follow my passion with confidence and have faith in my abilities. When you follow your heart, your passion, everything else, including salary, becomes secondary.

My second story is about my latest assignment in Company. In 2017, I was brought back from Netherlands, where I had spent 8 years looking after Group research, development and technology, and was asked if I would like to set up a new business for

the company in new materials. 21 years in steel and now an opportunity to create business in non-steel materials – what better challenge could a materials scientist ask for? I was given a white sheet of paper and asked to choose the materials we should start business in, justify the choice, create the strategy and roadmap, and start executing it in a year's time. The goal was high – to be a significant proportion of the company's turnover in 5-6 years. I was the only person in 2017 with no money allocated for the project. It was a huge challenge with uncertainties galore, but the opportunity was thrilling.

Fast forward 5 years. We did choose and justify the materials we would create new businesses in – composites, graphene and advanced ceramics. We started business in 2018. In four years the team is 80 persons strong, with two Joint Ventures in composites and advanced ceramics. The revenues have grown from a few lakh rupees in the first year to close to Rs. 700 crores estimated for this financial year.

I could have chosen an easier job in 2017, but decided to follow an enormous challenge with wide-eyed wonder. The risk of failure was very high. But

the thrill of following one's heart, one's passion made career risk secondary.

### **In Summary**

As you all go into the world with dreams, youthful confidence, and perhaps some trepidation of uncertainties, I look forward to making every day of my remaining 22 months to retirement count. You will face failures – have faith and do not waver from your dream. If you do not know what your heart is telling you (many of you will not, I did not at your age), persevere. You will know when your heart agrees. You will have success along the way – remain humble and create opportunities for others. Nobody succeeds on his or her own. We always stand on shoulders of giants. Others – your parents, teachers, friends, even people unknown to and unseen by you – create opportunities which make you succeed.

And above all – follow your passion. As Steve Jobs said at a similar occasion, be hungry, be foolish. I wish you all a great, happy and healthy life ahead.

Thank you for having me today. □

## **AIU Publication**

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'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'.

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## CAMPUS NEWS

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### **World Doctorates Day *Issues and Challenges in the Doctoral Research***

The One-day International Conference on 'Issues and Challenges in the Doctoral Research' was organized by the Amity University Rajasthan under the aegis of the Global Academy of Doctorates to commemorate 'World Doctorates Day' on August 25, 2022. Prof Rakesh Bhatnagar, Vice Chancellor, Amity University Rajasthan inaugurated the event. In his deliberation, he shared who is the right scholar to earn a doctoral degree. He said, "A Ph.D. can be given to a person who creates new knowledge or provides new interpretation to the existing knowledge." Prof Amit Jain addressed the august gathering with his speech stating the grandiosity of a Professor. The dignitaries present were; the Founder President of Amity Group, Dr. Ashok Chauhan and Dr. Aseem Chauhan, Chancellor, Amity University Rajasthan. Speakers from across the world gathered to share the growth of academics through the ages, especially the importance of a doctorate degree.

Prof K K Dwivedi, Senior Vice President, RBEF specified that the day is not assigned to glorify the institution or its members but to take a pledge of rededicating ourselves to the cause of society and humanity. Since no syllabi are set, no certain guidelines are there, as to how to maintain the quality of doctoral research which is very much attached to human values and ethics.

The Chief Guest, Prof Raghunath Anant Mashelkar, former Director General of the Council of Scientific and Industrial Research shared his views on 'Doctoral Research in India: Rising from Good to Great'. He said that India has the highest R&D publications per unit however Indian citation (quality) is low.

Dr. Aseem Chauhan focused on various Assured-Step (Assured stands for-Affordability, Scalability, Sustainability, Universality, Rapidity, Excellence, and Distinctiveness). Step (Stands for-Social Engagement, Technology, Economic Model, and Public Policy), thinking of innovation with these parameters will lead the researchers to create innovation that truly has a long-term impact. The presence and address of Chief Patron, Dr. Ashok K. Chauhan, Founder

President, Ritnand Balved Education Foundation was a knowledge capitalization with his words of wisdom.

Prof. Sandeep Verma, Secretary, SERB, Govt of India, New Delhi focused on discipline, dedication, ethics, integrity, and authenticity of the research. Planning for a Successful Ph.D. is a mandate for the research scholar.

Prof V K Singh, Kanpur IIT shared that Ph.D. is not a job it is a passion. He outlined how to start with a Ph.D.- Choosing a research problem, working style, learning to write, and learning to present and final words.

Prof. Anand Ranganathan, Professor, JNU, New Delhi said that research needs to necessarily focus on a tangible outcome that solves the current problems and results in new product development or process improvement and meets the ever-growing challenge of sustainability and a green future.

Prof. Raj Singh, Vice Chancellor, JAIN University, Bengaluru delineated how important it is for the government and educational institutions to implement new policies for developing an effective eco-system of research.

Prof. Vikas Madhukar, Pro Vice Chancellor, Amity University Haryana said that higher education may promote research-based growth and development with equity and sustainability.

Prof. Bassem K Khafagy, President, Global Media University, S-U-F, San Diego, USA stated that researchers should be encouraged to focus on borderless research by creating breakthroughs and collaborate both within as well as across nations to foster consortia research to take global mega challenges head on and contribute to solving the complex problems the humanity is facing.

UNESCO Chair Professor, Dr. Priyankar Upadhyay, Banaras Hindu University, Varanasi differentiated between intellect worker and intellectual researcher. He emphasized on promoting solution research, product development, and the growth of knowledge enterprises and start-ups within the university campuses.

Prof. Vinay Sharma, Dean, Research, Amity University Rajasthan, Jaipur said that Ph.D. encourages the adoption of good academic and research practices and professional conduct. The purpose of research cannot be any different from the purpose of life, i.e., to live life easily and make the world a better place.

Dr. Yathrib Ajaj, German University of Technology, Sultanate of Oman focussed on quality aspects and thrust areas of the Doctoral Programme in Sultanate of Oman highlighting Oman Vision 2040 with a focus on governance, education learning, health, citizenship identity well-being, climate change, value enforcing.

