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Does Stress Affect Performance of College Students?

G Gopalakrishnan*

Stress is the body's response to difficult and worrying situations developed by either intrinsic or extrinsic means. Normally the human body physically reacts to such situations. It is exhibited in the form of palpitations, breathlessness, and increases in heart rate, and sudden increases in blood pressure; at times leading to cardiac problems. Small doses of stress could be dealt with easily, but sustained long term stresses do inflict severe strains on the human body leading to grave consequences. Adolescents in the early part of their academic pursuits are the main victims of stress, facing academic competition from peers in the classrooms, inability to perform due to stresses from parents and teachers, demographic and fiscal needs and perhaps, given to unsocial habits often due to friends and parental problems.

Any problem arising out of behavioural, emotional, physical or cognitive reasons need to be fully identified as contributors to the basic causes of adolescent stress complaints. Such identification is only possible, if the victim is in the habit of confiding to the person who happens to be the mentor, possibly a friend or one of his close family members. Physical, emotional and erratic intellectual responses are invariably demonstrated by one feeling insecure and stressed. It is a normal reaction that is evinced or created by stressors. When one experiences changes or challenges (stressors) the body produces physical and mental responses; and it could happen to anyone, unless stress management is well understood by the person. Stress could be either positive or negative; the positive one keeps us alert, motivated and ready to avoid mishaps. Response to stress might help your body to react, work harder and also stay wide awake longer! On the other hand when it becomes a problem, stressors continue to be without any break or periods of relaxation!

Definition of Stress

It was Hans Selye (known universally as the" father of stress research") who had first identified stress and included it in the medical vocabulary as "nonspecific response of the body to any demand". He called it the "syndrome of just being sick"!

Causes for Stress in College Students

It is a well known fact that globally higher education has its charms and problems for society. Of late, right across continents, an urge to study higher is prevalent amongst the younger age groups, provided financial requirements are met. However, it is not without its problems for parents and the student who intends to study further

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– a global problem to reckon with. The problems and needs are varied across continents. Financial requirements seem to be the most difficult of problems to manage. Deadlines have to be met, pressure of combining paid work and study seems to be the worst amongst the list of stressors.

Poor time management, difficulty in organizing class work, schedules, leaving assignments to the last minute seems to be a routine affair, apart from facing the preparation deadlines and examinations. Academics mingled with the changed cultural values, and adjusting to the collegiate social life add to the complexities. Of late, the most disconcerting news amongst the younger group of students is their diversion from education to sports and other vocations, which they feel easier to deal with than maintain academic grades throughout their studies at the graduate levels. This could further affect their careers, and also getting further aids for higher research, and acceptance in other higher degree programs. Peer pressure from this angle could further aggravate their situations.

Another reason across all groups of students, stress arises from adjusting to new environments. A feeling of restlessness develops dealing with newer faces, coming across some reluctance in corresponding with their fellow teammates, hostellers searching for things that may be needed. Academics and social life in the campus could become one of the major reasons for stress in fresher's joining a college in the first few weeks of their stay. Hostel students may face problems in the hostel from amongst their roommates, sharing the same room in dormitories; not able to balance along with their roommate's idiosyncrasies - like cooperating during study periods, maintaining hygienic systems in their rooms, being noisy, and callous about maintaining things decently etc. It could also be inability to adjust with another person living in the same room.

Another major cause for stress could be feeling homesick; much removed from parents and siblings. Total isolation could be arising from lack of any assistance or support, mentally, financially or otherwise from the family being located in a school far away from their hometown.

Symptoms of Stress

Emotional symptoms betray a person's discomfiture, normally attributed to stress. One becomes easily overworked and agitated, frustrated and even moody at times. Feeling insecure losing self control or perhaps overwhelmed, feeling depressed, losing self esteem and self assessment, and many a times a feeling of being deserted by friends and pushed to be lonely or isolated. This leads to even avoiding friends and others. A stressed individual appears totally disturbed with absolutely no peace of mind. Continuous stress could lead to other endocrine problems, if it persists for a long time; and also dependent on the stressors. It has been reported that the body's autonomic nervous system controls your heart rate, breathing, vision changes and more. Its built-in stress response caters to fight against such reactions.

The Indian Scenario

In India, the tertiary system of education is imparted after 12 years of schooling (10 years of primary education and 2 years of secondary education). The entire Indian Diaspora is exposed to about 1043 Universities, 11,779 Stand-alone Institutions (offering diploma certifications) and 42,343 Colleges (affiliated to universities) as of March 2022. India's Gross Enrollment Ratio in higher education rose from 27.1% in 2019-2020 to 32.0% in 2022. India has one of the largest education systems in the world.

Higher education enrollment is calculated in terms of Gross Enrollment Ratio (GER), which is the ratio of population in the 18-23 age groups to the number of people enrolled in higher education. India's GER at present is 29.0% According to a report of 2019-2020, a total of 385, 36, 359 students had registered for higher education, of which approximately about 790,000 had registered for post graduate courses.

The stress factor for Indian students going in for higher studies now hinges on the following stressors for students in the stage of completing their studies:

- Adjusting to a newer environment at college or hostels. Most of the higher educational Institutions are located in the urban areas, and hence the students from the villages need to adjust to the newer environments, forced to living in hostels
- Newer social life

- Newer independent life styles, if the higher educational institution is far away from home
- Adjusting to various higher educational systems of educational grading systems, trying to maintain their academic ratings, in order to have a better future
- Competing with fellow peers
- Worried about their future employments
- Repayment of educational loans

Stress has a Negative Effect

Almost 75% - 80% of our students proceeding to higher educational institutions are from the upper-middle class/average families and find it almost impossible to face such numerous stressors. This could lead to diversion into many unhealthy habits / ways, and approximately there could be about a 2% - 3% drop outs from colleges, unless some steps are taken to solve such problems of students in the age groups 18-24, which may be,

- Students being exposed to drinking alcohol too often
- Gambling
- Overeating or developing an eating disorder
- Participating compulsively in sex, shopping or internet browsing
- Smoking
- Using drugs
- Sleeping too much
- Missing lectures
- Isolating one's self

What could HEIs do?

Higher Educational Institutions could perhaps offer much help in mitigating the hardships being suffered by the low performing and or ambitious students,

- Offer special classes to improve some of the students who face hardships in their programs
- The more ambitious could be given some extra skilling programs to improve their CGPAs
- Diversionary methods like diverting some students into social work, Rotary, National Cadet Corps. and other social causes
- Provide scholarships for the needy and the ambitious students
- Teaching faculties may take upon themselves some effort to improve the morale of such students
- Provide good sports facilities in their institutions, so that when necessary, it could be a better pastime for the downtrodden
- Additional Workshops / Conferences / Seminars etc.
- Semester at Sea programs

Such activities could divert the moods of the depressed and stressed students without allowing them to fall prey to unhealthy practices.

Medical Facilities in HEIs

Due to continued exposure to a stressed academic life, some of the weaker students are likely to face innumerable problems undermining their personal health. As a result of day in and day out work schedules / lectures and assignments, most of the student population can fall sick. The various types of illnesses could be,

- Body aches and pains/ chest pains and congestion/ headaches/digestive problems
- Exhaustion or trouble sleeping
- High blood pressure

It would be advisable to have a 'Campus Doctor on Call' for any emergency that may develop. Further, all students may be provided with a Health Insurance on joining the HEI. Many of the HEIs do follow such procedures in India. As a precautionary measure, as soon as the symptoms are observed, the faculty of the Institute should immediately suggest ways and means to solve. Some of the more known symptoms are irritability, depression, some health cardiac problems, or feeling a sense of isolation on the part of the student.

Tracy Hutchinson had attributed the mentally strong and resilient people, could face these challenges well. "Accept reality, accept the conditions of their choice, self monitor, self correct, forget the past and learn from experiences, access feelings and facts at the same time". To quote, "Mentally strong and resilient people overcome adversities and learn from them. Research had observed that mentally resilient

people have personality traits that help them cope with adversity. They tend towards emotional maturity and make an effort to process negative events from their past".

Conclusions

Research had established beyond doubt that a majority of students in HEIs in India do suffer from various stressors during the course of their studies, ranging from financial burdens, peer competition, studying away from home, health issues, and a host of others. Both the governments at the Centre and the State along with the HEIs should chalk out necessary support systems to enable our higher education to flourish in the modern context with mentally and physically healthy graduates coming out of it.

Besides the major problem of providing good educational systems, the entire academic schemes need to be tuned to facing and addressing such simple issues which could again turn out to be a problem beyond repair!

Acknowledgement

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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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Changing Education Landscape, New Learning Paradigms and 21st Century Skills

Deepak Mistry*

Education can equip learners with the basics (knowledge, skills, values, and attitudes), the competencies, and the sense of purpose to shape their own lives and contribute to the lives of others. Universities remain vital agents of change that have the ability-and moral duty - to shape local and global agendas.

At present, the Human race is facing unprecedented challenges – social, economic, and environmental – driven by accelerating globalization and a faster rate of technological development. At the same time, those forces are providing us with myriad new opportunities for human advancement. The future is uncertain and we cannot predict it, but we need to be open and ready for it. The children entering school education in 2020 will be young adults in 2035. Universities have to prepare them for jobs that have not yet been created, for technologies that have not yet been invented, and to solve problems that have not yet been anticipated. It will be a shared responsibility to seize opportunities and find solutions.

To navigate through such uncertainty, students will need to develop curiosity, imagination, resilience, and self-regulation; they will need to respect and appreciate the ideas, perspectives, and values of others; and they will need to cope with failure and rejection, and handle the stress and to move forward in the face of adversity. Their motivation will be more than getting a good job and a high income; they will also need to care about the well-being of their friends and families, their communities, and the planet. Therefore, Universities have to find answers to the following two questions:

1. What knowledge, skills, attitudes, and values will today's students need to thrive and shape their world?
2. How can instructional systems develop these knowledge, skills, attitudes, and values effectively?

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Educators will guide every learner, to develop as a whole person, fulfill his or her potential and help shape a shared future built on the well-being of individuals, communities, and the planet. Children entering school now will need to abandon the notion that resources are limitless and are there to be exploited; they will need to value common prosperity, sustainability, and well-being. They will need to be responsible and empowered, placing collaboration above division, and sustainability above short-term gain. So, radical change is imminent.

To make it happen, universities have to develop an overarching learning framework with transformative competencies; review the existing nature of the knowledge, skills, attitudes, and values and make appropriate changes with possible curriculum design principles and come out with a **"**Modern Curriculum" to sail through next decade before the new challenges crop up. Knowledge, skills, attitudes, and values for the future.

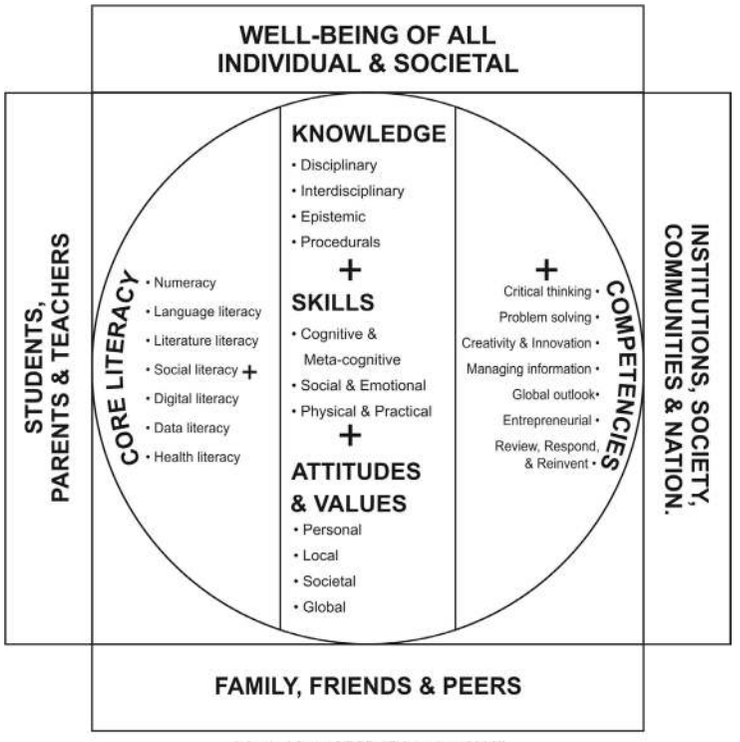
Knowledge

Future-ready students will need both broad and specialized knowledge. *Disciplinary knowledge* will continue to be important, as the raw material from which new knowledge is developed, together with the capacity to think across the boundaries of disciplines and "connect the dots". *Epistemic knowledge*, or knowledge about the disciplines, such as knowing how to think like a mathematician, historian, or scientist, will also be significant, enabling students to extend their disciplinary knowledge. *Procedural knowledge* is acquired by understanding how something is done or made – the series of steps or actions taken to accomplish a goal. Some procedural knowledge is domain-specific, and some are transferable across domains. It typically develops through practical problem-solving, such as through design thinking and systems thinking.

