A

PROCEEDING

OF

NAAC SPONSORED

TWO-DAYS

NATIONAL WORKSHOP

ON

CURRICULUM DEVELOPMENT FOR THE EFFECTIVE IMPLEMENTATION OF NEP-2020

3rd and 4th September 2022

Organized by

I Q A C

Internal Quality Assurance Cell

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

INTERNAL QUALITY ASSURANCE CELL

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA

माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत

A GOVT. AIDED UGC AUTONOMOUS & NAAC ACCREDITED INSTITUTE, AFFILIATED TO R.G.P.V. BHOPAL (M.P.), INDIA

Website: www.mitsgwalior.in

CONTENTS

PREAMBLE

- ✓ National Education Policy of India 2020 (NEP 2020), was approved on 29 July 2020 and has replaced the previous National Policy on Education-1986.
- ✓ The new policy aims to transform elementary to higher education systems as well as vocational training in both rural and urban India by 2040, with focus on developing and maximizing our country's human resource for the benefit of society with environmental sustainability & safety.
- ✓ Therefore, in order to achieve the goals of National Education Policy vis a vis Higher Education, various strategies need to be implemented as follows:

1. Robust education system and research facility to compete with global standards
2. Provision of multiple entry and multiple exit at higher level of education
3. Establishment of academic bank of credit in which credits earned by the students during their academics from different HEIs could be stored and transferred at the time of final degree
4. Holistic development of students by recognizing, identifying, and fostering the unique capabilities of each student
5. Provision of flexibility to choose learning trajectories and programmes, according to their talents and interests
6. Teaching based on higher order thinking skills to enhance creativity, logical decision-making, innovation and critical thinking
7. Provision of equity and inclusion of students in all academic or non academic in the education system
8. Teachers and faculty as the heart of the learning process – their recruitment, continuous professional development, positive working environments and service conditions
9. Redesigning vocational training to ensure the development of skill and later applying it for economic growth.

ABOUT THE INSTITUTE

Madhav Institute of Technology & Science (MITS), Gwalior is Govt. Aided, UGC Autonomous, NAAC Accredited institute situated in Northern part of Madhya Pradesh. The institute is listed in 251-300 band of NIRF -2021 & promising band of ARIIA-2021 and NPTEL local Chapter of the institute has secured AAA rating (listed in the band of 01 -10) during 2021 amongst more than 4,000 Chapters of NPTEL across the nation. The Institute started initially with 3 disciplines: Civil, Mechanical and Electrical Engineering with intake of 40 each. At present, the Institute is offering regular 17 Bachelors, 10 Masters and Doctoral Degrees Programmes in Engineering & Technology, Architecture & Planning, Computer Application and Management with the strength of more than 5000 students. Many of the programmes are accredited by the National Board of Accreditation (NBA).

The Institute is a recognized Quality Improvement Programme (QIP) Centre of AICTE for Ph.D. Programme, institute has implemented TEQIP-II & TEQIP-III successfully and was declared as the best performer in the final performance audit amongst all the TEQIP-III funded institutes of the nation.

As per the vision of the institute,*" To create world class quality Engineers and Technocrats capable of providing leadership in all spheres of life and society ",* the institute has implemented Outcome Based Education (OBE) and Flexible curriculum with provision of major / minor degrees. Institute has collaborated with globally recognized organizations and implemented National Educational Policy (NEP-2020) for the multidisciplinary education. Institute conducts various activities under the provision of Novel Engaging Courses for the holistic development of students.

EVENT SUMMARY

	Name of the Event	From	To	Faculty Participants	No. of Expert Talk + Panel Discussion
	NAAC Sponsored Two-Days National Workshop On Curriculum Development for the Effective Implementation of NEP-2020	03.09.2022	04.09.2022	79 (Approx)	09 + 01

WORKSHOP CONDUCTION TEAM

CHIEF PATRON

Prof. D.P. Agrawal, Former Chairperson, UPSC, New Delhi

PATRON

Dr. R. K Pandit, Director, MITS Gwalior

COORDINATORS

Dr. Manjaree Pandit, Dean Academics

Dr. Pratesh Jayaswal, Coordinator, IQAC

ORGANIZING SECRETARY

Dr. Akhilesh Tiwari, Member Secretary, Academic Council

COURSE CONTENTS

To keep pace with global education standards, the Indian Higher Education Institutes are required to adopt the National Education Policy 2020 in phase wise manner or completely. Considering the above fact, MITS is conducting this **Two-Days National Workshop on Curriculum Development for the Effective Implementation of NEP-2020** to create awareness about vision, principles objectives and strategies of this new policy**.** The mode of conduction will be interactive where the participants will play an active role. This workshop will benefit the faculty members of Technical/ Engineering institutes by addressing key reforms required in the education system in the following areas:

1. Curriculum planning with key concepts of NEP-2020
2. Assessment and evaluation with NEP-2020 perspective
3. Curriculum Development with Focus on NEP-2020
4. Curriculum delivery with emphasis on employability and skill development
5. Implementation of NEP-2020
6. Revised Accreditation Framework of the NAAC
7. Credit transfer provisions and associated issues
8. Stakeholder participation in curriculum design and implementation

REGISTRATION LINK

https://docs.google.com/forms/d/e/1FAIpQLSe64jJ6L-_hDNy3cuNQjLnloEg_xyZ7O-uID8QrM8jPX1gGIg/viewform?usp=sf_link