Dr. Pranesh B. Aswath, Provost and Vice President for Academic Affairs, The University of Texas USA stressed the major fact that Ph.D. is not compulsory for being a good teacher. He highlighted some major statistics related to the research scenario in the US and said that the US was a leader in R&D investment and now China is catching up very fast. He pointed out that 50% of research expenditure in the US is on the National Institute of Health and such total expenditures keep growing but we also need to focus on business as the business organizations focus on developing a lot and not on research. He highlighted the research scenario in the US and said that total Ph.D. production in the USA is growing especially in the areas of Science and Engineering and no growth in Humanities and so there should be a balance regarding areas of research.

Mr. Thierry Devars, Policy Officer, Marie Skłodowska-Curie Actions Unit, Directorate General for Education and Culture, European Commission, Brussels focused on the key features of Marie Skłodowska-Curie Actions (MSCA) Flagship Research Programme to improve research and which deals research proposals in all excellent science areas and fields.

Prof. Georgina Kelly, Dean, Graduate Research, Swinburne University of Technology, Australia shared major areas which have impacted doctoral training. She emphasized current quality focus areas for the Australian Graduate Research Community in the area of experience dealing with supervision, employability, well-being and safety programmes, monitoring and support completion rates, and in the area of employability like Internship programs and Industry mentoring.

Prof. Alison Shaw, Professor of Practice for Inclusive Education Newcastle University, England,

United Kingdom focussed on various areas of enhancing the quality of the Doctoral Programme and the Challenges from the UK perspective. She focussed on the huge economic disparity in the UK and the fact that global experience has improved the understanding of the value of universities.

Prof. Tom Curran, Vice Principal for Internationalisation, UCD College of Engineering & Architecture, University College Dublin, Ireland emphasised the Education Policy of Ireland which has a key document as the National Strategy for Higher Education to 2030. He highlighted the Irish Research Priorities in the areas of ICT, Health and Well Being, Food, Energy, Climate, Manufacturing and Materials Services, and Business Processes. He focussed on the key purpose areas of the National Framework for Doctoral Education like facilitating consistent excellence, encouraging higher education, and maximising employability.

Dr. SK Varshney, Advisor and Head, International Division, DST, Government of India, New Delhi, and Dr. Gunjan emphasised that NEP-2020 focuses on collaborative research and different twining programmes, dual degrees programme models and in such a scenario, it becomes very significant to know the research scenario prevailing in various countries to promote quality research in collaboration with various countries. The event ended with the release of 'Amity Declaration on Quality in Doctoral Research' by Prof. Kamal Kant Dwivedi, Conference Chair and Senior Vice President, RBEF (Amity Education Group) highlighting the key points for improving the quality of research.

### **International Conference on Blended Learning Ecosystem for Higher Education in Agriculture**

A three-day International Conference on 'Blended Learning Ecosystem for Higher Education in Agriculture' is being organized by the ICAR-Indian Agricultural Statistics Research Institute, New Delhi from December 12-14, 2022.

Agriculture is one of the mainstays of the Indian economy due to its significant role in rural livelihood, employment, and national food security. To realize India's aspirations of becoming a 5 trillion-dollar economy by 2025, there is an utmost need for a digital agricultural higher education system in India to evolve in sync with the fast-changing international scenario.

The past decade has witnessed multiple global disturbances and in particular COVID-19 pandemic, which has thrown new challenges in ensuring the continuity of education in basic and higher education institutions across the world. This has motivated higher agricultural education institutions to adopt newer methods more easily for teaching & learning and leverage the power of digital technologies for better quality delivery of education.

Blended Learning is one such approach that allows the teacher and students to rethink and transform the teaching and learning experience. Blended learning integrates computer-assisted online activities with traditional face-to-face teaching (chalk-and-talk). The topics of the event are:

#### ***Strategies for Blended Teaching-learning.***

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

#### ***Technologies for Blended Learning***

- Integrating Technology and Education: To Diversify Online Learning and Teaching
- Technology Considerations to Build for Platforms at Scale and Manage Different User Needs.
- Free open-source Tools and Technologies to be Leveraged.
- Learning Analytics: Tools and Possibilities.
- Developing, Designing and Implementing Extended Reality Within Learning Environments: Reflection and Ethical Considerations for Implementation.
- Game-Based Approach for Teaching to Ignite Student Interest and Drive Outcomes in a Collaborative Environment.

#### ***Sustainability in the Blended Learning Ecosystem***

- Developing Sustainable Teaching and Learning Environments.
- Faculty and Instructional Designers: Learning about Successful Collaborations from Other Professions.

- Creating an Effective E-learning Culture: The Pedagogical Variations for Online Learning and Teaching
- Addressing Security and Privacy Issues and Concerns About the Use of Digital Platforms for Students.
- Systems Thinking in a Marketplace Design.
- Role of Hybrid Learning Environments in Peer-to-Peer Learning.

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

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

#### ***Contemporary Curriculum for Agricultural Education***

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

For further details, contact Coordinator, Dr. Anuradha Agrawal (CAAST and Component 2), (NAHEP), ICAR-Indian Agricultural Research Institute, Room No.- 508, Krishi Anusandhan Bhawan-2, Pusa Campus, New Delhi-110012. E-mail: [icble2022@icar.gov.in](mailto:icble2022@icar.gov.in). For updates, log on to: [www.iari.res.in/events/](http://www.iari.res.in/events/)

#### **International Conference on Contemporary Multidisciplinary Issues**

A two-day International Conference on 'Contemporary Multidisciplinary Issues in Applied Science, Humanities, Agriculture, Animal Health and Production' is being organised by the Rajiv Gandhi South Campus, Banaras Hindu University, Barkachha, Mirzapur Uttar Pradesh on November 14-15, 2022. The academicians, scientists, researchers, small

entrepreneurs, and students of undergraduate and postgraduate may participate in the event to discuss critical issues and concerns about advanced and innovative technologies in Applied Science, Humanities, Agriculture, Animal Health, and Production.