Skills

Students will need to apply their knowledge in unknown and evolving circumstances. For this, they will need a broad range of skills, including cognitive

Figure



Adapted from OECD "Education-2030"

and meta-cognitive skills (e.g. critical thinking, creative thinking, learning to learn, and self-regulation); social and emotional skills (e.g. empathy, self-efficacy, and collaboration); and practical and physical skills (e.g. using new information and communication technology devices).

Attitudes and Values

The use of this broader range of knowledge and skills will be mediated by attitudes and values (e.g. motivation, trust, respect for diversity, and virtue). The attitudes and values can be observed at personal, local, societal, and global levels. While human life is enriched by the diversity of values and attitudes arising from different cultural perspectives and personality traits, there are some human values (e.g. respect for life and human dignity, empathy, tolerance, pride and respect for the environment,) that cannot be compromised.

These transformative competencies (knowledge, skills, values, attitudes) are complex; each competency is intricately interrelated with the others. They are developmental in nature, and thus learnable. The ability to develop competencies is itself something to be learned using a sequenced process of reflection, anticipation, and action. Reflective practice is the ability to take a critical stance when deciding, choosing, and acting, by stepping back from what is known or assumed and looking at a situation from other, different perspectives. Anticipation mobilises cognitive skills, such as analytical or critical thinking, to foresee what may be needed in the future or how actions taken today might have consequences for the future. Both reflection and anticipation are precursors to responsible actions.

New Learning Paradigms & 21st Century Skills

What Is It?

In many real ways, content has become less important in the modern age than skills. In the age of information – when you can find the capital of Lithuania or the climate of Sydney with two clicks of your smartphone – we need to think about the world that our children moving into. It's not going to be a world in which knowing specific content is as important as it used to be. There's still a body of content that kids need to know, but equally as important are skills like communication, both written and oral, leadership, critical thinking, problem-solving, creativity, and interacting within a diverse environment. As our world gets smaller, the ability to communicate and to interact with people different than ourselves has become more and more critical and, quite frankly, more and more of a marketable skill in the 21st-century workplace.

As today's graduates engage with the demands of the current Knowledge Age, the skills that they need to succeed in their lives after college, are 21st-century skills rather than 20th century skills. A new approach to teaching, learning, and assessment – a new pedagogical paradigm, suited to the Digital Age of today rather than the Industrial Age of yesterday is "the new learning paradigm". Students must acquire relevant skills as described above, that are needed to meet the demands of the future workplace. Conventional educational concepts do not seem to be adequate to effectively support students to develop the desired competencies, for productive engagement in the Knowledge Economy and therefore educational innovations are necessary.

Traditional/Core Learning Skills

+ Creative & critical Learning Skills
+ Digital Learning Skills
+ Life Skills

= 21st Century Skills

Traditional/Core Learning Skills

Will include Reading, Writing, Speaking and Remembering or basic literacy and numeracy;

Creative & Critical Learning Skills

Will include critical thinking, synthesis-analysis-and scientific evaluation of data and evidence problem-solving attitude, teamwork, learning from mistakes, thinking out of the box, defining and designing something new, and breaking patterns.

Digital Learning Skills

Extensive use of computers-various relevant software, machine language learning, technology proficiency, digital fluency, and data mining.

Life Skills

Collaborative teamwork, networking, communication skills, good listening, seeking help, passion, empathy, social work, recreation, culture & values.

The traditional/ core learning skills will cover core subject domains consisting of mother tongue, English language, world languages, the study of literature, Arts, Mathematics, General Science, Geography, History, Government, and Civics. They in turn will be integrated with disciplines like Global awareness, Humanities, Economics, Financial Literacy-Business-Entrepreneurship, and Health & Environmental literacy. This integrated core when embodied with digital skills, life skills, and creative thinking skills, as narrated above, you get "Critical Education Mass" for 21st Century Learners and Educators.

Thereafter based on this 'critical education mass' one can develop an 'Education System' covering

1. Curriculum and Instruction.
2. Learning Environment.
3. Standards and Assessment.
4. Professional Development of all stakeholders.
5. Review and Reset.

The aforesaid approach to effective teaching and learning represents a paradigm shift from the traditional key learning area and shall help to address to some of the key issues and real-life problems that confront individuals, industries and occupations in the 21st century.

Teachers in the New Learning Paradigm

The introduction of an innovative educational concept often entails major changes for teachers not only conceptually but also for their teaching practice.

Teaching effectiveness is a slippery concept to grasp. Effective teaching is not based on some universal laws, but there is a multitude of ways of being a good teacher and teaching effectively. What teaching effectiveness is, varies according to time, place, and the learners in the classroom. What is effective for one teacher will not work for another teacher. What is effective in Grade 1 will certainly not be effective in Grade 6 or Grade 12. What is effective in this era will not be effective in the next. Teaching effectiveness varies from teacher to teacher, class to class, and from one era to the next.

For a teacher to be effective he or she should be essentially knowledgeable, enthusiastic, confident, balanced, optimistic, effective in communicating, a good listener, good observer, committed, compassionate, curious, patient and persistent, open to change, willing to share and collaborate, resourceful and inventive, ready for continual self-evaluation , well organized, ethical and reflective.

A teacher should be consciousness of oneself which will include the teacher's personal beliefs, patterns of behavior, coping with situations and the teacher's individual learning styles. He should be attentive to others – i.e. skills and attitudes in listening to others, observing what happens and taking notes and responding as needed; ability to encourage students, as well as analytic and diagnostic skills.

A teacher should have the ability to collaborate and communicate with others. This includes not only the teacher's students but also colleagues at the institute, administrators, and parents of the students. A teacher should have an understanding of the cultural dimensions of people's lives and their impact on learning. Moreover, he should have the ability to

analyze educational systems and their impact on the learning environment.

Therefore, to be an effective teacher in this new paradigm requires: -

(a) a move from teacher-directed to student-centred learning,

a move from direct teacher instruction to interactive exchange among the students

a move from teaching content knowledge to equipping students with the relevant skills, and

a move from teaching content to digging further for developing new content

(b) Additionally, effective teaching in this new paradigm requires:-

a shift from teaching basic to applied skills;

a shift from teaching facts and principles to investigative questions and problematizing,

a shift from mere theory to practice applying the relevant theory or theories, and

a shift from working with a fixed or set curriculum to working on authentic real-life projects.

(c) Effective teaching also calls for a move away

from time-slotted schedules to the completion of tasks on demand,

from teaching that applies a one-size-fits-all approach to all students to one that provides

personalized scaffolding for learners,

from competitive learning to collaborative learning,

from classroom-tied contexts to foot-loose global learning networks,

from textbook-based data to web-based sources,

from summative to formative assessment of student's performance,

and from learning at school to learning throughout life.

Changes Required

The success of this new pedagogical paradigm, requires changes at four levels, at least as presented here.

First, there is a need to accept that the world outside schooling and other spheres of academia has changed and so schooling and academia can no longer continue to do 'business as usual' in this new world order. "That's The Way We've Always Done " is no longer a pedagogical option. It condemns educators and educational institutions to stagnancy and intellectual stalemate that leads to irrelevance in the 21st century economy.

Second, educators and institutions need to educate themselves for change. It is one thing realizing that change is needed. It is another knowing how to implement that change effectively. This step might require in-service training and professional development to ensure that those charged with the privilege of educating learners for the 21st century are themselves well skilled with Creative Learning Skills + Digital Learning Skills + Life Skills so that they can in turn teach them effectively to their learners.

Thirdly, system-wide reforms are needed to reflect this new approach. It is at this level that educational policies, curriculum documents, and educational programs need to be revised to incorporate the changes that will enable the 21st Century's skills to be taught and assessed effectively. This will mean say, learning outcomes be updated and assessment structures, including the high-stakes examinations, be re-designed to include new skills.

Fourthly, there is a need to educate the public at large about the need for learners to be smart in 21st Century's skills. Parents and guardians of students should be partners in the joint venture of educating their children for the Digital Age. Not only should they know that the learning outcomes and expectations of their children have changed but they should also be encouraged to demand that their children be entitled to an education that will help them become productive citizens in the new Knowledge Economy. They have a right to expect, and to demand, that the taxes they pay be utilized to provide an effective education tailored to the success of their children in the Digital World. Not providing students with opportunities to develop 21st century skills and proficiencies will create a disconnect between jobs being created and the skills in the workforce.

The past President of the USA, Mr. Barak Obama has said, "I'm calling on our nation's governors and state education chiefs to develop standards and assessments that don't simply measure whether students can fill in a bubble on a test, but whether

(contd. on pg. 16)

Proactive Coping Skills: Why it is Crucial among Students

Ismail Thamarasseri* and Sruthi**

A proactive coping strategy is multidimensional and forward-looking as it integrates processes of personal quality of life management with those of self-regulatory goal attainment. Proactive coping is the latest addition to the positive aspects of coping research. The main objective of this paper is to learn more about proactive coping and analyse why it has become important among students. For this, the authors reviewed several related articles about proactive coping and came to the conclusion that proactive coping is very important among students because it makes a student well-prepared for facing adverse events and improves the ability to anticipate future challenges and plan to manage them using all available resources around them. Through this paper, the authors strongly recommend an advanced curriculum that makes the students more proactive and helps develop their proactive coping skills to anticipate future challenges and plan to manage them using all available resources.

Coping is a process that unfolds in the context of a situation appraised as personally significant and exceeding one's resources for coping (Lazarus & Folkman, 1984). Compas (1987) defined coping as any effort used in response to a stressful event. It can be manifested behaviourally, cognitively or emotionally. Aspinwall (2010) notes that there is a positive relationship between future-oriented thoughts and increased self-regulation behaviours. Proactive coping is different from other forms of coping because it is more. In general, a person's proactive behaviour (known as "proactive coping", and "future-oriented coping") is understood as anticipating a stressor and an attempt to cope "in advance" with building a strategic trajectory of life events and accumulating appropriate psychological (subjective) resources (Starchenkova, 2009, 2012). The reactive forms of coping behaviour (what is called the classic "coping behaviour") include strategies focused on solving specific problems in the present and the past and with the goal of adaptation (minimizing the risks of a difficult situation, survival, coping with past difficulties, distancing, etc.). Most often, this refers to a short-term reaction of an individual to a stressful event (Starchenkova, 2009).

A new conceptualization of coping that focuses on proactive, goal-oriented, adaptive coping has been suggested by Schwarzer and Taubert (2002) and lends itself toward theoretical exploration that may circumvent the need for a dispositional versus situational coping distinction in certain cases. Proactive coping theory proposes that some people are more apt to live their lives in a way that accumulates assets and prepares for inevitable obstacles. However, proactive coping has been largely understudied; if someone is successful at coping proactively, then they rarely need to cope using traditionally studied coping styles such as venting and suppression (Carver, Scheier, & Weintraub, 1989). Moreover, people with a high aptitude for proactive coping may have been inadvertently excluded from most coping studies to date (Aspinwall & Taylor, 1997).

The Transactional Model of Stress and Coping is perhaps one of the most empirically supported coping theories (Lazarus, 1966; Lazarus & Folkman, 1984). According to Lazarus, coping is based upon an interaction between the individual's appraisal and response to a stimulus. An individual first appraises a stimulus to determine if a threat is present. If there is a perception of harm, the individual then engages in a coping response.

Lazarus and Folkman (1987) state that a coping response can be either problem-focused or emotion-focused. Problem focused coping can be defined as strategies to influence the situation, whereas emotion-focused coping is described as efforts to minimize emotional distress. While there is a substantial amount of research that describes coping as a response to a threat, more recently researchers have focused on coping as a future-oriented, challenge-

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based process. For instance, Aspinwall and Taylor (1997) proposed that future-oriented, challenge-based coping had been overlooked by past research and that individuals do not simply react to stimuli, but also make efforts to prepare for future stressors.

Schwarzer (2001) identified two types of active, future oriented coping styles, preventative coping and proactive coping. Preventive coping involves building up resources in an effort to minimize negative outcomes, whereas proactive coping involves developing resources to address challenges and pursue personal growth (Greenglass, 2002; Schwarzer, 2001).