FEEDBACK LINK

https://docs.google.com/forms/d/e/1FAIpQLSePDnO3B-k0HsWZR5B_YD044ok2QrAmWRgz5NYt_o8cxh9C1g/viewform?usp=sf_link

ATTENDANCE LINK

https://docs.google.com/forms/d/e/1FAIpQLSd8TbJCxBEfTjcPpadmqMkbnSxKdVy_gQHkwNgoVKgJbzQMWA/viewform?usp=sf_link

BROCHURE

ABOUT SPEAKERS

The speakers from reputed education & research organizations and National Governing Bodies are invited to deliver lectures in this workshop

REGISTRATION

Faculty members of AICTE recognized engineering institutions are eligible to apply for the course. Participants will be given course material. The interested candidates need to apply on or before the due date at the following link:
https://forms.gle/8K2ihX2jksUGWebXA
Last date of receiving completed application forms is **30th August 2022**. The candidate will be informed of his/her selection in advance via email.

FINANCIAL ASSISTANCE

There will be no registration fee for the participants.

CHIEF PATRON

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Former Chairperson, UPSC, New Delhi

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- Curriculum planning with key concepts of NEP-2020
- Stakeholder participation in curriculum design and implementation
- Curriculum delivery with emphasis on employability and skill development
- Assessment and evaluation with NEP-2020 perspective
- Credit transfer provisions and associated issues
- Curriculum Development with Focus on NEP-2020: An MITS Case Study
- Implementation of NEP-2020: MITS experience
- Revised Accreditation Framework of the NAAC

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IQAC
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
(A Govt. Aided Autonomous Institute, Affiliated to RGPV, Bhopal)
Race Course Road, Gola Ka Mandir,
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PROGRAM SCHEDULE

Date	Time	Activity	Resource Person(s)
DAY 1			
03.09.2022 Saturday	**10:00-10:45 AM**	Inauguration & Keynote Address	**Prof. K. K. Aggarwal** Chairman, NBA, Former Vice Chancellor, GGS Indraprastha University, Delhi
	10:45 AM - 12:15 PM	Curriculum planning with key concepts of NEP-2020	**Prof. D. P. Agrawal** Former Chairperson, Union Public Service Commission, New Delhi
	12:15 - 1:30 PM	Assessment and evaluation with NEP-2020 perspective	**Prof. Urmila Patil** Dean Academics and IQAC Head, Dr. D. Y. Patil Institute Of Technology, Pimpri, Pune
	1:30-2:30 PM	**LUNCH BREAK**	
	2:30 - 3:45 PM	Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study	**Dr. Manjaree Pandit** Professor and Dean Academics, MITS, Gwalior
	3:45 - 5:00 PM	Curriculum delivery with emphasis on employability and skill development	**Prof. R. P. Khambayat** Joint Director, PSS Central Institute of Vocational Education, Bhopal
DAY 2			
04.09.2022 Sunday	**10:00 - 11:15 AM**	Implementation of NEP-2020: MITS Gwalior experience	**Dr. Manjaree Pandit** Professor and Dean Academics, MITS, Gwalior
	11:15 AM - 12:15 PM	Revised Accreditation Framework of the NAAC	**Dr. Narendra G. Bawane** Principal, JIT, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
	12:15 – 01:15 PM	Credit transfer provisions and associated issues	**Prof. Urmila Kar** Professor, Education and Management, NITTTR, Kolkata
	1:15 - 2:00 PM	**LUNCH BREAK**	
	2:00 - 3:15 PM	Stakeholder participation in curriculum design and implementation	**Prof. P.B. Sharma** Vice-Chancellor, Amity University, Gurgaon
	3:15 - 3:45 PM	**Panel Discussion/Interaction with participants**	**Prof. D. P. Agrawal,** Former Chairperson, UPSC, New Delhi **Dr. Manjaree Pandit,** Professor and Dean Academics, MITS, Gwalior **Dr. Pratesh Jayaswal,** Professor and IQAC Coordinator, MITS, Gwalior **Dr. Akhilesh Tiwari** Professor and Head, IT, MITS, Gwalior
	3:45 - 4:00 PM	Valedictory Session: Closing remarks/takeaways/outcomes of the workshop	**All**

SESSION DETAILS

Session 1. Keynote Address by Prof. K.K. Aggarwal

In the Session 1 of NAAC Sponsored One-Week National Workshop on National Education Policy: Implementation Strategies in Engineering & Technology Institutions, Prof. K.K. Aggrawal, Chairman, NBA, Former Vice-Chancellor, GGS Indraprastha University, India inaugurate the event and delivered a keynote address. Prof. K.K. Aggrawal discussed the different prospects of the National Education Policy. He also discussed various strategies for successfully implementing the National Education Policy in Engineering & Technology Institutions.

Session 2. Curriculum planning with key concepts of NEP-2020

In Session 2, Prof. D. P. Agrawal, Former Chairperson, Union Public Service Commission, New Delhi gave an expert talk on Curriculum planning with key concepts of NEP-2020. Prof. Agrawal stated educational reforms require a change in mindset of all stakeholders and readiness to adopt new curriculum and pedagogy. Prof. D. P. Agrawal also discussed that the overall higher education sector will aim to be an integrated higher education system, including professional and vocational education. This policy and its approach will be equally applicable to all HEIs across all current streams, which would eventually merge into one coherent ecosystem of higher education.