While a global pandemic has been a looming risk for decades, COVID-19 has come as a shock to society, health systems, economies, and governments worldwide. In the midst of extraordinary challenges and uncertainty, and countless personal tragedies, scientists and researchers are under pressure to make decisions on managing the immediate impact of the pandemic and its consequences, decisions that will shape the state of the world for years to come. What might be the silver linings in the crisis and how might researchers use this moment to build a more prosperous, equitable, and sustainable world? To offer new perspectives on the post-pandemic future, in support of efforts to proactively and collectively shape the future in the field of Applied Science, Humanities, Agriculture, Animal Health, and Production. The Themes of the event are:

#### ***Applied Science***

Biotechnology, Microbiology, Industrial Drug Designing Formulation, Vaccine Technology, Biomedical Engineering, Bioinformatics, New Drug Delivery, Natural Products, and Ayurveda, Metabolic Disorders, Scope and Challenges in Pharmaceutical Industry, Artificial Intelligence, Machine Learning, ICTs, Artificial Intelligence, Computer Architecture, Embedded Systems and Games, Computer Graphics and Virtual Reality, Computer Modelling, Cloud Computing, Computer Security and Information Assurance, Data Structure, Data Communications, Network, Security Forensic, Data Compression and Encryption, Database System, Data Mining, Ecosystem Functioning, Environmental Management, Impact on Biodiversity, Wetlands, Waste Management Environmental Health and Hygiene Issue, Socio-economic Condition, Climate Change, Environmental Sustainability, Environmental Toxicity, Remote Sensing and Other Environmental Issues.

#### ***Humanities***

Management and Commerce, Tourism and Hospitality, Travel Trade, Hospitality Management, ICT and Tourism, Tourism Sustainability, Quality Management, Rural Development, Entrepreneurship and Start-up Management, Impact Assessment, Challenges

in B2B and B2C, Economic Reforms and Sustainable Development, Green Marketing, Retail Marketing, Virtual Marketing, Office Management, Office Automation Techniques, Retail Logistic Management, Social Science, Mass Communication, Social Media Management Marketing Management, Operational Management, Human Resource Management, Financial Control, Marketing Management and Digitization Banking and Insurance, Modern Banking Practices, Contemporary Trade Practices.

#### ***Agriculture***

Agroforestry, Soil Science, Soil Management, Plant Nutrition, Fertilization, Agronomy, Water: Management of Irrigation Strategies, Water Recycling: Benefits and Risks, Smart Farming: Environmentally Management of Crop Production, Food Security and Safety/ Challenges and Opportunities, Horticultural Practices and Urban Agriculture for Sustainable Food Security, Post-harvest Technologies for Reducing Food Losses, Sustainable Cities, Climate Change and Human Health, Dairy Technology Dairy Science, Agricultural Processing Technology, Crop Processing, Organic Agriculture, Agro Biotechnology. Livestock and Fisheries, Opportunities in Farm and Rural Entrepreneurship, Secondary Agricultural Processing Sector, Processing and Value Addition in Agri-Food Industry, Agri Infrastructure Processing and Marketing, Plant Protection.

#### ***Animal Health and Production***

Veterinary Science, Nutraceuticals and Functional Foods Food Biotechnology, Veterinary Science and Animal Husbandry: Veterinary Physiology, Veterinary Biochemistry, Anatomy, Pharmacology, Pathology, Parasitology, Microbiology, Public Health, Surgery and Radiology, Obstetrics and Gynaecology, Medicine, Livestock Production Management, Livestock Products Technology, Animal Nutrition, Animal Genetics, and Breeding.

For further details, contact Organising Secretary, Rajiv Gandhi South Campus, Banaras Hindu University, Barkachha, Mirzapur-231001 (Uttar Pradesh), Mobile No: 09839576067 / 09567435800/ 09815070337 / 09935851495/ 09792586522/ 08188944324, E-mail: [ashaa.rgsc@gmail.com](mailto:ashaa.rgsc@gmail.com). For updates, log on to: <https://bhu.ac.in/barkachha/index.html/Event>.



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# THESES OF THE MONTH

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## HUMANITIES

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

#### Geography

1. Saini, Sajana. **Badalta fasal prarup evam bhujal avnayanah Govindgarh vikas khand Jila Jaipur, Rajasthan ka ek vishesh adhyayan.** (Prof. L C Verma), Department of Geography, Bhagwant University, Ajmer.

2. Sen, Punama. **Educational status of tribal population in Siliguri sub-division, Darjiling District, West Bengal: A geographical analysis.** (Prof. Ranjan Roy), Department of Geography and Applied Geography, University of North Bengal, Darjeeling.

3. Swati. **A case study on climate change of Shekawati Region with special reference to Jhunjhunu District.** (Dr. L C Verma), Department of Geography, Bhagwant University, Ajmer.

#### History

1. Batt, Shahbaz. **The elevation of the status of women with the advent of Islam in North India (5th Century to 10th century).** (Dr. T K Mathur), Department of History, Bhagwant University, Ajmer.

2. Dar, Gulzar Ahmad. **15th to 17th century Saints of Kashmir, known.** (Dr. T K Mathur), Department of History, Bhagwant University, Ajmer.

3. Jan, Aassy. **Mughal architecture during the period from Akbar to Shah Jahan (1556-1658).** (Dr. T K Mathur), Department of History, Bhagwant University, Ajmer.

4. Parmar, Anita Vejabhai. **The contribution of the Mer Caste of Saurashtra in political social, economical and cultural field: With reference to 20th Century.** (Dr. Nilaben S Thakar), Department of History, Saurashtra University, Rajkot.

5. Vishvjit, Arunbhai Kava. **Pilgrimages of Junagadh and Gir Somnath Districts: A historical study (A D 1850 to A D 2000).** (Dr. Vishal Joshi), Department of History, Bhakta Kavi Narsinh Mehta University, Junagadh.

#### Languages & Literature

#### English

1. Anand, Natasha. **Ma(r)king Men: the construction of masculinities in Jane Eyre, Wuthering heights and**

**the tenant of wildfell hall.** (Dr. Pema Eden Samdup and Dr. Anand Prakash), Department of English, Indira Gandhi National Open University, New Delhi.

2. Annand. **Retelling of myths in Amish Tripathi's novels.** (Dr. Atul Rasika Moudgil), Department of English, Kurukshetra University, Kurukshetra.