The difference between the characteristics of reactive and proactive coping are as follows:

- Traditional or reactive coping mostly deals with stressful events that already occurred with the aims of compensating for loss or harm in the past; proactive coping is more future orientated and consists of efforts to build up general resources that facilitate promotion of challenging goals and personal growth.
- Reactive coping is regarded as risk management; proactive coping involves goal management whereby individuals see risks, demands and opportunities in the future but they do not appraise them as threat, harm or loss.
- Reactive coping emanates from risk appraisal whereby environmental demands are appraised as threats; the motivation for proactive coping is positive since it derives from perceiving situations as challenging and stimulating.

Proactive Coping

According to Aspinwall and Taylor, proactive coping is a natural process which most of us apply to some degree in our daily lives. It involves the timely accumulation of resources, the continual anticipation and appraisal of potential threats, the development and realisation of strategies to offset these threats, and the use of feedback to assess both the effectiveness of one's strategies and the viability of one's goals. The concept has been applied to a wide range of themes, including aging, personal development and coping with life stressor and chronic disease (Aspinwall, 2006; Bode, De Ridder, & Bensing, 2006). Proactive coping focuses on future-oriented coping. According to Aspinwall and Taylor (1997), proactive coping consists of "efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs." Proactive coping is the latest addition to the positive aspect of coping research (Schwarzer & Taubert, 2002). Various studies identified proactive coping as the most effective method of coping.

A proactive coping strategy is multidimensional and forward-looking as it integrates processes of personal quality of life management with those of self-regulatory goal attainment (Greenglass, 2001). The process through which people anticipate or detect potential stressors and act in advance to prevent them can be seen as a proactive behaviour (Greenglass, Schwarzer, Jacubiec, Fiksenbaum, & Taubert, 1999) and it is potentially useful in eliminating a great deal of stress before it happens.

The stages of proactive coping as defined by Aspinwall and Taylor (1997) are as under:

- **Resource Accumulation:** In order to be able to deal with the stressful situation, the individual will make attempts to accumulate resources, this could also be in terms of gathering information so as to understand the stressful situation in better manner
- **Recognition of Potential Stressors:** A potential stressor is anticipated or identified by the individual. For instance, if it is expected that one's superior may ask for a certain report, the employee will anticipate the stressor and start working on the report beforehand.
- **Initial Appraisal:** Initial appraisal of the stress creating situation is carried out.
- **Preliminary Coping Efforts:** Based on the initial appraisal, preliminary efforts to cope with the stressful situation are carried out. In case these efforts do not show any positive results then, some other action is taken in order to deal with the situation.
- **Elicitation and use of Feedback Concerning Initial Efforts:** Based on the stages three and four, feedback is sought and used so that modifications and changes can be carried out.

Proactive Coping Skills

Proactive coping skills include planning, goal setting, organizing and mental stimulation (Aspinwall & Taylor, 1997). According to Greenglass (2001),

proactive coping is distinguished by three main features; (1) It integrates planning and preventive strategies with proactive self-regulatory goal attainment; (2) It integrates proactive goal attainment with identification and utilization of social resources; and (3) It utilizes proactive emotional coping for self-regulatory goal attainment.

Proactive Coping Inventory

Greenglass, Schwarzer, Jakubiec et al. (1999) includes seven scales of proactive coping behaviours in their inventory named the Proactive Coping Inventory (PCI). The seven scales and the descriptions of these proactive coping behaviours are as follows:

- **Proactive Coping** refers to the combination of autonomous goal setting with self-regulatory goal attainment, cognition and behaviour.
- **Reflective Coping** refers to simulation and contemplation about a variety of possible behavioural alternatives by comparing their imagined effectiveness. This process includes brainstorming, analysing problems and resources and generating hypothetical plans of action.
- **Strategic planning** refers to the process of generating a goal-oriented schedule of action in which extensive tasks are broken down into manageable.
- **Preventive Coping** deals with anticipation of potential stressors and making preparation before these stressors develop fully.
- **Instrumental Support Seeking** refers to the process of obtaining advice, information and feedback from one's social network when dealing with stressors.
- **Emotional Support Seeking** is the process of regulating temporary emotional distress by disclosing to others one's feelings, evoking empathy and seeking companionship from one's social network; and
- **Avoidance Coping** is the process of eluding action in a demanding situation.

How Proactive coping helps students, why it is important among students

Proactive coping helps the students face very few problems in their studies because it makes them well prepared for adverse events. Students are going through a number of challenges in their educational institutions every day. They must attend so many classes, seminars, daily homework assignments, examinations, and extracurricular activities. All these activities sometimes become a great deal of stress for students. Therefore, it is very important for a student to become proactive in their everyday life. Schwarzer (1999) listed the personality characteristics of proactive individuals as follows:

- They believe that they possess sufficient resources, both internal and external;
- They take responsibility for their own growth, including responsibility for past events and responsibility for their future actions;
- They are driven by values and principles whereby they choose their path of action accordingly;
- They have vision and create meaning in life by striving for ambitious goals.

Proactive personality can significantly predict academic engagement (Major et al., 2012). Students with proactive personalities are more likely to succeed than passive students (McNall and Michel, 2011). Proactive individuals tend to scan for opportunities, look for all possibilities to utilize resources, and shape the environment (Parker and Collins, 2010). They have a higher level of persistence, demonstrate initiate to overcome difficulties from unexpected environments, and involve themselves to fulfil their ambitions (Hu et al., 2020).

Major et al. (2012) found that students with a higher level of proactive personality were less likely to disengage and used fewer avoidant strategies to reduce effort or give up in stressful situations. Moreover, Zhu et al. (2017) found that proactive students reported higher academic performance in a stressful situation than passive students. Students who had a proactive personality undertook more responsibility in academic citizenship behaviour and helped other students engage in extracurricular activities (Islam et al., 2018).

Proactive personality can significantly predict academic self-efficacy (Lin et al., 2014; Hua et al., 2020). Students who have a higher level of proactive personality are more likely to build a strong belief that they can succeed, which contributes toward them achieving goals (Lin et al., 2014). Lin et al.

(2014) conducted a longitudinal study and found that students possessing highly proactive personalities were more likely to utilize available resources to improve situations and persistently achieve goals. Furthermore, they found that a proactive personality could predict later academic self-efficacy. Moreover, Hua et al. (2020) found that students with a proactive personality showed a higher level of adjustment self-efficacy, which further influenced their academic behaviour. The process through which people anticipate or detect potential stressors and act in advance to prevent them can be seen as a proactive behaviour (Greenglass, Schwarzer, Jacubiec, Fiksenbaum, & Taubert, 1999) and it is potentially useful in eliminating a great deal of stress before it happens.

Proactive students do not only anticipate potentially harmful events, but also perceive them as opportunities to learn and grow. By positively reinterpreting stressful events as challenges rather than just threats, and in doing so fostering a positive motivation, they will be able to regulate their stress and face their difficulties. (Greenglass, 2002).

Frese, Kring, Soose, and Zempel (1996) argued that proactive behaviour consists of an active search for and engagement in learning opportunities. Similarly, Ashford and Black (1996) suggested that proactive individuals exhibit proactive behaviours including information seeking, feedback seeking, being optimistic, negotiating, and networking, which are also likely to be related to success in an educational setting. Sidelinger (2010) claimed that proactivity renders students more likely to succeed.

From various research studies it is clear that proactive coping is an effective stress management technique (Tharbe, 2006). Individuals are proactive rather than reactive in the sense that they take positive steps and generate possibilities for advancement. The proactive individual strives for the improvement of life and builds up resources that assure progress and quality of functioning. Proactive coping can be considered as an effort to build up resources that facilitate promotion toward challenging goals and personal growth. People may be naturally proactive, or they can learn to be proactive. The benefit of being proactive is nothing but the ability to anticipate future challenges and planning to manage them using all available resources of the individuals (Schwarzer and Luszczynska, 2008; Sohl and Moyer, 2009; Sheikh Hamid et al., 2013).

The individuals high in proactive coping have that capacity to change the situation which may not exist yet toward a more desirable environment and have the motivation (Parker, Bindl, & Strauss, 2010) since they focus to create opportunities for growth, take purposeful and constructive actions for this purpose (Locke, 2005) and have high self-esteem and high self-efficacy (Schwarzer & Taubert, 2002; Veresova & Mala, 2012). Proactive coping also associated with the positive effect, satisfaction with life positively, use of resources, future appraisal, realistic goal setting, and use of feedback and well-being (Chang & Sanna, 2001; Sohl & Moyer, 2009).

Proactive coping, can predict positive outcomes important to the promotion of health and well-being. Proactive coping incorporates a confirmatory and positive approach to dealing with stressors (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Proactive coping focused on future challenges along with tenacious goal pursuit (Schwarzer and Luszczynska, 2008). Students having Proactive behaviour know how to plan strategies to reduce the effect of stress. Simultaneously they know to make use of the available resources around them and they do not see themselves as victims of the situation and do not put the blame on something or someone else. Cognitively, proactive coping involves reflection, including envisioning success scenarios, anticipating future problems, planning how to deal with the situation, and taking preventive steps to avoid disaster (Greenglass, Schwarzer, & Taubert, 1999).

Proactive coping uses positive emotional strategies that utilize the resources available to the person and promotes personal growth as well. Since proactive coping is focusing on the future-oriented goal management, positive perception of stress, and formation of opportunities, it is considered as the most beneficial approach than reactive, anticipatory, and preventive coping (Schwarzer and Taubert, 2002).

Based on Schwarzer's proactive coping theory, the proactive individual tries strive for development in his or her life and environment rather than primarily responding to a previous or expected adversity. Schwarzer stated that proactive coping is autonomous

and self-determined goal setting and realisation of goals; it relates to self-regulatory goal attainment processes and explains what motivates people to strive for ambitious goals and to commit themselves to personal quality management. Proactive coping is linked to goal setting, it involves resources for self-improvement which includes the concept of social support (Greenglass & Fiksenbaum, 2009). The transactional theory of coping assumes that successful coping involves an ability to adjust and change strategies in a way that facilitates positive outcomes (Lazarus and Folkman, 1984).

Conclusion

Proactive coping refers to efforts undertaken in advance of a potentially stressful event to prevent it or modify its form before it occurs. Proactive coping use positive emotional strategies that utilise the resources available to the person and promote personal growth as well. Since proactive coping focuses on future-oriented goal management, a positive perception of stress, and the formation of opportunities, it is considered a more beneficial approach than reactive, anticipatory, or preventive coping. Through the above analysis of the important aspects of proactive coping and reactive coping, and by analysing various related studies, it is understood that proactive coping will definitely help the students to develop effective stress management skills that create a path for their personal and professional growth. To conclude, the authors suggest that a more advanced and scientific outcome-based curriculum needs to be designed so that students can use proactive coping to anticipate future challenges and plan to manage them using all available resources.

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(contd. from pg. 10)

they possess 21st-century skills like problem-solving and critical thinking and entrepreneurship and creativity" (Obama, 2009)

Education providers at all levels, but particularly in higher education, should follow the lead and join the 21st century education movement.

National Educational Policy—2020 & The Future Roadmap.

Among others, the following critical changes are proposed in the new NEP--2020.

1. 3 years of pre-schooling to be made compulsory
2. 4 years university degree course
3. 1-year certificate - 2 years diploma -3 years bachelor- 4 years honors degree.
4. Degree courses will support multiple exits and entry options.
5. Large single-campus universities with a minimum of 10,000 students
6. Science, commerce, and arts will no longer remain separated.- multidisciplinary and interdisciplinary courses and choice of subjects-choice-based credits
7. Common entrance exam for all universities of a particular course
8. Single authority for higher education (National Education Development & Regulatory Authority with 4 limbs (a) Standards setting Authority (b) Curriculum Framework Making Authority (c) Assessment & Accreditation Authority (d) Funds granting Authority
9. Public-Private partnership, heavy investment in the education field, entrepreneurship and skill formation, shifting to digital means, smart learning, providing greater practical exposure, multi-dimensional pedagogy, and greater emphasis on foundation courses and vocational courses. Extensive use of Ed-Tech, Experiential Learning, etc. is to be exploited to the full extent.
10. Large separate Research University.