Session 3. Assessment and evaluation with NEP-2020 perspective

The expert talk in Session 3 was delivered by Prof. Urmila Patil, Dean Academics and IQAC Head, Dr. D. Y. Patil Institute Of Technology, Pimpri, Pune on Assessment and evaluation with NEP-2020 perspective. Dr. Urmila Patil discussed about Institutions and faculty autonomy to innovate on matters of curriculum, pedagogy, and assessment within a broad framework of higher education qualifications. Dr. Patil also stated all assessment systems shall also be decided by the HEI, including those that lead to final certification. Dr. Patil also discussed that HEIs shall also move away from high-stakes examinations towards more continuous and comprehensive evaluation. Dr. Patil also discussed about the attainment of set targets of learning outcomes help the teachers to

direct their teaching learning process in the desired manner. Dr. Patil also stated that assessment is a process to identify, collect, and prepare data to evaluate the attainment of student outcomes

Session 4. Curriculum Development with Focus on NEP-2020: MITS Case Study

In Session 4, Dr. Manjaree Pandit, Professor and Dean Academics, MITS, Gwalior discussed about Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study. The process of curriculum development and the flow chart with feedback loop containing evaluation, gap analysis and furtherimprovement was discussed. How MITS, Gwalior has tried to map the key NEP attributes such as (i) holistic and multidisciplinary education (ii) Flexibility & choice (iii) emphasis on communication, discussion, debate, research (iv) cross-disciplinary and interdisciplinary thinking (v) value-based education (vi) Online and Digital Education with increased access (vii) moving away from high-stake end-term examinations (focus on formative assessment) (viii) Holistic 360 degree assessment, into the curriculum was discussed with examples. Strategies Adopted at MITS Gwalior for Provision of Honours in Parent Discipline and minor specialization in allied discipline, provision of mandatory MOOCs, Multiple Mode Teaching Learning Pattern (MMTLP) etc. was presented.

Session 5. Curriculum delivery with emphasis on employability and skill development

In Session 5, Prof. R. P. Khambayat, Professor, National Institute of Technical Teachers' Training and Research, Bhopal delivered an expert talk on Curriculum delivery with emphasis on employability and skill development. Dr. Khambayat started the talk with discussion on the significance of employability & skills for new-age engineers professionals. Dr. Khambayat also discussed in detail about the NBA accreditation criteria. Dr. R. P. Khambayat also discussed about the key challenges faced in employability & skills. Dr. R. P. Khambayat also presented his views on various models and approaches for developing employability & skills.

Session 6. Implementation of NEP-2020: MITS Experience

Prof. Urmila Kar, Professor, Education and Management, NITTTR, Kolkata presented her expert talk on Credit transfer provisions and associated issues in Session 6 (Day 2). Prof. Urmila Kar started her presentation stating transfer of credit is a major component of the degree advancement programs. Dr. Urmila Kar discussed that a common practice in evaluating credits for transfer involves determining whether or not the transferred course is equivalent to a similar course at the accepting institution. This is based on the original course's description, goals, and objectives as compared to the equivalent course as well as the quality of the originating course – which may differ among various colleges. Dr. Kar also stated that the candidate may have completed specific courses in the first professional degree that have no equivalency at the accepting institution. If the other criteria are met – usually minimum grade – the accepting institution may credit the candidate's transcript but the credit does not satisfy a specific course requirement. The credit may apply to elective credit and will be applied toward the total credits required for graduation but it may not reduce the number of required courses for earning the degree.

Session 7. Revised Accreditation Framework of the NAAC

Dr. Narendra G. Bawane, Principal, JIT, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur presented an expert talk on Revised Accreditation Framework of the NAAC in Session 7. Dr. Narendra G. Bawane discussed that the Institution ensures effective curriculum planning and delivery through a well –planned and documented process including Academic calendar and conduct of continuous internal Assessment. Dr. Narendra G. Bawane discussed all the changes that takes place in criterion 1 –curricular aspects, criteria 2-teaching –learning and evaluation, criteria 3-research, innovations and extension, criterion 4 –infrastructureand learning resources, criterion 5 –student support and progression, criterion 6 –governance, leadership and management, criterion 7 – institutional values and best practices.

Session 8. Credit transfer provisions and associated issues

In Session 7, Dr. Manjaree Pandit, Professor and Dean Academics, MITS, Gwalior delivered an expert talk on Implementation of NEP-2020: MITS Gwalior experience. The semester-wise scheme aligned with NEP-2020 was presented by Dr. Pandit and the

changes made along with the challenges faced in implementing these schemes were presented step by step. The provision of open electives, in-house internships and mandatory audit courses caters to multidisciplinary orientation, The 'Novel Engaging Courses' are offered to impart holistic education with activity based learning. Blended learning is introduced through 'multiple mode teaching-learning pattern (MMTLP)' and assessment system has been broadened and made more effective and comprehensive by Multiple Mode Logical Pattern Examination (MMLPE)" System. All the changes incorporated in teacging-learning-evaluation were discussed at length with practical examples.

Session 9. Stakeholder participation in curriculum design and implementation

Prof. P.B. Sharma, Vice-Chancellor, Amity University, Gurgaon delivered an expert talk on Stakeholder participation in curriculum design and implementation in Session 9. Prof. Sharma discussed that the NEP 2020 plans to infuse India's education system with innovative content, delivery and pedagogy that will enable institutes to prepare for the future - making them more international and globally competitive. The NEP aims at developing a higher education system consisting of large, multidisciplinary universities and colleges. The single-stream concept from institutions will be terminated gradually and universities and colleges must aim to become multidisciplinary by 2040.