3. Chhatrodiya, Gopalbhai Nagabhai. **Depiction of rural and urban life in the selected novels of Kamala Markandaya.** (Dr. Naresh M Solanki), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

4. Khuman, Ashokbhai Anakbhai. **Manifestation of jnana, karma and bhakti in Raja Rao's novels.** (Dr. Rachit Kalaria), Department of English, Saurashtra University, Rajkot.

5. Makwana, Mehulbhai Pradipbhai. **The postcolonial study of selected novels of Arvind Adiga, Kiran Desai and Arundhati Roy.** (Dr. Manishkumar Anantrai Vyas), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

6. Makwana, Pareshkumar Jayantibhai. **Contribution of dalit journalism in the development of dalit movement.** (Dr. Jinendra Jain), Department of English, Gujarat University, Ahmedabad.

7. Pandya, Shailesh Narendraray. **Nativism in the selected novels of Ngugi Wa Thiong 'O'.** (Dr. Nilesh Sathvara), Department of English, Gujarat University, Ahmedabad.

8. Patel, Gaurang Bavchandbhai. **Revisiting mythology in select novels of Devdutt Pattanaik and Amish Tripathi.** (Dr. Rajesh R Ladva), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

9. Purnanshu, Shamjibhai Dudhatra. **An environmental concern in select Indian English novels across India: An ecocritical study.** (Prof. Chetan N Trivedi), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

10. Rachanaba, Nitubha Vaghela. **The fictional works of Jhumpa Lahiri: A thematic study.** (Dr. Firoz A Shaikh), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

11. Raval, Rohal Sodhanbhai. **Cinematic potterverse: A critical study of film adaptation of select Harry Potter novels.** (Prof. Chetan N Trivedi), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

12. Sharma, Sandhya. **Khayal gayan vidha ke sandarbha mein vartman mahila kalakaroan ka yogdaan: Ek adhyayan.** (Dr. Shuchismita Sharma), Department of English, Kurukshetra University, Kurukshetra.

13. Shukla, Vanshree Yogeshkumar. **A call for liberation of tribals from ignorance, denial suppression, and exploitation in selected short stories of Mahasweta Devi.** (Dr. Firoz A Shaikh), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

14. Solanki, Pankajkumar Bhimabhai. **Portrayal of female characters in select works of Qurratulain Hyder.** (Dr. Naresh M Solanki), Department of English, Bhakta Kavi Narsinh Mehta University, Junagadh.

15. Srinivas, M. **Diasporic perspectives in the select works of Bharati Mukherjee and Jhumpa Lahiri.** (Dr. M Dharmaraj), Department of English, Telangana University, Nizamabad.

#### Garo

1. Shira, Jobillyne D. **Representation of gender inequality in select A chiks literature.** (Dr. J R Marak and Dr. D Sharma), Department of Garo, North Eastern Hill University, Shillong.

#### Hindi

1. Ahsanali, Humairabano Sofiyabano. **Dushyant Kumar Tyagi ke kavyoan mein yug samvedna.** (Dr. S K Mehta), Department of Hindi, Saurashtra University, Rajkot.

2. Ajay Kumar. **Chandrakanta ke katha sahitye mein samajik chetna.** (Dr. Rajesh Kumar Sharma and Dr. Shivani Sharma), Department of Hindi, Bhagwant University, Ajmer.

3. Gohel, Sarojben Laxmanbhai. **Vinodkumar Shukla ke katha sahitya mein chitrit Bhartiye samaj evam sanskriti.** (Dr. J N Pandya), Department of Hindi, Saurashtra University, Rajkot.

4. Maurya, Shiv Ram. **Pranami sampardaye ka sahitye aur samajik samrasta: Sohalvi sadi se unnisvi sadi ke vishesh sandarbh mein.** (Prof. A P Tripathi), Department of Hindi, Dr Harisingh Gour Vishwavidyalaya, Sagar.

5. Mehta, Leena Virendrabhai. **Krishna Sobati rachit sansmaran sahitye: Ek anusheelan.** (Dr. N M Ansari), Department of Hindi, Saurashtra University, Rajkot.

6. Parmila. **Adhunik Hindi natakoan ke vikas mein Dr Jagadish Chandra Mathur ke yogdan par ek shodh**

**adhyayan.** (Dr. Abha Tripathi and Dr. Shivani Sharma), Department of Hindi, Bhagwant University, Ajmer.

7. Rakhi Devi. **Ikkisvi sadi ke pratham dashak ke pramukh Hindi upanyasoan mein satta vimarsh.** (Prof. Chanda Bain), Department of Hindi, Dr Harisingh Gour Vishwavidyalaya, Sagar.

8. Rathod, Manubhai Naranbhai. **Nirala ke kavye mein adhyatmik chetna.** (Dr. Mamta Sharma), Department of Hindi, Gujarat University, Ahmedabad.

#### Nepali

1. Pandey, Balaram. **Sikkimka lepchaharuko bhasik Vyawahar: Samajbhasik adhyayan.** (Dr. M P Dahal), Department of Nepali, University of North Bengal, Darjeeling.

#### Sanskrit

1. Arya, Mahima. **Raghuvanshamahakavyeeya-kritpratyayartha-vivechanapoorvakam vishishta-prayoganamanusheelanam.** (Dr. Ram Bahadur Dubey), Department of Prachin Vyakarana, Central Sanskrit University, New Delhi.

2. Barad, Ramuben Gandabhai. **A stylistic and poetical study of Shri Krsnacarra in Visnupurana and Brahmavai Varta purana.** (Dr. Durga N Joshi), Department of Sanskrit, Saurashtra University, Rajkot.

3. Bhatt, Darshana Manaharbhai. **A comparative study of Shiva as depicted in Shivapurana and Lingapurana.** (Dr. Jayshree S Joshi), Department of Sanskrit, Saurashtra University, Rajkot.

4. Gupta, Vijay. **A critical edition and study of hathasanketachandrika of Sundaradeva.** (Prof. Hare Ram Tripathi), Department of Sarva Darshan, Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha, New Delhi.