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National Education Policy—2020 and Multimedia Supported Chemistry Education: An Interdisciplinary Approach

Sadashiv Kamble*

The terms Multidisciplinary and Interdisciplinary have subtle but important differences. For example, in a multidisciplinary approach, a common goal is achieved by bringing together knowledge from different disciplines and keeping them separate. An interdisciplinary approach is different because it integrates different disciplines to create an entirely new subject area. Though both approaches are hugely beneficial for learning, the interdisciplinary approach is more powerful with greater potential. Up till now, teaching in higher education institutions has focused on a rigid and mono-disciplinary curriculum but today it has become essential to change the curriculum as well as teaching methods. The interdisciplinary approach is key for solving global problems and will define the job market. Also, it will drive industry and innovation. Today it is needed to think more about preparing students for the real world and help them to see the relevance of the role of a subject in a discipline. The importance of teaching fundamental disciplinary knowledge will never diminish. Incorporating an interdisciplinary approach into our teaching practices would be a great way to address this. It helps to give learning a context, which creates interest and engagement and therefore promotes inclusion. By definition, the interdisciplinary approach encourages teamwork and collaboration. It also asks learners to draw upon knowledge and skills from different disciplines and nurtures their creativity. The sciences are already interlinked and inherently dependent on one another and so science teaching is the perfect platform for an interdisciplinary approach. Being the fundamental or central science, the study of chemistry is especially linked to the insights that emerge in other scientific fields and requires a properly interdisciplinary approach to experimentation and learning.

Interdisciplinary Thinking about Chemistry and the Career of Students

Chemistry is an incredibly fascinating field of study which impacts all facets of our life. Chemistry education means the teaching-learning process of chemistry which is the foundation of research. Besides chemistry research, chemistry education also puts one in an excellent position to choose a wide variety of useful, interesting, and rewarding careers. Chemistry education in India unfortunately has not changed much with the changing times. It still focuses on examination, rote learning, and scoring high marks. Students are examined one against the other. The real ability, achievement, or potential of the students is never brought out. The syllabi are very heavy and outdated thereby creating a big gap between what is learnt and what should be learnt which ultimately affects the quality of chemistry research. The method of teaching is the traditional talk and chalk method where students are merely passive listeners and which neither engages students nor encourages thinking, innovation, and creativity amongst them. It is therefore not surprising that such an education system has created a crisis of creativity in Indian science. From the perspective of a prospective graduate student in the field of chemistry, the interdisciplinary approach is helpful for both scientific successes and for future career prospects. Studying chemistry in an interdisciplinary way allows students to translate their knowledge and background into a wide variety of career paths and fields of research.

Multidisciplinary and Interdisciplinary Approach

When we speak about hierarchical educational structure, the concept of "learning" gets bounded with so many aspects such as curriculum, teaching-learning methodologies, time limitations, and much more. In a crux, the vision of education gets compromised. To improve students' understanding and make the learning process more productive and enjoyable, the students need to experience the connection between different subjects of the respective curriculum. Recently, the International Bureau of Education (IBE-UNESCO) has specified three major types of contemporary approaches to curriculum integration: multidisciplinary,

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interdisciplinary, and transdisciplinary. Multi-disciplinary education is a unique educational approach that allows students to learn and explore distinct subjects or curricula from various disciplines. As per this new approach, education is not limited to a particular discipline. For instance, a student of medicine can take a subject from the humanities. A multidisciplinary approach is a method of curriculum integration that highlights the diverse perspectives that different disciplines can bring to illustrate a theme, subject, or issue. In this approach, a single topic is studied from the viewpoint of more than one discipline. This approach relies on people crossing disciplines to share knowledge, thereby enhancing the scope and depth of learning. A multidisciplinary curriculum involves the study of a concept from the viewpoint of more than one discipline and solving a problem using a different disciplinary approach. For example, reducing the CO_2 emissions from a bike or car can be achieved by studying how to develop fuel chemistry or by studying how to improve car engine performance. Multidisciplinary learning is a wonderful way to totally integrate education into a comprehensive unit rather than scrambling to draw connections between seemingly unrelated parts. It empowers to see tangible correlations across subject matters rather than view each in a silo. Interdisciplinary education is similar to multidisciplinary in the sense that it looks to combine knowledge from multiple disciplines. Recently University Grants Commission has strongly recommended the Interdisciplinary Approach to education. However, it emphasizes the importance of the process rather than the product of something. The interdisciplinary approach focuses on a combination of theories, methodologies, and perspectives from two or more disciplines; it connects a single theme or idea across disciplines.

Benefits of the Multidisciplinary and Interdisciplinary Approaches

The benefits are as below-

Holistic Understanding

One of the advantages of these educational approaches is that a student gains a more comprehensive grasp of the world.

Different Perspectives

They approaches offer possibilities for new ideas and ways of thinking.

Pragmatism and Flexibility

The students will be able to appreciate the power of fresh ideas.

Real-World Approach

Multidisciplinary learning is not simply a theory of education; it is a practical manner of seeing the world.

Collaboration Skills

One of the most essential benefits of these approaches is the concept of working together to produce a greater whole.

Strong Mentorship

These approaches lead students to learn more about themselves, discovering their interests, nurturing their passions, channeling their talents, and growing as students, individuals and members of the society.

Preparing for New Jobs

The students can make their career in developing Video Games, they can work in Live Streaming Activity, Blog and YouTube Programme Development field, in Social Media, or they can work as a Search Engine Optimization (SEO) Specialists.

Interdisciplinary Approach and Multimedia Use in Chemistry Education

The interdisciplinary approach enhances students' quality and acceptability. This approach will surely develop well-rounded individuals who possess critical 21st century capacities in various fields of study in science. Hence, the National Education Policy—2020 has given impetus to an interdisciplinary approach in chemistry education too. An interdisciplinary approach is a unique method in chemistry education that requires multimedia applications. It is a powerful method of teaching that crosses the traditional methods of chemistry teaching in order to enrich and enhance the understanding of the concepts in the subject. This approach is very useful and relevant to integration. Teachers must possess almost all skills and knowledge of multimedia use related to enhancing and enriching classroom instruction.

Multimedia

Multimedia is an advanced technology that facilitates the integration of text, data, images, graphics, audio, video, and animation in digital form. It provides new ways to enhance the delivery of information and its impact on the user.

Text

All multimedia productions contain some amount of text. The text can have various types of fonts and sizes to suit the presentation.

Graphics

Graphics make multimedia applications attractive. Pictures, photographs, images, and artworks are called graphics. Computer graphics deal with the generation, representation, manipulation, and display of pictures with the help of a computer. Bitmap images are real images that can be captured from devices such as digital cameras or scanners. Generally, bitmap images are not editable. These images require a large amount of memory. Vector graphics are drawn on the computer and only require a small amount of memory. These graphics are editable. There are Line Drawing Graphics and Images Graphics. Line drawing graphics lie in the form of 2D and 3D pictures using a mathematical representation of simple objects like lines, circles, arcs, etc. The image graphics photographs are composed of a collection of pixels that are arranged in a 2 D matrix. The developer can upload various images required for making the learning interesting.

Animation

Animation is one of the most dynamic forms of multimedia. It is a process of making a static image look like it is moving. An animation is just a continuous series of still images that are displayed in a sequence. An animation is created by recording a series of a still images of drawings, objects, people, etc. The animation consists of a series of drawings or photographs on paper that are viewed with a mechanical device through a hand-held sequence of images. Animation is very useful to display the actual mechanism of a reaction which is otherwise difficult to impart to the students. Here the students can visualize the mechanism of the reaction and a better understanding is achieved.

Audio

Audio is speech, music, and other types of sound. The audio element is used to improve the normal multimedia environment. Audio may be analog or digital type. Analog audio or sound refers to the original sound signal. Computer stores the sound in digital form. Therefore, the sound used in the multimedia application is digital audio.

Video

The term video refers to a moving picture accompanied by sound such as a picture on television. The video element of multimedia applications gives a lot of information over a small duration of time. Digital video is useful in a multimedia application for showing real-life objects.

So, a teacher can use different elements of multimedia to develop a multimedia teaching-learning program to use it for effective teaching of the concepts in Chemistry.

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The Only Key to Self-development and Empowerment is Education

Justice N V Ramana, Hon'ble Chief Justice of India delivered the Convocation Address at the 82nd Convocation Ceremony of the Osmania University, Hyderabad on August 05, 2022. He said, "In today's knowledge-based economy, education and information are the key assets for an individual. Through quality education and sheer hard work and dedication, one can break the barriers of social strata. Education is a tool of social mobility and is the foundation of social development. " Excerpts

It is great vision along with impeccable character and conviction which makes any ordinary person, extraordinary. The Osmania University is a crucible which produced many such visionaries and extra ordinaries.

Osmania University is the third oldest university in southern India and the first in the former State of Hyderabad. The establishment of Osmania University by the Nizam of Hyderabad marked a new era in higher education. During its inception, the idea of imparting higher education through the local languages of India was a counter to the dominance of the English language in India under British colonial rule.

All this while, Osmania University has stood the test of time. From the British Raj to Independent India, it has continued to remain as the beacon of excellence. The notable alumni of this university have contributed greatly in their respective fields and have become household names.

Osmania is one of those universities where political participation and scholarly pursuits went hand in hand. This university has produced one of the most remarkable prime ministers and statesmen of modern India in the form of Shri P.V. Narasimha Rao. It has also majorly contributed to the fine governance of this State as many chief ministers and cabinet ministers, including the incumbent Chief minister himself, are products of the education given here. This university has undoubtedly contributed to building modern India.

I am afraid, I may not fit in the league of the luminaries such as Rabindranath Tagore, C. Raj Gopala Chary, Pandit Jawahar Lal Nehru, Dr. Rajendra Prasad, Dr. S. Radhakrishnan, Dr. Bhimrao Ambedkar and 42 others, who are recipients of the prestigious Honoris Causa from this historic university.

I am deeply grateful for the honour bestowed on me today. While a new connection is being forged, many old memories keep flooding back.

Initially in my student years, I aspired to join Osmania University. Although I could not join formally, on many occasions I have stayed with my friends here in their hostel rooms. I have attended several classes in law and linguistics. I used to spend time in the canteens and library. I have a lot of warm memories of this university.

Especially, considering the significance of Osmania University, I view the honorary degree I have been awarded today, to be more than a symbolic honour. For me, it is a personal obligation to do my best for the community.

India is home to some of the oldest centers of knowledge. These centers shaped the minds and careers of many eminent men and women who in turn energized the freedom movement. The formation of modern Independent India was significantly propelled by the ideas that emanated from the grounds of its universities. They are not just a place for meeting of ideas but also confluence of identities.

My generation and subsequent generations have witnessed the power of level playing field. It was the progressive and welfarist policies pioneered in South in general and undivided Andhra Pradesh in particular, which provided much needed opportunities for the students from oppressed backgrounds. These opportunities in turn led to the very first-generation literates among the oppressed sections of the society to emerge as path breakers. These places of learning have in fact accelerated the social transformation, leading to the overall upliftment of society. There cannot be a holier place than institutions of learning which lead to social emancipation.

Osmania is one such place of social emancipation. It has been a global centre of learning and enlightenment, acting as a mirror for social consciousness and reality. The university continues to be the most significant institution for several

first-generation students coming from diverse backgrounds. Through the course of its existence, it has served as a place where progressive ideals were inculcated in students who fought for social change and a more equal society. Situated in the historic city of Hyderabad, it reflects the State's diversity and rich traditions.

The universities, particularly in nascent democracies such as India, play a very significant role in nation building. They have acted as a cradle for novel ideas and have built characters.

Rabindranath Tagore, in his collection of essays, was critical of the education imparted by the colonisers. He states that education should be nothing like "Parrot's Training" where students are taught just to mimic. Tagore said, and I quote:

"And for that they must be trained, not to be soldiers,
not to be clerks in a bank, not to be merchants,
but to be the makers of their own world
and their own destiny.
And for that they must have all their faculties fully
developed in the atmosphere of freedom"

This brings me to the question of the ultimate purpose of education. Education, unlike vocational training, should not stop with providing skills for employability. It is expected to combine perception and patience, emotion and intellect, substance and morals.

Critical thinking is essential for the growth of every individual, society, and the nation. True education is what nurtures true impulses and independent thinking. Instead of being prisoners of status quo, we need youth to dive deep and bring transformation from within. You cannot change the world with mere high principles and morals. You need to act. On any given day, any action towards a positive change is better than inaction.

You must cultivate a critical mind which is well-informed. Education cannot be alienated from one's roots. It must mirror our social reality and the journey of progress through time. Our students must be equipped with the knowledge of history, language, philosophy, politics and economy.

This brings me to the transformative power of education. In today's knowledge based economy, education and information are the key assets for an individual. Through quality education and sheer hard-work and dedication, one can break the barriers of social strata. Education is a tool of social mobility and is the foundation of social development.

Our students must be aware about the basic laws and principles that govern the land. The citizens must connect with our constitution because it is our ultimate safeguard. That is why I insist on propagation of constitutional culture. It is high time for all institutions, to introduce a subject on the basic ideas about constitution and governance, irrespective of the stream of learning. The ideas of the constitution need to be simplified for everyone's understanding and empowerment. A participatory democracy thrives when its citizens are able to make informed choices. The ultimate goal of our education should be to enable us to make informed choices.