Session 10. Panel Discussion/Interaction/Closing Remarks

- Curriculum is not a document. It is a process to transform student A to graduate X, student B to graduate Y and so on.
- Curriculum should not be taught, it should be experienced
- Curriculum design must be linked to society, SDG and such issues crucial for human beings. A joint effort by local bodies, industries etc. is needed.
- Ethics, sustainability, communication skills, programming are subjects in syllabi, but actually these are to be activities, we must distinguish between subject and attributes
- Don't decide what we have to teach a student but to what he wants/needs to learn.
- NEP has listed about seven disruptive technologies. There is a need of using technology to do things differently.
- Curriculum should support evolution; it should be a driver of evolution. Reinventing the wheel will not help in any way.
- Education must create knowledge, make knowledge appropriate, using knowledge or techniques which have not been used earlier
- Allow the student education, from anywhere, at any time, of his choice.

- The aim of education should not focus on students earning a large package but on making an individual who has global attributes, such that a graduate can do a job, he can be a leader, an entrepreneur or a teacher.
- Courses which enrich the life of a person, allow him to study what he/she enjoys, and do not restrict him/her in a narrow inflexible structure.
- Curriculum must create a romance in learning. They don't want to sit in class but they enjoy discussion.
- Best pedagogy is when facilitator and learner are on the same page.
- Appropriate curriculum, interesting/enjoyable such that the student feels a connect
- The curriculum should be relvent to the needs of present society and must train students to solve real life problems using activity based learning.
- Develop pedagogy in such a manner that good students as well as average students can learn.
- There can be about 50-55% core courses and remaining through DE/OC/New areas etc.
- First design good questions, design problems around societal problems, let us say 300 from a certain course domain, then all the interaction can be around those 300 questions.
- The aim is to develop knowledge, new tools and techniques (Innovation).For that, we don't need larger number of courses.
- The aim is to make students critical thinkers, having design oriented approach, imagination and capability to innovate. Aim of education is to prepare future leaders.
- Curriculum and pedagogy were good but the problem lies with ASSESSMENT.
- Credits are to be given for work done outside class.
- Multilingual education: we created barriers for students who didnot know English.
- How do we assess them gifted students, we have to learn, and be flexible.
- The target should be 'assessment for learning' and not "assessment for grading"
- Assessment should help in preparing students for leadership position in a globalized knowledge society, developing them into a 'holistic personality'.
- Feedback on assessment is also very important.Assessment should map with quality teaching. Assessment as a passive process does not support learning.
- A link can be created between summative and formative assessment. Formative assessments can be designed in such a way that they contribute to the summative task, such that one single summative assessment doesnot carry too much weight in the final grade.
- The curriculum and pedagogy must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with the nation, and a conscious awareness of role to played and responsibilities to shoulder in a changing world.
- The key overall thrust of curriculum and pedagogy reform should be to move the education system towards real understanding and towards learning how to learn – to move and away from the culture of rote learning, coaching culture and 'learning just to earn a living'.
- Hence there is a need to reduce curriculum content to enhance essential learning and critical thinking.