5. Hemanth, P K. **A comparative study of first half of Prashnamarga & Prashnanushtanapadhati.** (Prof. A P Sachchidanand), Department of Phalit Jyotisha, Central Sanskrit University, New Delhi.

6. Karthikeyan, G. **Shabdakaumudi (Hal sandhitah samaasaashrayavidhiprakaranaparyantam) Pathasameekshatmakam sampadanam adhyayanam cha.** (Dr. A V Nagasampige), Department of Navya Vyakarana, Central Sanskrit University, New Delhi.

7. Madan Lal. **Geography discussion in astrology through ancient and modern point of view.** (Dr. Phanindra Kumar Choudhary), Faculty of Veda-Vedanga, Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha, New Delhi.

8. Mandal, Ranjan. **Nyayasiddhantamuktavalyah shabdakhandasya Dinakari Ramarudritikyostulana-**

**makamadhyayanam.** (Dr. Savitri Satapathi), Department of Navya Nyaya, Central Sanskrit University, New Delhi.

9. Mishra, Manish Narayan. **Shrimatthakka-najhpraneetayah Yogaratnavalyah parisheelanam.** (Prof. Vishwambharnath Giri), Department of Darshana, Central Sanskrit University, New Delhi.

10. Parghee, Sanjay Hamirbhai. **A critical study of the translated work Dinarkarajkumara-Hemalekham' (Hamlet: Prince of Denmark).** (Dr. M B Bhatt), Department of Sanskrit, Saurashtra University, Rajkot.

11. Pathak, Vikrant Prakashbhai. **A comparative study of human's daily activities according to Manusmriti Yajnavalkya Smriti and Srimad Bhagavad Gita.** (Dr. Durga N Joshi), Department of Sanskrit, Saurashtra University, Rajkot.

12. Roy, Lakshman. **A comparative study on Prakriyakoumudi's Prasada and prakashatika.** (Dr. Durgacharan Sarangi), Department of Navya Vyakarana, Central Sanskrit University, New Delhi.

13. Sahoo, Ganga Rani. **A comparative study of the decision of Advaita & Shudhadwaita.** (Prof. Shambhunath Mahalik), Department of Advait Vedanta, Central Sanskrit University, New Delhi.

14. Savalia, Hansagauri Vrajlal. **The classical practice of Jayprakashnarayan Dwivedi: A study.** (Dr. L M Panseriya), Department of Sanskrit, Bhakta Kavi Narsinh Mehta University, Junagadh.

15. Sharma, Madhusudan. **Shrigangasahayashishuvirachitasya Kavikanthabharanasya sameekshanam sampadanancha.** (Prof. Ramkumar Sharma), Department of Sahitya, Central Sanskrit University, New Delhi.

16. Sharma, Mahesh. **Discussion of Rudra element in Shuklayajurveda.** (Dr. Devendra Prasad Mishra), Faculty of Veda-Vedanga, Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha, New Delhi.

17. Shweta Devi. **Agyatkartrikasya satyopakhyanamiti granthasya sameekshatmakamadhyayanam.** (Dr. Suresh Pandey), Department of Sahitya, Central Sanskrit University, New Delhi.

18. Sivaguhan, S. **Vaiyakaranasiddhantakaumudyah sukhabodhinivyakhyayah kridantaprakaranasya pathasameekshatmakam sampadanamadhyayanam cha.** (Dr. A.V. Nagasampige), Department of Navya Vyakarana, Central Sanskrit University, New Delhi.

19. Trivedi, Zaranaben Pravinchandra. **Vidurniteh: Samikshatamakam adhyayanam.** (Dr. Kalindi H Pathak), Department of Sanskrit, Gujarat University, Ahmedabad.

20. Yadav, Jyoti. **A critical study of the historical drama titled Chanakya-Vijayam by Shrivishveshwar Vidyabhooshan Kavyatirtha.** (Dr. Suresh Pandey), Department of Sahitya, Central Sanskrit University, New Delhi.

## Telugu

1. Subba Rao Kankata. **Katuru Ravindra Trivikram katha sahityam-pariseelana.** (Dr. G Sambasiva Rao), Department of Telugu and Oriental Languages, Acharya Nagarjuna University, Nagarjuna Nagar.

## Urdu

1. Ali, Meer Abed. **Ali Miyan Nadvi Bahaisiyat Adeeb wa Insha Pardaz.** (Dr. Mohd Moosa Qureshi), Department of Urdu, Telangana University, Nizamabad.

## Performing Arts

### Fine Arts

1. Gupta, Swati. **An analytical study of semiotics and Rasa theory in post independence Indian visual arts practices.** (Prof. Sunil Kumar), School of Performing and Visual Arts, Indira Gandhi National Open University, New Delhi.

### Music

1. Ghosal, Shyamashree. **An analytical study of Sangeet Parijaat.** (Dr. Mallika Banerjee), School of Performing and Visual Arts, Indira Gandhi National Open University, New Delhi.

2. Shaveta. **Gwalior evam Agra Gharane kee khayal gayaki ka tulnatmak adhyayan.** (Dr. Shuchismita Sharma), Department of Music, Kurukshetra University, Kurukshetra.

## Religion

### Buddhism

1. Thon, Da Ra. **A comprehensive study of uposathakamma with special reference to Vinaya Pitaka.** (Prof. Ch Swaroopa Rani), Department of Mahayana Buddhist Studies, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Vasava. **The concept of Issa and Macchhariya in Theravada Buddhism: An analytical study with reference to Sakkapanha Sutta of Dighanikaya.** (Prof. J Sita Ramamma), Department of Mahayana Buddhist Studies, Acharya Nagarjuna University, Nagarjuna Nagar.