Another aspect that is key to the sustenance of our democracy is honouring our plurality. Instead of fostering the feeling of "othering", our education should lead us where we can nurture diversity. Speaking of diversity, we should not lose sight of the big picture in the globalised world.

Today's youth is facing several unique challenges. Our way of living has undergone massive transformation with the passage of time. Our food, language, clothes, games, festivals and so on are deeply rooted expressions of our identity and values. These expressions of our identity are tools of social cohesion but also are links with our past.

The memories and stories of our great grandparents, grandparents and parents; tell us about the world as it was. But, most importantly, we derive our sense of continuity. These identities help us find our roots.

With rapid globalization and massive developments in science and technology, several cultures and identities are interacting with each other, with increased frequency. Driven by the winds of globalization, we are moving towards a global culture. As this global culture engulfs the world, the need for sustaining diversity assumes great significance. The global culture is emerging as a threat to local cultural symbols and identities. The social-media, television and pop-culture glamourize a particular way of life and sadly we are blindly aping the same. Instead of celebrating our distinct heritage and culture, we are allowing our rich identities to be blurred. The present generation is in flux. It is gradually losing link to the past and thereby losing the sight of the purpose and path to future.

While I acknowledge the necessity and the positive changes ushered in by globalization and development of science and technology, I urge you to think its micro impact in our daily lives.

According to the 2021 UNESCO World Report of Languages, half of the approximately 7,000 languages spoken in the world today could disappear by the end of the century. With loss of each language, we are not only losing considerable literature and folklore, but also losing wisdom inherited through generations.

Similarly, the march of globalisation has significant impact on genetic diversity as well. We are witnessing the rapid loss of crop varieties, wild species and indigenous livestock. Additionally the market is driven by demands of the global economy. As a result more and more farmers are moving beyond indigenous crops for short term gains. This change in cropping pattern is altering the character of soil thereby reducing its capacity to support bio diversity. Similarly, climate change and environmental pollution are also affecting the wild varieties. Put together, a huge ecological imbalance is staring at us.

Another, aspect of globalization is its impact on local handicrafts and artisans. With global brands flooding the markets, with mass produced designs and products, the local artisans are pushed to the corner.

They are facing tough competition and are struggling to survive. With near zero patronage now, the art forms which have evolved over centuries are vanishing in front of us.

I hope my observations are not taken as criticism of globalization per se. But the above issues definitely prove to us that we have somewhere gone wrong with the present model of globalization. Although, we have made significant achievements, yet our societies are becoming increasingly divided over access to wealth and resources.

That is why, the present generation is faced with unique challenge of finding solutions to these pressing concerns. The rising inequities between classes need urgent attention. We need to find a model of globalization which is sustainable, equitable and just for all.

Such a model of globalisation demands harmony, respect and coexistence of differing identities. Peace and prosperity can only prevail in a society built on consensus and a sense of fraternity. Beyond the ideas of tolerance, we need acceptance. We should not seek uniformity, rather we should seek unity.

The university is a space intended to foster the spirit of such thinking. It allows us to spend our formative years in an environment that promotes thinking, questioning and debating. The space for dialogue is very sacred in an educational institution, not just with the teachers but also among the peers.

As you graduate today, your learning has not come to an end, on the contrary the learning has just started. There is so much to learn from the experience of life. Be humble. Remember your duty towards your family and community.

Before I end, I want to quote Dr. Bhimrao Ambedkar, who once stated:

"Men are mortal. So are ideas. An idea needs propagation as much as a plant needs watering. Otherwise both will wither and die."

Let the ideas of liberty, equality, fraternity and justice keep reverberating upon these grounds. My best wishes to the new graduates for a remarkable future.

Before I conclude, I would like to sincere thank to the Executive Counsel, Vice-Chancellor and the Chancellor of the Osmania University for their decision to confer this honorary doctorate.

This university is fortunate to have a very proactive governor as its chancellor. A doctor by profession, madam Governor will be able to appreciate every difficulty of the academic community. I am sure, with her as the chancellor you will find solutions to all your problems.

I congratulate the Vice-Chancellor, Prof. D. Ravinder, for successfully organising this convocation. I know how difficult his job is. I am told he is doing a very fine job in managing the affairs of this University. I wish him all the best. I hope that the student community and the faculty bring more laurels to this university under his leadership.

I thank the Chief Justice of Telangana High Court, Shri. Ujjal Bhuyan and all brother and sister judges of Telangana High Court for sparing their time to join me in receiving this honour today.

Thank You

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CAMPUS NEWS

Faculty Development Programme on NAAC Accreditation and Choice Based Credit System

A five-day Faculty Development Programme on 'NAAC Accreditation and Choice Based Credit System in the Context of NEP- 2020' was organized by the Internal Quality Assurance Cell (IQAC) of Yogoda Satsanga Palpara Mahavidyalaya, Palpara, Purba Medinipur, West Bengal, recently. Around 62 faculty of Yogoda Satsanga Palpara Mahavidyalaya, Palpara, Purba Medinipur, and West Bengal participated in the programme. Dr. Aniruddha Sinha, Coordinator, IQAC was the Organising Secretary and Prof. (Dr.) Pradipta Kumar Mishra, Principal was the Organising Chairman of the Programme. Ms Srimoyee Roy, Assistant Professor, Department of English introduced the distinguished Guests on the Dias. Swami Achyutananda Giri Maharaj, President of the Governing Body inaugurated the Programme. Prof. Pradipta Kumar Mishra, Principal extended the Welcome Address. He focused on how NAAC Accreditation of Higher Education Institutions will be more qualitative and the CBCS will be strengthened as per the NEP-2020. Swami Achyutananda Giri Maharaj extended the Inaugural Address. In his address, he stressed the coordination of body, mind and spirit for the holistic development of every learner. He focused on practical spiritualism advanced by Gurudev Sri Sri Paramahansa Yogananda with the slogan, 'My Mind is My Mind'. He stressed that yoga education can be accelerated through karma yoga. He interpreted education as a social activity and every learner should act as a social being otherwise, he/she will prove himself/herself as an isolated being in Society.

Prof. Gouranga Charan Nanda, Vice Chancellor, Netaji Subhas University, Jamshedpur, Jharkhand extended his views as the Chief Guest of the Occasion. In his address, he highlighted the status of Higher Education in West Bengal in particular and India in general. He emphasised the holistic development of the learners through multidisciplinary education, vocational education for the self-dependence of the Individuals, Academic Bank of Credits for flexibility, Outcome-based Education, and Value Education. In line with the perspective of Swami Achyutananda Giri Maharaj, he focused on yoga education and regular practice of Yoga. He stressed the need for NAAC Accreditation of the Institutions as per NEP-2020 so as to improve the GER of West Bengal in Higher Education which needs to be increased as it is below the national average (27.1%).

Prof. Sudarshan Mishra, Professor and Head, PG Department of Education, Ravenshaw University, Cuttack, Odisha extended his views as the Special Guest. In his address, he emphasised the Challenges and Issues with reference to the NAAC Accreditation and CBCS in HEIs which is expected to be mitigated through the implementation of the NEP-2020. He further stated that the NEP-2020 focuses on the five pillars of higher education - Access, Equity, Quality, Affordability and Accountability for making higher education at par with the global standard within a reasonable time period.

Mr. Sital Chandra De, Secretary, Governing Body and DDO of the Mahavidyalaya extended his address as the President of the Inaugural function. He deliberated the practice of Karma Yoga for B.Ed. Students of the Institution in particular and for all the students in general. He expressed his satisfaction with the organisation of the programme which would be helpful for the faculty in their continuing professional development leading to professional development. He congratulated this quality initiative undertaken by the IQAC of the Institution under the organisational leadership of Dr. Anirudha Sinha, Coordinator, IQAC and Chairmanship of the Principal of the Institution. Ms Srimoyee Roy proposed the Vote of Thanks for the Inaugural Session.

Prof. Bhagaban Das, Former Professor of Business Management and Director, Directorate of Distance and Continuing Education (DDCE), Fakir Mohan University, Vyasa Vihar, Balasore, and Odisha delivered his talk on 'NAAC Accreditation in the Context of NEP–2020'. In his deliberation, he emphasised the Vision of NEP-2020 for Higher Education with reference to NAAC Accreditation focusing on Multidisciplinary Education, Vocational

and Skill Education, Academic Bank of Credits, Value Education and Outcome-based Education. To actualising this, the stakeholders of higher education should come forward. He stressed addressing the issues of access and equity in higher education for equitable and quality higher education.

Prof. Gouranga Charan Nanda, Vice Chancellor, Netaji Subhas University, Jamshedpur, Jharkhand delivered his talk on 'NAAC Accreditation in the Perspective of NEP 2020'. He highlighted the challenges of the 21st Century, Vision, Mission and Core Values of NAAC and wanted the teachers to be reflective practitioners by acquiring 21st century skills. He emphasised life skills education, values and ethics, multiple entries and multiple exits, high-quality pedagogy with inclusive classroom practices, multidisciplinary programme, national research Foundation with importance on the seed money for the Faculty, Internationalisation of Education, MoU with the Research Institutions, ICT enabled smart classrooms, digital library, National Testing Agency (NTA), Institutional Development Plan (IDP), counseling and mentoring, and light but tight regulatory system covering the seven criteria of the NAAC Accreditation Process revised as per the NEP-2020. In his concluding remarks, he advanced some proposals for increasing the GER to 50 % by 2035 along with bringing substantial improvement in the quality of Higher Education in the College.

Prof. Sudarshan Mishra, Professor and Head, PG Department of Education, Ravenshaw University, Cuttack Odisha delivered his talk on 'Choice Based Credit System in Higher Education Institutions'. He pointed out the flaws of the existing examination system with the quality issues in examinations. He made a historical trace out of the Examination System reported by different committees, commissions, and policies stating the basic dimensions of the CBCS Pattern of Examination. He presented the detailed outlines of the CBCS course, elective course with its types, Ability Enhancement Courses with their types along with the advantages and dilemmas in the transfer of credit. However, there is the essentiality of the CBCS in the HEIs for which the recommendations of the NEP-2020, particularly through the Academic Bank of Credits (ABC), would enhance its importance by ensuring a great deal of flexibility with transferability, he concluded.

Dr. Pijush Kanti Tripathy, Principal, Haldia Govt. College, Haldia, Purba Medinipur, West Bengal delivered his talk on 'Choice Based Credit System in the Context of NEP-2020'. He highlighted the introduction of multidisciplinary education advanced by NEP-2020 through the CBCS as it focuses on the transferability of credits with greater flexibility. He emphasised the concept of CBCS with its features, key concepts by giving the examples of Jawaharlal Nehru University, New Delhi and Banaras Hindu University, Uttar Pradesh with that of the affiliating University (Vidyasagar University, Midnapore) for adopting the 10-point grading system. He illustrated the concept of SGPA and CGPA. He stressed Vocational Education for Skilling, International Transferability for Internationalisation of Higher Education as per the NEP-2020.

Dr. Biswajit Bhowmik, Deputy Director, IGNOU, Kolkata, West Bengal delivered his talk on 'NEP-2020: Role of ODL towards Increase in GER' as the 2nd Resource Person. He emphasised the role of ODL institutions in increasing the GER in Higher Education to 50% by 2035 as set by the NEP-2020. For this, the focus should be on Online and Digital Education with flexibility across the Universities. He presented a synoptic picture of the history of distance education and the blended mode of learning which has already gained popularity consequent upon the COVID-19. To him, emphasis needs to be given to equitable use of technology, online teaching-learning platforms- SWAYAM, Swayam Prabha, DIKSHA, etc. digital infrastructure, virtual laboratories, National Testing Agency (NTA) with special stress on the National Educational Technology Forum (NETF) with reference to the Online and Digital Education as envisaged in the NEP-2020.

Prof. Madhumangal Pal, Professor, Department of Applied Mathematics, Vidyasagar University, Midnapore, Paschim Medinipur, West Bengal delivered his talk on National Institutional Ranking Framework (NIRF) in Higher Education Institutions (HEIs). He discussed all five parameters of the Ranking Framework – Teaching, Learning and Resources, Research and Professional Practice, Graduation Outcomes, Outreach and Inclusivity and Perception. He emphasised the importance of the student-teacher ratio, students including Ph.D. scholars, faculty having Ph.D. degree, more

experienced teachers, money spent for the students excluding the building construction and hostel expenditure, value-added courses for self-reliance and skill development, online courses, publication of quality research articles in the UGC CARE list Journals with Impact factor, UGC/DBT/DST/ICSSR sponsored projects, performance of students in the University Examinations, percentage of students from other States and Countries, percentage of female enrolment, students from the socio-economically backward families, peer perception on the progress of HEIs including the academicians and other stakeholders across the five criteria.