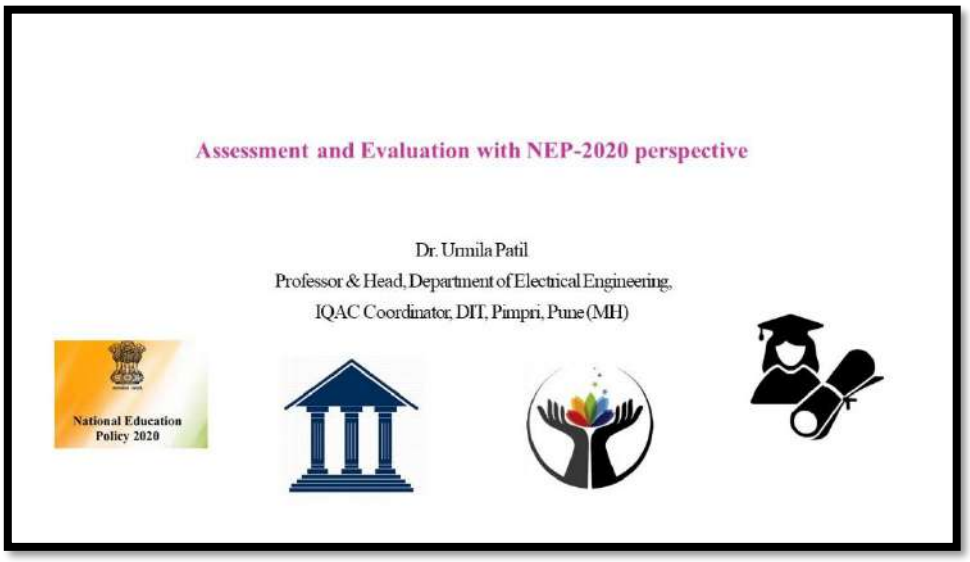
PRESENTATION OF RESOURCE PERSONS

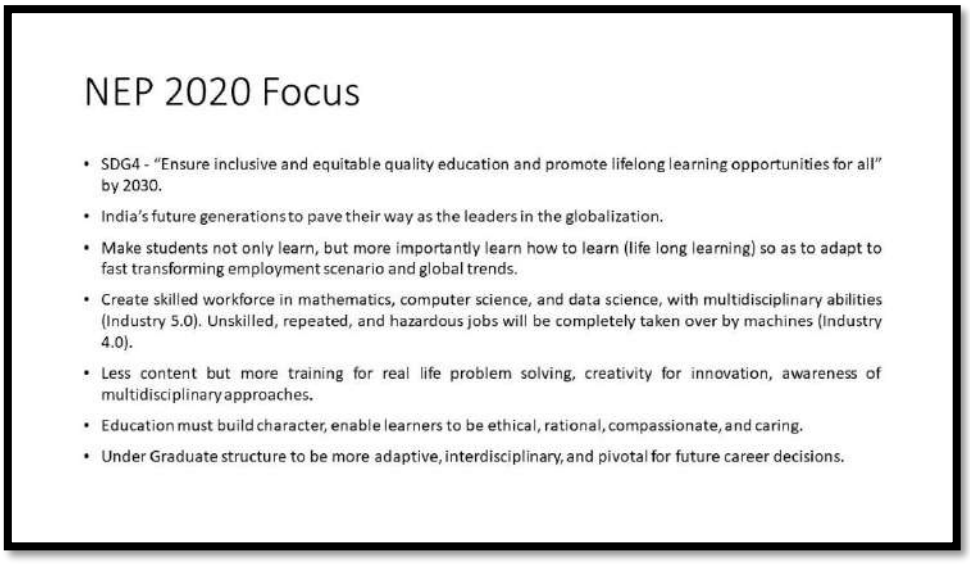
Prof. Urmila Patil

Dean Academics and IQAC Head,

Dr. D. Y. Patil Institute Of Technology, Pimpri,

Pune





NEP 2020 Focus

- Respect for diversity and local context in all curriculum, pedagogy and policy.
- Equity and inclusion of all educational decisions.
- Use of ICT Technology in teaching and learning.
- Emphasize conceptual understanding rather than rote learning and learning for exams.
- Unique capabilities recognizing, identifying them in each students.
- Continuous review based on sustained research and regular assessment by educational experts.
- Establish an Academic Bank of Credit (ABC) which would digitally store the academic credits earned from various recognized HEIs (SWAYAM & ODL mode).
- Identify gap between the current state of learning outcomes and what is required must be bridged through undertaking major reforms that bring the highest quality, equity, and integrity into the system, from early childhood care and education through higher education.

NEP 2020 for HEIs

- Institutions and faculty autonomy to innovate on matters of curriculum, pedagogy, and assessment within a broad framework of higher education qualifications.
- All assessment systems shall also be decided by the HEI, including those that lead to final certification.
- Choice Based Credit System (CBCS) will be revised for instilling innovation and flexibility.
- Move to a criterion-based grading system that assesses student achievement based on the learning goals for each programme.
- HEIs shall also move away from high-stakes examinations towards more continuous and comprehensive evaluation.
- Assessment refers to a variety of tasks by which teachers collect information regarding the performance and achievement of their students for mainly two main purposes,
  1. Boost students' learning
  2. Grades, which involves the evaluation of student performance in assessment

NEP 2020 for HEIs

Learning oriented assessment has three interlocking criteria: 1. Learning, 2. Self- teacher- and peer-assessment, 3. Feedback

NEP-2020 emphasis on transforming assessment for optimizing learning and development of all students with a focus on :

- Assessment must be regular, formative and competency based
- Promote learning and development of students
- Focus on 'assessment for learning'
- Test higher-order skills (analysis, critical thinking and conceptual clarity)
- Help entire schooling system in revising continuously teaching- learning processes to optimize learning

'Preparing students for leadership positions in a globalized knowledge society; in fact, developing them into a holistic personality.'

Educate → Encourage → Enlighten

Limitations of present Assessment

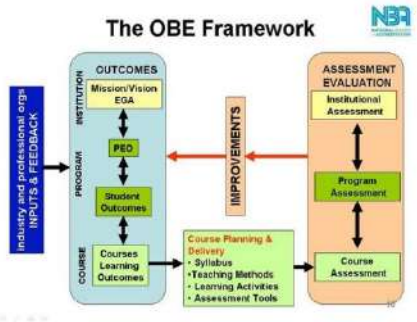
- Ongoing discussions center on such topics as whether a student's success in examinations relates to high standards, what assessment tasks are best for learning, whether assessment practices promote lifelong learning, and how feedback could help improve student progress.
- Investigators identified that teachers do not always link assessment with quality teaching.
- Instead, they view assessment as a practice that signifies evaluation and the formation of grades.
- Academics appear to rely on traditional pen and paper examinations to determine student knowledge.
- Testing is a passive process, which adversely influences learning. Class size, program, and teacher's years of experience influenced the use of authentic techniques.
- **Online assessment processes** has uncertainties in the time frame and questions on integrity, reflecting on the real learning by the learner that demonstrates OBE.
- Now, more than ever, collaborative synergies, innovation, and inclusion are the primary driving forces to elevate the educational institutions to even greater standards of excellence.

Outcome Based Education

- OBE is targeted at achieving desirable outcomes in terms of knowledge, skills, attitudes and behavior at the end of a program.
- This entailsa regular methodology for ascertaining the benchmarking and attainment of outcomes.
- In 2009, NBA aligned its methodology with international benchmarks and started accreditation on the basis of Outcomes.
- **Course Outcomes (CO)**: Student is expected to know and be able to do at the end of each course (Narrower Statements).
- **Program Specific Outcomes (PSO)**: What the graduates of a specific UG Program should be able to do at the time of graduation.
- **Program outcomes (PO)**: What the graduates of a UG Program should be able to do at the time of graduation.
- **Program Education Objectives (PEO)**:Preparing the graduates to attain career and professional accomplishments within a few year (3-5 years) of graduation.