3. Yaywata. **The relevance of Buddhist social ethics for welfare and happiness in modern world.** (Prof. Ch Swaroopa Rani), Department of Mahayana Buddhist Studies, Acharya Nagarjuna University, Nagarjuna Nagar. □

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<b>School of Education (SOE)</b> • B.Ed. • Education		

**How to Apply:** Interested candidates should send their application in the prescribed 'Application Form' available at (<http://adamasuniversity.ac.in/current-vacancies/>), and resume along with scanned copies of self-attested testimonials and other academic credentials by e-mail to: [recruitment@adamasuniversity.ac.in](mailto:recruitment@adamasuniversity.ac.in)

<b>Other Non-Academic Positions:</b> • Assistant Registrar / Deputy Registrar - Academic, Admin & HR with relevant University experience • Sports Officer - This is a Residential Position in AU Campus. Incumbent should have Masters in Physical Education with 5 to 7 years of relevant experience.	<b>Academic Positions</b> <b>Mandatory Education Qualifications:</b> • 50% marks or 1st Div. /1st Class marks - in Class X, Class XII, Graduation from reputed / recognised educational Institutions. • 55% marks in PG • NET / SET qualified • PhD is desirable • Excellent Communication Skill in English (both verbal & written) • Tech savvy working knowledge in MS Office & LMS) • For Education we are also looking for M.Ed	<b>Adamas University Help Line Details</b> Office of the Registrar Email ID: <a href="mailto:recruitment@adamasuniversity.ac.in">recruitment@adamasuniversity.ac.in</a> Contact No. +91 8240033652 Adamas Knowledge City, Barasat - Barrackpore Road, P.O. • Jagannathpur, District - 24 Parganas (North), Kolkata - 700 126, West Bengal, India
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Salary will not be a constraint for talented and deserving candidate.

Mahatma Education Society's  
**PILLAI COLLEGE OF ARTS, COMMERCE AND SCIENCE**  
Dr. K.M.Vasudevan Pillai Campus, Sector 16, New Panvel.  
(AUTONOMOUS)

**MINORITY INSTITUTE (UN-AIDED)**  
**APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS FROM THE ACADEMIC YEAR 2022-23**

Sr. No.	Designation	Subject	Total No. of Posts	Posts Reserved For
1.	Assistant Professor	Accountancy	03	03 - OPEN
2.	Assistant Professor	Commerce	04	04 - OPEN
3.	Assistant Professor	Economics	02	02 - OPEN
4.	Assistant Professor	Biotechnology	01	01 - OPEN
5.	Assistant Professor	Information Technology	01	01 - OPEN
6.	Assistant Professor	B.M.M.	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 10th March, 1998.  
4% reservation shall be for the persons with disability as per University Circular No. Special Cell/ICC/2019-20/05 dated 05th July, 2019. • Candidates having knowledge of Marathi will be preferred.  
\*Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No. Misc-2018/C.R.56/18/UNI-1, dated 8th March, 2019 and University circular No.TAAS/(GT)/CD/2018-19/1241, dated 26th March, 2019 and revised from time to time\*  
The Government Resolution & Circular are available on the website [mu.ac.in](http://mu.ac.in)  
Applicants who are already employed must send their application through proper channel.  
Applicants are required to account for breaks if any in their academic career.  
Application with full details should reach the SECRETARY,  
Mahatma Education Society's PILLAI COLLEGE OF ARTS, COMMERCE AND SCIENCE (Autonomous),  
Dr.K.M.Vasudevan Pillai Campus, Sector 16, New Panvel -410206 within 15 days from the date of publication of this advertisement. This is University approved advertisement.

Sd/-  
SECRETARY

**SANT GADGE BABA AMRAVATI UNIVERSITY**

**EMPLOYMENT NOTICE**

No.SGBAU/1/103/3-428-2022 Date: 19 October, 2022

Applications are invited in the prescribed application form for the **Post of Dean, Faculty of Science & Technology and Dean, Faculty of Humanities, one post each** on or before 22nd November 2022. The postal delay shall not be entertained.

Details of qualifications, pay-scale, reservation, experience, other terms & conditions & application form along with instructions for filling it etc. with respect to the above posts are available on the university website [www.sgbau.ac.in](http://www.sgbau.ac.in).

Sd/-  
Registrar  
Sant Gadge Baba Amravati University

**CENTRAL UNIVERSITY OF RAJASTHAN**

Kishangarh, Dist.- Ajmer

Advt.: R/F141/2022/2711 Date: 19.10.2022

**RECRUITMENT NOTIFICATION**

Applications invited from eligible Indian Citizens and Overseas Citizens of India (OCIs) for the posts of

- Professor (15)
- Associate Professor (12)
- Assistant Professor (18)
- Internal Audit Officer
- Gym Trainer

For complete details, visit website [www.curaj.ac.in](http://www.curaj.ac.in). Last date to submit online application: 03.12.2022

Registrar

**NIRMALA MEMORIAL FOUNDATION COLLEGE OF EDUCATION**  
**D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai - 400 101**

**MINORITY**

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS  
FROM THE ACADEMIC YEAR 2022-23

**UN-AIDED**

Sr. No.	Cadre	Subject	Total No. of Post	Category
1.	Principal	--	01	01- OPEN

The above post is 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 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, 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.”**

**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 breaks, if any, in their academic career.

Application with full details should reach the **SECRETARY, NIRMALA MEMORIAL FOUNDATION COLLEGE OF EDUCATION, D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai - 400 101 within 15 days from the date of publication of this advertisement. This is University approved advertisement.**

Sd/-

**SECRETARY**

**NIRMALA MEMORIAL FOUNDATION COLLEGE OF COMMERCE AND SCIENCE**

**D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai – 400 101**

**MINORITY**

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS FROM THE ACADEMIC YEAR 2022-23

**UN-AIDED**

Sr. No.	Cadre	Subject	Total No. of Posts	Category
1.	Sports Director	Physical Education	01	01 - OPEN
2.	Librarian	--	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 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, 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”**

**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 breaks, if any, in their academic career.

Application with full details should reach the **SECRETARY, NIRMALA MEMORIAL FOUNDATION COLLEGE OF COMMERCE & SCIENCE, D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai - 400 101 within 15 days from the date of publication of this advertisement. This is University approved advertisement.**

Sd/-

**SECRETARY**

**NIRMALA MEMORIAL FOUNDATION COLLEGE OF COMMERCE & SCIENCE**  
**D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai - 400 101**

**MINORITY**

APPLICATIONS ARE INVITED FOR THE POST OF

**PRINCIPAL**

FROM THE ACADEMIC YEAR 2022-23

**UN-AIDED**

The above post is 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 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, 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.”**