Prof. Hrusikesh Senapaty, Professor of Education, Regional Institute of Education (RIE), Bhubaneswar, NCERT, New Delhi and Former Director, NCERT, New Delhi delivered his talk on Teacher Education and NEP-2020. He highlighted the Vision of NEP-2020 for School Education and Teacher Education along with consequential challenges in its implementation. He stressed the importance of the newly developed School Structure (5+3+3+4) focusing on developing skills and competencies among the children to make them ready for the 21st Century. For this, he emphasised Vocational Education and proper correspondence between School Education and Teacher Education. He highlighted three aspects of both School and Teacher Education: (i) Curriculum, which needs to be flexible and competency-based leading to the holistic development of the learners, (ii) Pedagogy focusing on learning by doing, Experiential learning, Collaborative learning, Problem Solving along with ICT integrated learning, Art Education, Physical Education, discussion on the social issues with ensuring students participation, and (iii) Change in Assessment which includes Assessment as Learning and Assessment for Learning as an integral part of learning including all the domains of the learner for his /her holistic development. He emphasised self-assessment, peer assessment and assessment by the teacher by making it competency-based as per NEP-2020, he concluded.

Dr. Swapan Kumar Misra, Principal, Mugberia Gangadhar Mahavidyalaya, Mugberia, Bhupati Nagar, Purba Medinipur, West Bengal delivered his speech on NAAC Assessment and Accreditation: New Parameters of AQAR & SSR Preparation for Accreditation. He emphasised on the Curriculum Delivery through a well-planned and documentation process, Internal Assessment, Academic Calendar with indicating the dates of Internal Assessment, Value Added/Certificate Course, inclusion of Environment and Sustainability in the Curriculum, Feedback from the Students, Teachers, Employees, Alumni, etc. use of Student Centric Methods, Grievance Redressal System, pass percentage of the students during the last five years, Eco System for Science Streams, online student satisfaction survey, publication of research journals in the UGC CARE list Journals, Books and Chapters in Edited Books, Extension Activities, MOU with the Institutions, Seminar on Library Awareness, participation of faculty in e-journals, student participation and Activities, Alumni Engagement, Institutional Vision, Mission and Values, Faculty Empowerment Strategies, Institutional Development Plan (IDP) with mobilisation of the existing resources, to make the IQAC to be active and resourceful through the IQAS, Institutional Values and Best Practices with focus on Green Audit, Gender Awareness, Campus Beautification through Energy and Environment Audit, Seminar on Human and Intellectual Property rights, etc.

Prof. Pradipta Kumar Mishra, Principal introduced Dr. Avijit Roychoudhury, Inspector of Colleges, Vidyasagar University, Midnapore, Paschim Medinipur, West Bengal as the Chief Guest of the Valedictory Ceremony of the programme. Dr. Roychoudhury, in his address, emphasised life skills that need to be developed among the students. He focused on Ethical and Value-based Education, Education in the Vernacular Subjects, Experiential Learning, Hands-on Learning, and Life Skills with reference to the NEP-2020. With regard to the NAAC Accreditation of the HEIs, he emphasised the objective assessment procedure adopted by NAAC with effect from July 2017 and now to prepare the AQAR with effect from 2021-22 and SSR with effect from December 2021 as per the NEP-2020. He expressed his very satisfaction with organising this quality initiative under the dynamic leadership of the Principal of this Institution and expressed his thankfulness to the Governing Body of the Mahavidyalaya for the support. Mr. Sujit Mandal, Head, Department of English proposed the vote of thanks after summing up the proceedings of the Five-day FDP.

International Conference on Transcending Disciplinary Boundaries through Innovation

A two-day Alliance Student International Conference on 'Transcending Disciplinary Boundaries Through Innovation' is being organised by the Alliance University, Bangalore during January 19-20, 2023 at the Central Campus, Anekal, Bangalore. The event aims at encouraging research output among young students, generating and disseminating knowledge on various fields from a multi/inter-disciplinary perspective. The Subthemes of the Event are:

- Social Conformity and Deviations.
- Social Justice.
- Politics and International Relations.
- Culture and Religion.
- Individual Psyche and Group Behaviour.
- Entrepreneurship.
- India after 75 years.
- Management and Leadership.
- Innovation Vs Inventions.
- CSR / Sustainability.
- Economy today and Tomorrow.
- Business Analytics.
- Industry 5.0.
- Green Energy.
- Digital and Social Media.
- Artificial Intelligence and Forensics.
- Mathematical and Statistical Modeling.

For further details, contact Coordinator, Dr. Vineetha Sivakumar, Alliance University, Bangalore-560068, Mobile No: +91 78913 56948, E-mail: *asicon2023@alliance.edu.in,* For updates, log on to: *https://www.alliance.edu.in/asicon-2023/*

International Conference on Advanced Network Technologies and Intelligent Computing

A three-day International Conference on 'Advanced Network Technologies and Intelligent Computing' is being organized by the Department of Computer Science, Institute of Science, Banaras Hindu University, Varanasi, Uttar Pradesh during December 22-24, 2022 in hybrid mode. The event aims to bring together leading academicians, scientists, researcher scholars, and UG/PG graduates across the globe to exchange and share their research outcomes. It targets to provide a state-of-the-art platform to discuss all aspects (current and future) of Advanced Network Technologies and Intelligent Computing. This will enable the participating researchers to exchange their ideas about applying existing methods in these areas to solve real-world problems. The Topics of the event are:

Advanced Network Technologies

- Blockchain Technology.
- Cloud, Edge and Fog Computing.
- Distributed Computing.
- High Performance Computing.
- Internet of Things.
- Mobile Ad-hoc Networks.
- Networks Security.
- Social Networking.
- Software Defined Networks.
- Wireless Sensor Networks.

Intelligent Computing

- Artificial Intelligence.
- Deep Learning.
- Evolutionary Algorithms Fuzzy Systems.
- Genetic Algorithms Machine Learning Neural Networks.
- Recommendation System.
- Soft Computing.
- Video, Speech and Text Processing using AI.

For further details, contact, Chair and Convener, Dr. Anshul Verma, Department of Computer Science, Institute of Science, Banaras Hindu University, Varanasi-*221005 (*Uttar Pradesh), Mobile No: +9198260746181 +917903496917, E-mail*: antic2022.bhu@gmail.com/ anshulverma87@gmail.com/anshul.verma@bhu.ac.in.* For updates, log on to: *www.bhu.ac.in.*

National Seminar on Climate Change and Sustainable Development

A three-day National Seminar on 'Climate Change and Sustainable Development' is being

organized by the Institute for Social Development and Research, Gari Hotwar, Ranchi (Jharkhand) during December 17-19, 2022.

Climate change is the term that refers to any significant and long-term change in average weather in a given region or entire world. Basically, every significant variability of average weather conditions over a longer period of time can be classified as Climate change. In the early beginnings of the earth's history, these changes were usually caused by different dynamic processes on the earth and recently by human activities. This is the reason why the term 'climate change' refers is everyday talk on 'modern climate change' or climate change caused by global warming. The most sensitive indicators of climate change are glaciers and they are currently melting at a rapid pace which means climate change that already started. At present mainly because of human activities that resulted in the global warming phenomenon. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. In the present era of climate change is a great challenge for mankind to adjust manage and protect the earth's biodiversity with criteria of sustainable development. The Subthemes of the event are:

- Political Controversy or Dilemma.
- Environmental Health.
- Global Warming.
- Climate Education.
- Food Security.
- Vulnerability to Water Resources.
- Vulnerability to Human Life.
- Science of Climate Change.
- Climate Justice.
- Energy Resources.
- Ignorance of Urban People.
- Human Action.
- Forest and Biodiversity.
- Sustainable Agriculture and Live Stock Systems.
- Overall Sustainable Development.
- Any Other Issue Related to the Topic.

For further details, contact Organizing Secretary, Dr. Uday Narayan Singh, Institute for Social Development and Research, Gari Hotwar, Ranchi - 835217 (Jharkhand), Mobile: 09006688743, and 08987663300, E-mail: *isdr.ranchi@yahoo.com or isdr.ranchi@gmail.com*. For updates, log on to: *www.isdr.co.in*. ❑

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THESES OF THE MONTH

SCIENCE & TECHNOLOGY
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of Sep-Oct, 2022)

BIOLOGICAL SCIENCES

Biotechnology

1. Pena, Anakena Margarita Castillo. **From field biology to metagenomics: Exploring the ecological and evolutionary consequences of salinization in neotropical freshwater organisms**. (Dr. Luis Fernando De Leon), Department of Biotechnology, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Pimentel, Cristopher Anel Boya. **Studies on attine ant-microbe symbiotic system as source of bioactive compounds-isolation and characterization of compounds with biomedical potential**. (Dr. Marcelino Gutierrez Guevara), Department of Biotechnology, Acharya Nagarjuna University, Nagarjuna Nagar.

Botany

1. Harikesh. **Ecological studies on the community forests of Southwestern Haryana**. (Dr. Somveer Jakhar), Department of Botany, Kurukshetra University, Kurukshetra.

2. Rahamtulla, Mohammed. **Molecular and ethnobotanical studies in some Indian epidendroideae (Orchidaceae) with special reference to micropropagation of *Dendrobium aphyllum* (Roxb) CE C fischer**. (Prof. S M Khasim), Department of Botany, Acharya Nagarjuna University, Nagarjuna Nagar.

Life Science

1. Ahluwalia, Shivaksh. **Identification of novel viral-host interactions in hepatitis B virus replication and pathogenesis of hepatitis B virus-related hepatocellular carcinoma**. (Prof. Vivekanandan Perumal), Kusuma School of Biological Sciences, Indian Institute of Technology Delhi, New Delhi.

2. Kiruthika, S. **Screening and validation of small molecules targeting hepatitis B viral proteins using a cell culture model**. (Prof. Vivekanandan Perumal), Kusuma School of Biological Sciences, Indian Institute of Technology Delhi, New Delhi.

3. Narula, Pankhuri. **Assessing versatility of tachyplesin in cancer therapeutics and as an antiviral agent**. (Prof. Archana Chugh,), Kusuma School of Biological Sciences, Indian Institute of Technology Delhi, New Delhi.

Zoology

1. Verma, Rohit Kumar. **Biochemical and immunological studies on Tasar silkworm, antheraea mylitta (Drury)**. (Dr. Prabhat Kumar Roy), Department of Zoology, T M Bhagalpur University, Bhagalpur.

EARTH SYSTEM SCIENCES

Environmental Science

1. Dhopte, Deepak Naresh. **Evaluation of water pollution parameters and health impact assessment around industrial area of Asansol, West Bengal, India**. (Prof. Prasoon Kumar Singh), Department of Environmental Science & Engineering, Indian Institute of Technology Delhi, New Delhi.

Geology

1. Remya, S N. **Long term variations in the glaciers of the Alaknanda Basin (Central Himalaya) using space and ground-based observation**. (Prof. R Anand and Prof. T H Syed), Department of Applied Geology, Indian Institute of Technology Delhi, New Delhi.

ENGINEERING SCIENCES

Biomedical Engineering

1. Mehrotra, Neha. **Concomitant delivery of BCL-2 protein family inhibitors and chemotherapeutic drugs for cancer therapy**. (Prof. Harpal Singh and Prof. Surender Kharbanda), Centre for Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Sabharwal, Prabhjot Kaur. **Development of polymeric systems for early detection and mitigation of food and water borne pathogenic bacteria**. (Prof. Harpal Singh and Prof. Sruti Chattopadhyay), Department of Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Tripathi, Divya. **Development of biopolymer based formulations for haemostasis and wound healing**

under civilian and combat operations. (Prof. Harpal Singh and Prof. Amit Tyagi), Centre for Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

Chemical Engineering

1. Kapoor, Manshu. **Development of efficient and durable vanadium Redox flow battery**. (Prof. Anil Verma), Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Khatri, Prateek. **Dual-functional Ag/MgO/Al_2O_3 as a passive NOx adsorber and NOx reduction catalyst for lean-burn engines: Development and mechanistic insights**. (Prof. Divesh Bhatia), Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Pandya, Hiral Narendrakumar. **Role of nanoparticles for production of biodiesel**. (Dr. Sachin Parikh), Department of Chemical Engineering, Gujarat Technological University, Ahmedabad.

4. Shah, Goldy. **Development and optimization of pressure swing adsorption for biogas upgradation**. (Prof. V K Vijay and Prof. K K Pant), Centre for Rural Development & Technology, Indian Institute of Technology Delhi, New Delhi.