Outcome Based Education

- Outcomes depend on inputs (students entry level) and processes followed by an institution to convert inputs into defined outcomes.
- Learning outcomes and assessment has close relationship as performance in the assessment shows highlights the progress and attainment of the learning outcomes.
- Attainment of set targets of learning outcomes help the teachers to direct their teaching learning process in the desired manner.
- This also make other stakeholders, like parents, Management Committees responsible and alert towards role for ensuring quality education.



Outcome Based Education

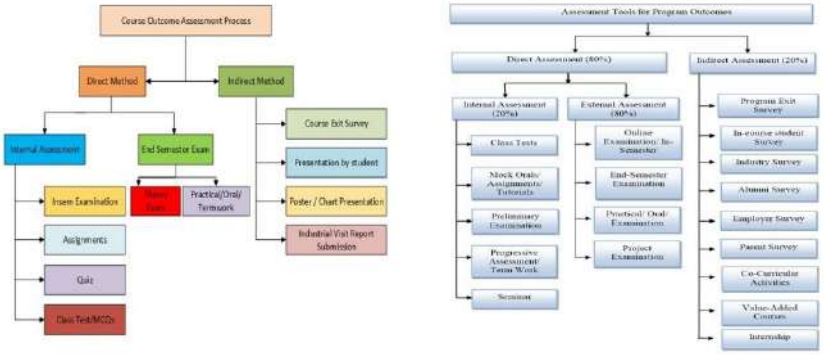
Program Outcomes (POs)

- Institute has referred the Program Outcomes (POs) specified by Accreditation body.

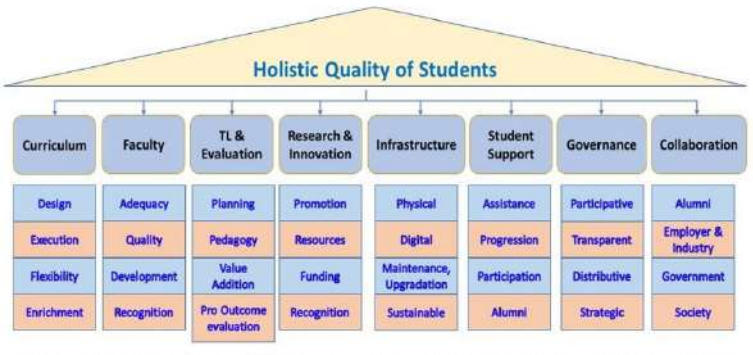
1. Engineering Knowledge	7. Environment & Sustainability
2. Problem Analysis	8. Ethics
3. Design & Development of Solutions	9. Individual & Team work
4. Conduct investigations of complex problems	10. Communication
5. Modern Tools Usage	11. Project management & Finance
6. The engineer and society	12. Lifelong Learning

9

Outcome Based Education



Outcome Based Education



Ref. HEI RESILIENCE FOR HOLISTIC DEVELOPMENT OF STUDENTS IN INDIA: AN APPROACH by Dr Urmila Patil and Prof D. P. Agrawal

Outcome Based Education

Assessment :

- Assessment is a process to identify, collect, and prepare data to evaluate the attainment of student outcomes.
- Assessment has four basic components: 1) Measuring improvement over time 2) Motivating to learn. 3) Evaluating the teaching methods 4) Grading the students' performance

Methods for gathering data include

- Formative / Summative
- Formal / Informal
- Process / Product
- Divergent / Convergent or Quantitative / Qualitative

Outcome Based Education

Evaluation :

- Consists of one or more processes for interpreting the data and evidence accumulated through assessment processes.
- ***Evaluation determines the extent or level to which outcomes are being attained.***
- Results in decisions and actions to be taken for regarding program improvement. (Continuous Quality Improvement).
- Faculty members and program committee initiate quality measures at the Course level and at Program level.

Types of Assessment

I. Formative & Summative assessment :

Formative assessment designed to accelerate the learning process

Feedbacks given to the learner to identify strengths and weakness and hence improve future performance.

Useful internal evaluation by those involved in the learning process (students, teachers, curriculum developers).

Summative assessment is mainly for grading or determine readiness for progression.

Occurs at the end of an educational period.

Communicate students' abilities to external stakeholders, e.g., administrators and employers.

Types of Assessment

II. Informal & Formal Assessment

Informal assessment, the judgments are integrated with other tasks, e.g., observation

Often used to provide formative feedback.

Less threatening and less stressful to the student.

Prone to high subjectivity or bias.

Formal assessment is preplanned and students are aware about it. E.g. Test.

Formative or Summative in nature

More stressful but unbiased ; only on the basis of students performance.

More reliable and valid than informal assessments.

Types of Assessment

III. Process & Product Assessment

Process assessment used for making learn a particular practice, ability, or skill, e.g Tutorial or Practical performance (viva voce).

Mostly provides formative feedback to assist in improving performance.

Product assessment focuses on evaluating the result or outcome of a process. E.g problem solving using the tools or skills.

Appropriate for summative record for proficiency or competency in a given skill.

Easier than process assessments, requiring only a specification of the attributes of the final product.

Types of Assessment

IV. Divergent & Convergent Assessment

Divergent assessments for which a diverse range of answers or solutions possible. E.g essay tests, subjective tests.

More authentic and most appropriate in evaluating higher order thinking skills.

Accessor must be impartial and conversant

Time consuming and less reliable in case the accessor has certain limitations.

Convergent assessment has only one correct response (per item) e.g. Objective tests items.

Easier and faster to evaluate or score than divergent assessments.

Questions must be set with certain difficulty level in order to measure the true learning of the students.