**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 breaks, if any, in their academic career.

Applications with full details should reach to the **CHAIRMAN, NIRMALA MEMORIAL FOUNDATION COLLEGE OF COMMERCE AND SCIENCE, D.S. Road, Asha Nagar, Thakur Complex, Kandivali (E), Mumbai - 400 101 within 15 days** from the date of publication of this advertisement. **This is University approved advertisement.**

Sd/-  
**CHAIRMAN**

**WANTED**

Applications are invited from the eligible Candidates for the following posts in **MANVENDRA KENDRE ADHYAPAK MAHAVIDYALAYA, JALKOT, TQ. JALKOT, DIST. LATUR (Permenent Non-Granted)** run by **Jijamata Bahu-Uddyashiya Shikshan Prasarak Mandal, Patoda (Bk)**. The application duly completed in all respects should reach on the following address in **fifteen days**. The Candidates of reserve category should submit one copy of application to The Assistant Registrar, Special cell, Swami Ramanand Teerth Marathwada University, Nanded.

Sr. No.	Subject	Name of the Post (Designation)	No. of Post	Reservation
01	Perspectives in Education	Asst. Prof.	02	Open - 02 ST - 01 VJ/NT - 01 OBC - 01 EWS - 01
02	Padagogy Subject (Math, Science)	Asst. Prof.	02	
03	Health and Physical Education	Asst. Prof. (Part Time)	01	
04	Performing Arts (Music / Dance / Theatre) Fine Arts	Asst. Prof. (Part Time)	01	

**Educational Qualification :-**

**Assistant Professor :-**

1. Good academic record are 55% marks at P.G. degree level and SET / NET Pass of Ph.D. degree as per UGC Regulations of 2009.

**Scale and Allowances :-** As per the norms of UGC, Maharashtra Govt. & SRTM University, Nanded.

**Note :-**

- 01) Prescribed application form is available on the University Website ([www: srtmun.ac](http://www.srtmun.ac)).
- 02) No T.A./ D.A. will be paid to candidates to attend the interview.
- 03) S.C./ S.T. Candidates are eligible to apply even if they have 50% marks only at PG level degree.
- 04) 3% reservation for handicaped and 30% from Women candidates.
- 05) Eligible Candidate those who are already in services should submit their application through proper channel.
- 06) Ph.D. Candidates who are awarded degree prior to Dt. 19 Sep.1991 are eligible even if they have 50% marks at P.G. level.
- 07) Education qualification and terms of service as per UGC & National Council for Teacher Education 2014.

**Address For Correspondence :-**

**Principal**  
**Manvendra Kendre B.Ed. College, Jalkot**  
**Tq. Jalkot, Dist. Latur – 413 532 (Maharashtra)**

**President**  
**Jijamata Bahu-Uddyashiya**  
**Shikshan Prasarak Mandal, Patoda (Bk)**

## WANTED

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad Affiliated **Deepshobha Sevabhavi sanstha Khandali Dist. Latur Late Santukrao Khomane College, Navha Tq. Dist. Jalna** The following full time post of Principal / Librarian / Physical Education Director / Assistant professors are to be filled However, eligible candidates should send their application by post or in person along with attested Xerox copy of educational qualification to the above college within 15 days from the date of publication of advertisement.

Advertisement Approval no., Special Cell / 2022 / 501139

### Under Graduation Section

Sr.No.	Subject	Sanctioned Post	Sr.No.	Subject	Sanctioned Post
1	English	1	13	B.C.S.	2
2	Marathi	1	14	B.Sc Networking and Multimedia	2
3	Hindi	1			
4	Sanskrit	1	15	B.Sc Forensic Science and Cyber Security	2
5	Pali	1			
6	Urdu	1	16	Physics	1
7	Family Resource management	1	17	Chemistry	1
8	Food and Nutrition	1	18	Mathematics	1
9	Human Development	1	19	Zoology	1
10	B.Com	3	20	Botany	1
11	B.B.A.	2	21	Microbiology	1
12	B.C.A.	2	22	Computer Science	1

### Post Graduation Section

Sr.No.	Subject	Sanctioned Post	Sr.No.	Subject	Sanctioned Post
23	M.Lib	2	28	M.Sc Mathematics	2
24	M.Com	2	29	Librarian	1
25	M.A. English	2	30	Principal	1
26	M.Sc Physics	2	31	Physical Education Director	1
27	M.Sc Chemistry	2		Total	43

President <b>Mrs. Shital Khomane</b> 9421352603	Treasury Head <b>Mr. Ravi Khomane</b> 7588546625	Secretary <b>Mr. Pradip Khomane</b> 9850032135
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✉ skcollegejalna@gmail.com

### Category wise Reservation

Open -16. SC-6. ST -3. VJA-1. NT B-1. NT C -2. NT D -1. SBC -1. OBC -8. EWS -4. (Open: Principal -1. Librarian -1)

Educational Qualification : NET/ SET/ PhD will be mandatory for all the above under graduate and post graduate Posts.  
Principal: NET/SET/ PhD 15 Years experience required

1.A copy of the application submitted by the backward class applicants to the President Secretary of the Institute to be sent to the Deputy Chancellor, Special Room Division, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad 2. Government Decision No. Miscellaneous 1096 / case no. 30 / ka-2 as on august 1, 1997, there will be 30 % reservation for women 3. Government circular no. - disabilities 2018 / case no. / 14/16-B, Mantralay Mumbai as on May 29, 2019, there will be 4 % reservation for person with disabilities 4. Government Decision No. N.G.C. 1298 / (4619) / uni-4 as on 11 December 1999, the requirement of 55% marks for Post Graduation degree for Schedule Cast and Schedule Tribal has been relaxed to 50% 5. VJ A, NT-B, NT-C, NT-D is variable 6. Government Decision No. UGC 2003 / ( 21) vishi-4 department of higher and technical education, Ministry of Extension Building, Mumbai-32 dated as on 14 th November, 2003, the requirement of 55 % marks for Post Graduate Degree has been relaxed to 55 % for disabled candidates 7. Backward category candidates can apply for unreserved post. Unreserved posts will be filled on merit basis 8. Government decision as on 02 april 2018 and 04 december 2018, there will be 1 % reservation for orphans. 9. Government decision 18 October 1997, 21 septmber 1998, 23 september 2016, 18 february 2019 Gazette 25 february 2022, 01 april 2022, 08 april 2022, government decision 25 february 2022, 11 april 2022, 06 july 2021 as per 100 Bindu Namavali as per total sanctioned post reservation is fixed. 10. Note : As 100 % reservation is given to economically weaker sections, after completion of the process of reservation for economically weaker section, 10 % of the posts may be reserved for the open category and may be changed to unreserved category posts.