Civil Engineering

1. Doddamani, Chetan. **A study on the effects of built environment measures on vehicle ownership and travel behavior: The context of twin cities in India**. (Prof Manoj M), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Mittal, Abhishek. **Reliability and optimization issues in Indian pavement design guidelines**. (Prof. Aravind Krishna Swamy), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Padhi, Annada. **In-field emission of aerosol and gases from traditional cookstove and its climate implication**. (Prof. Gazala Habib), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

Computer Science & Engineering

1. Arpita. **A metaheuristic approach of feature selection for machine learning based sentiment analysis**. (Dr. Pardeep Kumar and Dr. Kanwal Garg), Department of Computer Science, Kurukshetra University, Kurukshetra.

2. Garg, Deepak. **Evaluation of metaheuristic approaches for load balancing under cloud computing environment**. (Dr. Pardeep Kumar), Department of Computer Science, Kurukshetra University, Kurukshetra.

3. Godi, Sudhakar. **Advanced private cloud authentication mechanism based on integrated non-conventional bio-cryptic DOST features**. (Prof. K Rajasekhara Rao), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

4. Hetal, Anilkumar Joshiara. **An optimized analytical approach for big data processing in cloud computing environment**. (Dr. Chirag Suryakant Thaker), Department of Computer Science & IT, Gujarat Technological University, Ahmedabad.

5. Issa, Zainab Mohanad. **Verbal autopsy classification using data mining through machine learning approaches and dimensionality reduction**. (Dr. Shaheda Akthar), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

6. Joshi, Seema Balkrishna. **Design and implementation of a novel approach for assured data deletion in cloud storage**. (Dr. Shailesh D Panchal), Department of Computer Science & IT, Gujarat Technological University, Ahmedabad.

7. Kataria, Bhavesh Chakurbhai. **Optical character recognition of Sanskrit manuscripts using convolution neural networks**. (Dr. Jethva Harikrishna Babubhai), Department of Computer Engineering & IT, Gujarat Technological University, Ahmedabad.

8. Mallick, Ajay Kumar. **Techniques for feature based keyframe extraction and matching for content based video retrieval**. (Prof.Sushanta Mukhopadhyay), Department of Computer Science & Engineering, Indian Institute of Technology Delhi, New Delhi.

9. Mothukuri, Radha. **Cyber crime related legal precedents: An indepth study using clustering and classification**. (Dr. Bobba Basaveswara Rao), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

10. Raheem, Ahmed Raad. **Imperfect debugging software reliability growth model with enhanced test coverage, testing effort, warranty cost and release policy**. (Dr. Shaheda Akthar), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

11. Rao M, Vishnu Vardhana. **Adaptive machine**

learning techniques for predicting building damage levels in structural health monitoring. (Dr. Aparna Chaparala), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

12. Suneetha, Akula. **Robust Gaussian noise removal algorithms for color images based on fuzzy transformations**. (Prof.E Sreenivasa Reddy), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

13. Vaghela, Alpesh Arvindkumar. **Block chain and Inter-Planetary File System (IPFS) for privacy preservation of big data**. (Dr. Anilkumar Suthar), Department of Computer Science, Gujarat Technological University, Ahmedabad.

14. Venu Gopal, Gaddam. **Hybrid kernel based support vector machine classifiers and feature selection approaches for network intrusion detection**. (Dr. G Rama Mohan Babu), Department of Computer Science & Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

Electrical & Electronics Engineering

1. Agrawal, Ajay Kumar. **Nano-structured plasmonic sensor and devices**. (Prof. Anuj Dhawan), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Chitransh, Varun. **Multi frequency power conversion topologies for AC-plus-DC grid**. (Prof. M Veerachary), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Deol, Rajinder Singh. **Solution-processed lead-free piezoelectric materials and devices**. (Prof. Madhusudan Singh), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

4. Kalpana, N. **Optimal location of UPFC device for real power loss minimization using meta-heuristic approaches**. (Dr. M Venu Gopala Rao), Department of Electrical & Electronics Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

5. Narang, Nishit. **Trust models for social lot networks**. (Prof Subrat Kar), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

6. Ninawe, Akanksha. **Nanophotonics and plasmonics based biosensors**. (Prof. Anuj Dhawan), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

7. Roy, Randip. **Model order reduction in renewable energy integrated power systems**. (Prof. Vivekananda Mukherjee), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.

8. Shaw, Priyabrata. **Capacitor-diode cell based fifth-order boost DC-DC converters: Topological evolution and control aspects**. (Prof M Veerachary), Department of Electrical & Engineering, Indian Institute of Technology Delhi, New Delhi.

9. Singh, Kshitiza. **Design of medium access control-protocols for radio-over-fiber networks**. (Prof. Abhishek Dixit and Prof. V K Jain), Department of Electrical & Engineering, Indian Institute of Technology Delhi, New Delhi.

Electronics & Communication Engineering

1. Miriyala, Suneel. **Security enhancement strategies for SDN based MANETS**. (Dr. Manchikalapudi Satya Sai Ram), Department of Electronics & Communication Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

Food Engineering & Technology

1. Patel, Ajay. **Utilization of by-products from fruit processing industries for functional food product development**. (Prof. S N Naik and Prof. Santosh Satya), Centre for Rural Development & Technology, Indian Institute of Technology Delhi, New Delhi.

Mechanical Engineering

1. Dasari, Kondala Rao. **Dominant features identification of tool wear monitoring in hard turning by using acoustic emission and vibration techniques**. (Dr. Srinivas Kolla), Department of Mechanical Engineering, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Jani, Rajendrakumar Jaysukhlal. **Experimental investigation on life cycle analysis of single cylinder SI engine fueled with hydroxygen as an-additive**. (Dr. Pravin P. Rathod), Department of Mechanical Engineering, Gujarat Technological University, Ahmedabad.

3. Ketan, Sursingbhai Vaghosi. **Optimization of process parameters of ultrasonic machining of polymer matrix composites**. (Dr. Ghanshyam D. Acharya), Department of Mechanical Engineering, Gujarat Technological University, Ahmedabad.

4. Malhotra, Jitin. **Development of cyber-physical system for advanced micro machining setup**. (Prof.

Sunil Jha), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

5. Patel, Maulikkumar Babulal. **An experimental investigation of friction stir welding on AA7108 T79 using counter rotating twin-tool**. (Dr. K. G. Dave), Department of Mechanical Engineering, Gujarat Technological University, Ahmedabad.

6. Polamuri, Kiran. **Surface modification of Ti6A14V alloy through micro-electrical discharge coating process using bio- dielectrics**. (Prof. Alok Kumar Das), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

Mining Engineering

1. Pranjal, Pranshu. **An assessment of groundwater depletion and land subsidence in North-West India by space-borne geophysical, SAR interferometry, ground-based observations**. (Prof.Dheeraj Kumar and Dr. R S Chaatterjee), Department of Mining Engineering, Indian Institute of Technology Delhi, New Delhi.

MATHEMATICAL SCIENCES

Mathematics

1. Rajput, Sohini. **Mathematical study of groundwater contamination problem in aquifer**. (Prof. Mritunjay Kr Singh), Department of Mathematics and Computing, Indian Institute of Technology Delhi, New Delhi.

2. Sowjanya, Marisetti. **Structure and theory of generalized regular near rings**. (Dr. A Gangadhara Rao), Department of Mathematics, Acharya Nagarjuna University, Nagarjuna Nagar.

3. Suman. **Reflection of inhomogeneous elastic waves in anisotropic dissipative media**. (Dr. M D Sharma), Department of Mathematics, Kurukshetra University, Kurukshetra.

Statistics

1. Beeraka, Sulochana. **Some contributions to second order response surface designs under correlated structure of errors: Slope rotatability and measure of slope rotatability**. (Dr. B Re Victor Babu), Department of Statistics, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Padi, Jyostna. **Some contributions to second order response surface designs on measure of modified rotatability and measure of modified slope rotatability**. (Dr. B Re Victor Babu), Department of Statistics, Acharya Nagarjuna University, Nagarjuna Nagar.

MEDICAL SCIENCES

Ayurveda

1. Chavan, Sheetal Suryakant. **A descriptive, cross sectional study to evaluate Aharajhetu (Dietary habits), Viharajhetu (Lifestyle habits): As an etiopathogenic factor of amlapitta and its dhatugatavastha**. (Dr. Ragini R Patil), Department of Ayurved, Maharashtra University of Health Sciences, Nashik.

2. Chopde, Sarika Siddharth. **Study of snayu with special reference to pakshvadh**. (Dr. Dhotre Malati Suresh), Faculty of Ayurved, Maharashtra University of Health Sciences, Nashik.

3. Deshmukh, Pranita Joshi. **Determination of span of each ritu (Season) with respect of Marathi months**. (Dr. Nandini Dhargalkar), Department of Ayurved, Maharashtra University of Health Sciences, Nashik.

4. Sathe, Aparna. **Study of efficacy, safety and tolerability of ayurvedic formulation in participants with diabetic kidney disease**. (Dr. Kuldip Raj Kohli), Department of Ayurved, Maharashtra University of Health Sciences, Nashik.

5. Waghmare, Nitin Ramchandra. **Clinical study of darvi swaras in the management of navjatshishu kamala**. (Prof. Meera M Paranjape), Department of Ayurved, Maharashtra University of Health Sciences, Nashik.

Biochemistry

1. Nakhale, Mohini Rambhau. **Immunprophylactie studies with filarial enzyme GLutathione S-Transferase (GST) and abundant larval transcript-2 (ALT-2) against Brugia malayi infection in rodent model**. (Dr. Satish Kumar), Faculty of Medicine, Maharashtra University of Health Sciences, Nashik.

Homeopathy

1. Bagadia, Leena Sanjay. **Exploring the role of the homeopathic similimum in modifying the anger: State, trait and expression in patients of mild to moderate essential hypertension**. (Dr. Kumar M Dhawale), Faculty of Homoeopathy, Maharashtra University of Health Sciences, Nashik.

Medicine

1. Kulkarni, Ujjwala. **Evolving integrative therapy for patents with psoriasis based principles of rational use of drugs**. (Dr. Nirmala Rege), Faculty of Medicine, Maharashtra University of Health Sciences, Nashik.

2. Pote, Satish Tatyaba. **Isolation and identification of fungal isolates and their molecular characterization**. (Dr. Madhuri Thakar), Faculty of Medicine, Maharashtra University of Health Sciences, Nashik.

3. Thakre, Ravi Raghunath. **Study the metabolic role of adipokines, miconutrients, anthropometric measurements and birth weight in relation to insulin resistance in the (Age group 10-12 years)**. (Dr. Subodhini Anant Abhang), Department of Medicine, Maharashtra University of Health Sciences, Nashik.

Pharmaceutical Science

1. Ala, N B Vinaykumar. **Development and evaluation of novel stimuli-responsive in situ gels to promote bone tissue regeneration for clinical management of periodontitis**. (Dr. Prakash Katakam), Department of Pharmacy, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Basera, Ishita Arvindsingh. **Screening and identification of phytopharmaceuticals for mitigation of psoriasis vulgaris**. (Dr. Mamta B. Shah), Department of Pharmacy, Gujarat Technological University, Ahmedabad.

3. Gandhi, Noopur Krunalbhai. **Development and validation of stability indicating chromatographic methods for simultaneous estimation of selected drugs in their dosage forms using doe approach**. (Dr. Sindhu Balganesh Ezhava), Department of Pharmaceutical Science, Gujarat Technological University, Ahmedabad.

4. Parmar, Vinendra Mansinh. **Assessment of efficacy and safety of teneligliptin in patients with type 2 diabetes mellitus having hypertension/dyslipidemia**. (Dr. Sunita Goswami), Department of Pharmacy, Gujarat Technological University, Ahmedabad.

Research & Injury

1. Ahuja, Richa. **Post crash accessibility to care: The case of Delhi, India**. (Prof.Geetam Tiwari, Prof. Niladri Chatterjee and Prof. Amit Gupta), Transportation Research and Injury Prevention, Indian Institute of Technology Delhi, New Delhi.

PHYSICAL SCIENCES

Chemistry

1. Kethipalli, Anita. **Development and validation of stability indicating and cost-effective analytical methods for quantification of selected drugs**. (Dr. D Ramachandran), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

2. Mukherjee, Suvodip. **Methodological approach on carbon-hetero bond formation reaction**. (Prof. Pranab Ghosh), Department of Chemistry, University of North Bengal, Darjeeling.

3. Raviteja, Gunturu. **Development of different analytical techniques in pharmaceutical analysis in dissimilar pharmaceutical formulation**. (Prof. K Rambabu), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

4. Saritha Rani, K. **The study of synthesis and application of graphene and its modified materials**. (Dr Mutta Reddy), Department of Chemistry, Acharya Nagarjuna University, Nagarjuna Nagar.