Paper setters should be trained.

Types of Assessment

Peer and self-assessment

- Active participation allows students "to focus on creating knowledge with an emphasis on skills such as analytical thinking, problem-solving and meta-cognitive activities that develop students' thinking".
- Performance assessment tasks improve the development of specific skills, and critical thinking of learners.
- Opportunity for learners to practice previously learned skills or knowledge.
- Assists in the development of independent learners.
- Activities such as collaboration, real-world examples, and self-reflection characterize constructivism.
- Interaction occurs between teacher and student, student and student or student and task.

Types of Assessment

Peer and self-assessment

- Students learn to judge their work as well as that of others leading to a promotion of lifelong learning.
- Enable students to make judgments and decisions during situations they may encounter in the future.
- Promote independence, personal responsibility, and critical thinking.
- Peer assessment also teaches learners how to handle criticism and be responsible when judging others work.
- A central value of self-assessment is the development of metacognition.
- Metacognition is described as the ability of learners to gain knowledge about their learning and is identified as a significant factor affecting learning.
- Additionally, self-assessment can empower students as it encourages self-monitoring.

Feedback

- Feedback is considered to be the most powerful way to enhance learning.
- Two types feedback :
  i. Transmission of information through discussion in class or in person from the teacher to the student so that students would know what they needed to do to improve.
  ii. Written remarks (based on rubrics usually) where students understand the comments and act on them.
- Important value of feedback is that it develops self-regulated learners.
- Sustainable feedback refers to equipping students to maintain the ability to monitor their learning beyond school
- The process that flows from Assessment to feedback to dialogue to learner action (and usually teacher's modified pedagogy) completes a learning loop.

Feedback

- Good feedback :

1. Helps students see the differences between their performances and what instructors expected performance.
2. Gives clear understanding between the teacher and the student of the goals and criteria.
3. Facilitates self-reflection as learners are allowed to compare their work to criteria and make judgments about their work.
4. Supports learning with information that is of quality and has relevance.
5. Involves dialogue between teacher and learner to ensure a better understanding of any issues.
6. Builds self-esteem and help motivate students to make changes for betterment.
7. Designed to "close the gap between current and desired performance".
8. Informs teachers also about any changes they should make in their teaching methods.

Assessment Formats

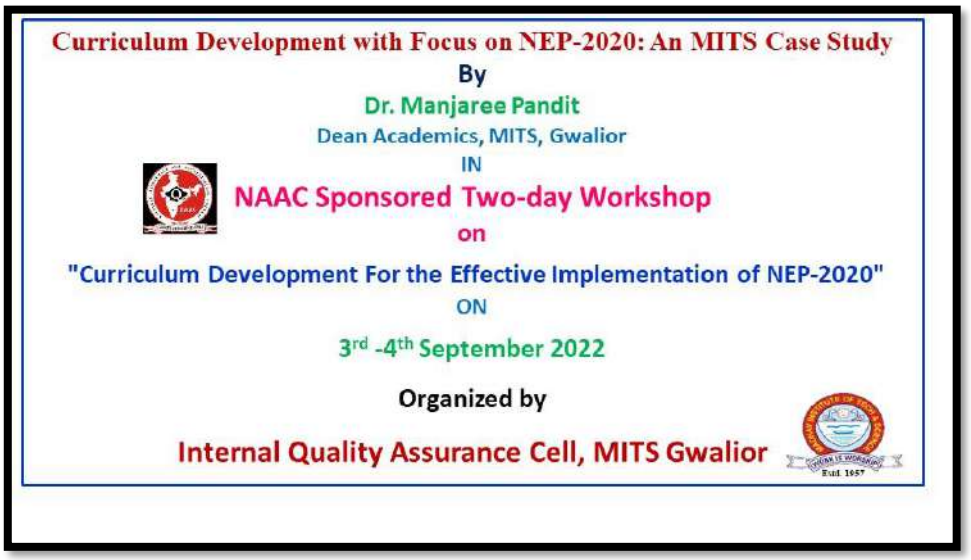
- Inclusion of support to students within and outside curriculum through mentoring, counselling approaches and personality development.
- Governance adaptive to the future education environment and support for teacher quality up gradation.
- NEP 2020 recommends a closer interaction of HEI institution with Industry and other institutions of high-quality learning.