## Rameshwar Shikshan Prasarak Mandal, Sonpeth's SHRI PANDITGURU PARDIKAR MAHAVIDYALAYA, SIRSALA

Tq. Parli (V), Dist. Beed 431 128 (MS)

Phone: 02446-262818

## WANTED

Applications with the attested photocopies of the essential documents are invited from the eligible candidates for the post of the following description. The applications should reach to **the Secretary, Rameshwar Shikshan Prasarak Mandal C/o Shri Panditguru Pardikar Mahavidyalaya, Sirsala, Tq. Parli (V), Dist. Beed 431128 (MS) within 15 Days** from the first day of publication of this advertisement.

Sr. No	Post	No of Post	Reservation	Remark
1	<b>Principal</b>	01	Unreserved	Aided

### Notes:

- 1) Educational Qualification, Pay Scale and Service condition will be as per rules of U.G.C., State Government of Maharashtra and Dr. B. A. M. University, Aurangabad.
- 2) Eligible candidates should submit their application through the proper channel.
- 3) No T.A. & D.A. will be paid for attending the interview, if invited.

Sd/-  
**President**

Sd/-  
**Secretary**

**SHAILENDRA EDUCATION SOCIETY'S  
ARTS, COMMERCE & SCIENCE COLLEGE  
Shailendra Nagar, Dahisar (E), Mumbai – 400 068**

**APPLICATIONS ARE INVITED FOR THE FOLLOWING CLOCK HOUR BASIS POSTS FOR THE ACADEMIC  
YEAR 2022-2023**

**AIDED**

Sr. No.	Cadre	Subjects	Total No. of CHB Posts	Posts Reserved for
01.	Assistant Professor	Political Science	02	01- SC 01- OPEN

The posts for the reserved category candidates will be filled in by the same category candidates (Domicile of State of Maharashtra) belonging to that particular category only.

Reservation for women will be as per the **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, 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 02<sup>nd</sup> April, 2019 & University Circular No. CTAU/23/2021-2022 dated 25<sup>th</sup> January, 2022. The Government Resolution & Circular are available on the website: mu.ac.in.**

Application with full details should reach the **PRINCIPAL, SHAILENDRA EDUCATION SOCIETY'S ARTS, COMMERCE & SCIENCE COLLEGE, Shailendra Nagar, Dahisar (E), Mumbai – 400 068** within **15 days** from the date of publication of this advertisement. **This is University approved advertisement.**

Sd/-  
PRINCIPAL

**Shri Bhavani Shikshan Prasarak Mandal Osmanabad (Maharashtra)**

Applications are invited for the various posts in colleges run by Shri Bhavani Shikshan Prasarak Mandal, Osmanabad affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.) (**Permanent Non-Grant**).

Sr. No	Posts	Number of Posts	Sr. No	Subject	Number of Posts
Under Graduate (UG) Courses					
1	English	01	14	Electronics	01
2	Marathi	01	15	Dairy Science	01
3	History	01	16	Computer Science	01
4	Political Science	01	17	Fishery	01
5	Sociology	01	18	Parasitology	01
6	Economics	01	19	Analytical Chemistry	01
7	Phycology	01	20	B. Voc. Broadcasting and Journalism	02
8	Environmental Science	01	21	B. Voc. Professional Accounting & Taxation	02
9	Physics	01	22	Librarian	02
10	Chemistry	01	23	Environment and Water Management	01
11	Botany	01	24	Physical Director	01
12	Zoology	01	25	Law	04
13	Statistics	01	26	Industrial Biotechnology	01
Post Graduate (PG) Courses					
27	M.Com	02	29	Botany	02
28	Chemistry	02	30	Zoology	02
<b>The reservation for Posts of UG and PG Courses is as</b> SC (04), ST (03) VJ-A (01) NT-B (01) NT-C (02), NT-D (01), SBC (01), OBC (08), EWS (04), OPEN (15)					
<b>Principal 02</b> post (01 Open, 01 SC) Candidates should have minimum experience of 15 years of teaching/research in university/college or institutes of higher education.					

**Conditions:**

- Educational qualification, Pay Scale and other service conditions are as per rules and regulations laid down by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Govt. of Maharashtra and UGC as modified from time to time.
- Reserved category candidate should send one copy to Special cell Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- Candidates already in service should apply through proper channel.
- Eligible candidates should submit their application along with attested Xerox copies of documents to the **Secretary, Shri Bhavani Shikshan Prasarak Mandal, Osmanabad, Near Kohinoor Hotel, Anand Nagar, Osmanabad-413 501** so as to reach us **within 21 days** from the date of publication of this advertisement.
- No T.A. / D.A. will be paid to candidates called for interviews.

**Sunil Shinde  
President**

**Sanjay Nimbalkar  
Secretary**

## Announcement

### Special Issue of 'University News'

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

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

**A. *Internationalization for Transformative Higher Education***

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

**B. *Pedagogies and Use of Technologies for Transformative Higher Education***

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

**C. *Transformative Curriculum for a Holistic and Multidisciplinary Higher Education***

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

**D. *Research and Excellence for Transformative Higher Education***

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

**E. *Evaluation Reforms for Transformative Higher Education***

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

Send the Manuscripts to: The Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi- 110 002. E-mail: [ramapani.universitynews@gmail.com](mailto:ramapani.universitynews@gmail.com) with a copy to: [rama.pani2013@gmail.com](mailto:rama.pani2013@gmail.com) / [universitynews@aiu.ac.in](mailto:universitynews@aiu.ac.in) on or before October 31, 2022.