Physics

1. Chetna. **Static and dynamical effects on fusion reactions involving weakly bound nuclei**. (Dr. Rajesh Kharab), Department of Physics, Kurukshetra University, Kurukshetra.

2. Das, Sugandha. **Design and analysis of photonic crystal fiber refractive index sensors with simplified configurations**. (Prof. Vinod Kr Singh), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

3. Gupta, Kalpak. **Investigation on light scattering-from turbid media through experiments and Monte Carlo simulations**. (Prof. M R Shenoy), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

4. Kankanala, Venkatarao. **Impact of transition metal oxides (TiO_2 MnO, CuO) on stuctural and optical properties of ZnS-MoS_2 nanocomposite**. (Dr. Sandhya Cole), Department of Physics, Acharya Nagarjuna University, Nagarjuna Nagar.

5. Rastogi, Vivek. **Digital holography and holographic optical elements in quantitative cell imaging and temperature measurement**. (Prof. Satish Kumar Dubey and Prof. Gufran Sayeed Khan), Department of Design, Indian Institute of Technology Delhi, New Delhi.

❑

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1	Assistant Professor Perspective in Education	4	Regular	Open - 5, SC - 2, ST - 1, VJ A - 1, NTC - 1, OBC - 3, EWS - 1
2	Pedagogy subject in Education (Language, Math, Science, Social Science)	8	Regular	
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(contd. on pg. 36)

(contd. from pg. 35)

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Website : ***https://www.aiu.ac.in***

ZANTYE BROTHERS EDUCATIONAL FOUNDATION'S

NARAYAN ZANTYE COLLEGE OF COMMERCE

BICHOLIM-GOA Post: Industrial Estate Pin 403 529

Phone: 2361377 ● E-mail: zantyeedu@rediffmail.com

Accredited by NAAC with 'A' Grade (CGPA 3.18 on a Four Point Scale – 2nd Cycle)

Invites applications from the Indian citizens for the following post :

Sr. No. REGULAR FULL TIME POST :

01. Assistant Professor in Economics – 1 Post (Unreserved)

Minimum Qualifications:

A) (i) A Master's degree with at least 55% marks (or an equivalent grade in a point-scale wherever the grading system is followed) in a concerned/relevant/allied subject from an Indian University or an equivalent degree from an accredited foreign University.

(ii) Candidates for the above post besides fulfilling the above qualifications must have cleared the National Eligibility Test (NET) conducted by the UGC or the CSIR or a similar test accredited by the UGC like SET or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum Standards and Procedure for award of M.Phil/Ph.D. degree) Regulations 2009 or 2016 and their amendments from time to time as the case may be or have been awarded Ph.D degree from National Institutes of importance.

Provided, the candidates registered for the Ph.D programme prior to July, 11, 2009, shall be governed by the provisions of the then existing Ordinances/Bye-laws/Statutes of the institution awarding the degree and such Ph.D candidates shall be exempted from the requirement of NET/SET for recruitment and appointment of Assistant Professor or equivalent positions in Colleges/Institutions subject to the fulfillment of the conditions specified under Goa University Statute SC-16.4.1(I) (A) (Notification No: 2/562/18-Legal (Vol.IX/2250)

OR

B) The Ph.D degree has been obtained from a foreign university/institution with a ranking among top 500 in the World University Ranking (at any time) by any one of the following (i) Quacquarelli Symonds (QS) (ii) the Times Higher Education (THE) or (iii) the Academic Ranking of World Universities (ARWU) of the Shanghai Jiao Tong University (Shanghai).

Note : The Academic score as specified in Appendix II (Table 3) for Colleges, shall be considered for short listing of the candidates for interview only, and the selections shall be based only on the performance in the interview.

C) In case candidates having passed the said eligibility test or possessing Ph.D in the concerned subject are not available or not found suitable, candidates fulfilling other conditions would be considered for appointment on temporary/contractual/lecture basis till the end of the academic year.

Pay and Service Conditions: As prescribed by Goa University/UGC/Directorate of Higher Education, Govt. of Goa from time to time.

General : 1. Incomplete applications shall not be considered.

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

Essential : Knowledge of Konkani & Certificate of 15 years residence in the state of Goa issued by competent authorities of Govt. of Goa.

Desirable : Knowledge of Marathi.

Application clearly mentioning the full Name, age with date of birth, Postal Address, E-mail ID, contact number and full details of academic qualifications from S.S.C. onwards indicating the subjects offered, the marks scored and class/division obtained at all public examinations, teaching experience etc. alongwith certified true copies of statement of marks, certificates/testimonials should reach the Offg. Principal, Narayan Zantye College of Commerce, Post: Bicholim Industrial Estate, Vathadev, Sarvan, Bicholim – Goa. Pin- 403 529, **within 20 days** from the date of publication of this advertisement.

N.B.: No TA/DA will be paid for attending the interview.

Place: Bicholim-Goa

Sd/-
(Dr. Rajendra Kumbharjuvenkar)
Offg. Principal
Narayan Zantye College of Commerce
Bicholim - Goa

Announcement

Themes for Forthcoming Special Issues of the University News

Special Numbers of the University News being brought out on the occasion of AIU Zonal Vice Chancellors' Meets during November, 2022—March, 2023 are on the following themes:

1. ***Transformative Curriculum for a Holistic and Multidisciplinary Higher Education*** to be published on January 09, 2023 on the occasion of Central Zone Vice Chancellors' Meet to be held at Symbiosis University of Applied Sciences, Indore. Last date for receipt of Article is **December 30, 2022**.
2. ***Research & Excellence for Transformative Higher Education*** to be published on January 30, 2023 on the occasion of South Zone Vice Chancellors' Meet to be held at Andhra University, Visakhapatnam, Andhra Pradesh. Last date for receipt of Article is **January 15, 2023**.
3. ***Evaluation Reforms for Transformative Higher Education*** to be published on February 20, 2023 on the occasion of West Zone Vice Chancellors' Meet to be held at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra. Last date for receipt of Article is **February 10, 2023.**
4. Special Issue on the theme '**Transformative Higher Education for *Atma Nirbhar Bharat'*** will be brought out in the month of March, 2023. Last date for receipt of Article is **February 20, 2023**.

Guidelines for Contributors and Editorial Policies

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

- Articles submitted for the Journal should be original contributions and should not be under consideration for any other publication at the same time. A declaration is to be made by the author in the covering letter that the paper is original and has not been published or submitted for publication elsewhere.
- Manuscripts including tables, figures and references should be around 3000-4000 words for articles, 2000 – 5000 words for Convocation Addresses, 1000 words for Book Reviews and 600 words for Communications.
- All the manuscripts should typed in double-space with 12 point font and ample margin on all sides on A 4 size paper.
- The cover page should contain the title of the paper, author's name, designation, official address, address for correspondence, contact phone/mobile numbers and e-mail address.
- The main text should not contain footnotes. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. The full reference should be listed at the end in alphabetical order running the following style:

(cont'd. to next page)

(cont'd. from prev. page)

Book

Miles, M., and Huberman, M.,(1994). *Qualitative Data Analysis*. London : Sage.

Articles

Over, R.(1982). Does research productivity decline with age?

Higher Education, 11, 511-20.

Chapter in a Book

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

Article Retrieved from Website

Mazumdar, T (Year, Month, Date Published). *Article Title.* Retrieved from URL.

- Authors are responsible for any copyright clearance, factual inaccuracies and opinions expressed in their paper.
- No fees is payable to submit or publish in this Journal.

Editorial Policies

- The final decision on the acceptance or otherwise of the article rests with the Editorial Committee and it depends entirely on its standard and relevance. The title and content of the article accepted may be modified to meet the journal's standards of contents, presentation, style and other specific requirement. Authors may also be requested to revise their manuscripts before they can be accepted for publication. Correspondence in this regard will be done with the first named author unless otherwise indicated.
- Maximum time taken for processing the article is six months. Contributors are free to send the material to any other publication after a period of six months from the date of their submitting the article to the University News, if they do not receive any intimation from AIU. Author will receive two complementary copies of the Journal immediately after its publication
- AIU may re-use the articles published in the University News for its various publications.
- AIU may extend courtesy to other journals or websites to use the articles published in the University News if due credit is given to the author(s) of the article(s) and the University News. Only those manuscripts will be published which are sent through E-mail: *ramapani.universitynews@gmail.com* and *universitynews@aiu.ac.in* to:

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NITIE Mumbai

National Institute of Industrial Engineering

(Ministry of Education, Govt. of India)

ADMISSION ANNOUNCEMENT FOR 2023

1. POST GRADUATE DIPLOMA IN INDUSTRIAL ENGINEERING (PGDIE) - 53 Batch

PGDIE is a flagship program that develops professionals with cross functional skills. NITIE for over five decades has been systematically training PGDIE Students in providing solutions to complex industrial and business problems. The program covers subjects from areas like Industrial Engineering & Manufacturing Systems, Operations and Supply Chain Management, Decision Sciences, Project Management, Environmental Engineering, Marketing and Finance.

2. POST GRADUATE DIPLOMA IN INDUSTRIAL MANAGEMENT (PGDIM) - 30 Batch

PGDIM program aims to transform budding engineers into world class techno-managers capable of leading and innovating in ever changing business environments. The program features a rigorous curriculum towards fulfilling present-day industry curriculum tailored towards fulfilling requirements. PGDIM offers a holistic approach to management and equips graduates to take up roles across a variety of functional domains like Marketing, Finance, Consulting and Supply Chain Management and operations.

3. POST GRADUATE DIPLOMA IN SUSTAINABILITY MANAGEMENT (PGDSM) - 23 batch

NITIE's PGDSM program provides the students with the skills and knowledge necessary in a new business paradigm of sustainable value creation. It integrates the areas of Operations, Supply Chain Management and Business Strategy with aspects of Environmental management, Safety management and corporate social responsibility. The program equips future managers with an understanding of the world and the context in which they operate before implementing viable solutions.

4. FELLOW (DOCTORAL) PROGRAMME - 2023

The program aims to admit individuals with sound academic background, strong motivation and potential to become excellent researchers at national and international level.

Areas: Operations & Supply Chain Management, Analytics & Decision Science, Finance & Economics, Marketing, Organizational Behavior & Human Resource Management, Strategy and Sustainability Management.

ELIGIBILITY CRITERIA (QUALIFYING DEGREE)

PGDIE/PGDIM/PGDSM: Engineering/Technology graduates in any branch with aggregate* 60% marks (relaxation of 5% in case of SC/ST/PwD (persons with disabilities) candidates). Final year Engineering/Technology candidates can also apply, provided they qualify the above criteria and submit their result by September 30, 2023. Their admission will stand cancelled in case they fail to meet the requirements.

Fellow Program: Candidates with master's degree or equivalent in Engineering/Technology, Management, Economics, Commerce, Social Sciences, Life Sciences and Pure Sciences/Judicial Science and Law with 60% aggregate* marks (55% in case of SC/ST/PwD (Persons with Disability) candidates) from recognized University/ Institution or a candidate with BE/BTech with 7.5 CGPA or equivalent with 3 years of work experience can apply. Candidates appearing for their final examination in the respective disciplines can also apply, provided they qualify the above criteria and submit their result by September 30, 2023. Projects/Work Experience/ Research Publication in the above-mentioned areas would be preferred.

ELIGIBILITY CRITERIA: ENTRANCE EXAM

PGDIE	PGDIM	PGDSM
Valid GATE (Graduate Aptitude Test in Engineering) Score	Valid CAT (Common Admission Test) Score	Valid CAT/GATE/ GRE/GMAT Scores

IMPORTANT DATES

Registrations:

PGDIM/PGDSM(CAT): 13 November 2022 - 20 February 2023
PGDIE(GATE)/PGDSM(GATE/CAT/GRE/GMAT): January - March 2023 (Tentative)

Online PI Process:

(PGDIM/PGDSM): 3rd April - 7th April 2023
(PGDIE): 10th April – 12th April 2023 (Tentative)
(Fellow): 13th April – 14th April 2023 (Tentative)

Session Commencement: June 2023

For all other details visit https://www.nitie.ac.in/admission-2023

Edited, Printed and Published by Dr Sistla Rama Devi Pani, on behalf of the Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002. Phones: 23230059 (6 Lines). Fax: 011-23232131, E-Mail : sgoffice@aiu.ac.in, advtun@aiu.ac.in, publicationsales@aiu.ac.in, subsun@aiu.ac.in (for subscription), unaiu89@gmail.com, universitynews@aiu.ac.in, Website: http://www.aiu.ac.in

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