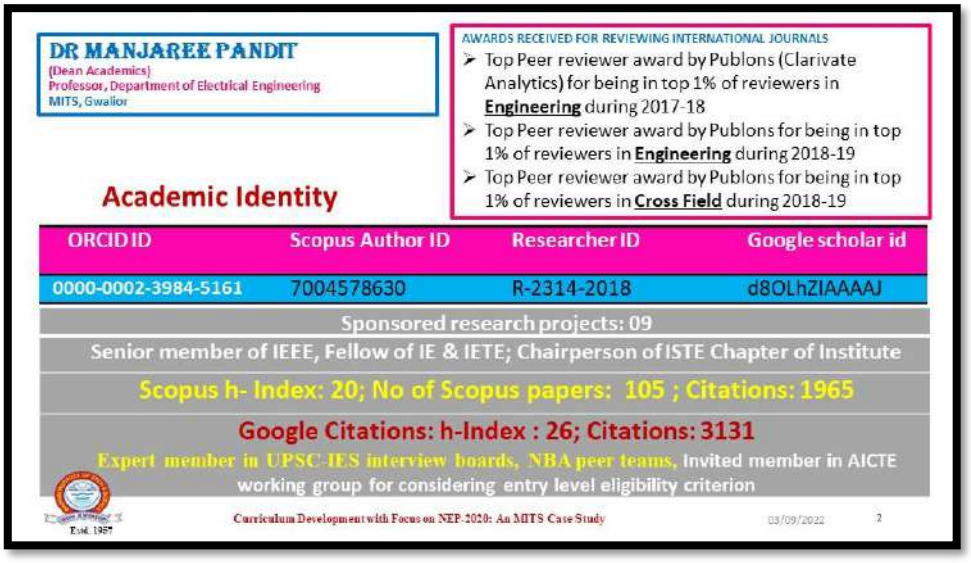
Assessment Formats

- Combination of the categories *often* and *always* illustrated that the three authentic strategies most frequently applied to determine a course grade:
  - ✓ written papers (60-70 %),
  - ✓ individual projects (20-25%),
  - ✓ group projects (10-15%).
- Examinations do not reflect assessment for learning. Testing represents a behaviorist model, which is teacher-centered and not learner-centered.
- Scholars pointed out that testing promotes memorization rather than "understanding and applying knowledge".
- As well, tests are unable to measure higher-order outcomes.
- These drawbacks of examinations may cause the neglect of skills such as problem-solving and critical thinking needed in today's world
- Self- and peer assessment as learning tools lacked strong implementation.

Dr. Manjaree Pandit

Professor and Dean Academics, MITS, Gwalior





INTRODUCTION

What is curriculum?

- Curriculum is **what is taught in a given course or subject**.
- It is **an interactive system of instruction and learning with specific goals,** contents, strategies, measurement, and resources.
- Curriculum development is a continuous **process of creating and improving a course/programme**
- The **desired outcome** of curriculum is successful transfer and/or development of knowledge, skills, and attitudes.

The four basic principles of curriculum development are:

- **Planning:** Defining appropriate learning objectives
- **Content and methods:** Establishing useful learning experiences
- **Implementation:** Organizing learning experiences to have a maximum cumulative effect
- Evaluation: Evaluating the curriculum and revising those aspects that did not prove to be effective

Reference: Basic Principles of Curriculum and Instruction, Ralph W. Tyler, The University of Chicago Press, 1949

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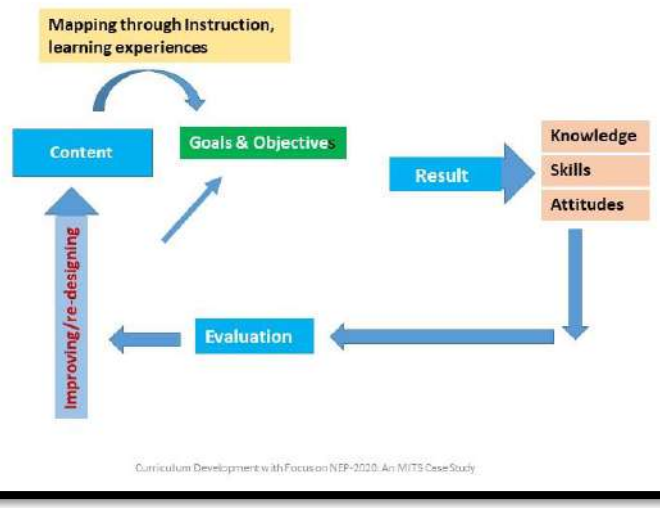

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Moving further...

Process of Curriculum Development

The curriculum development process consists of the following six stages:

- Assessing the educational **needs**
- Formulating **objectives** and **learning goals**
- Careful selection of **learning experiences** to accomplish these objectives
- Selecting the rich and valuable **content** through which teachers can offer the learning experiences.
- Organizing and **integrating learning experiences with relevant content** keeping in mind the teaching-learning process
- Timely and accurate **evaluation** of all the above phases.

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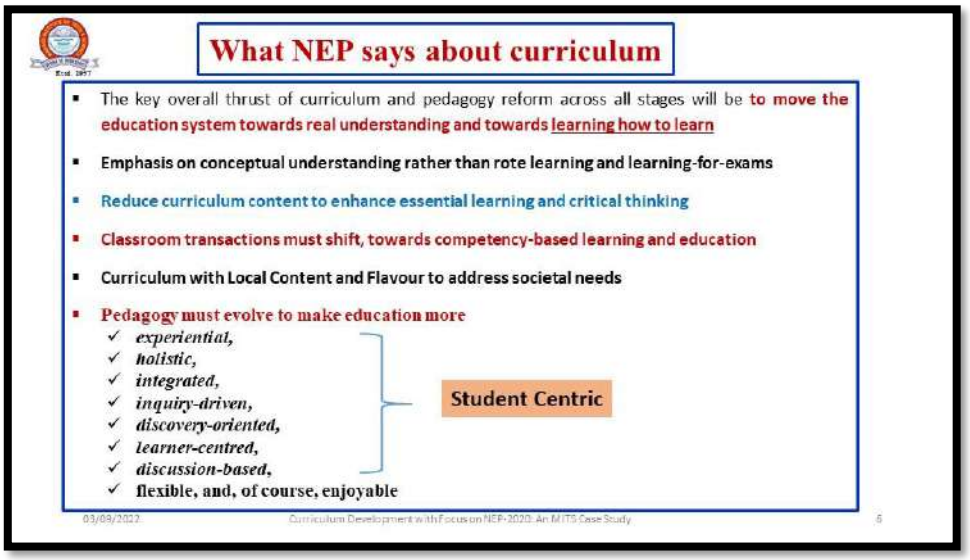
What NEP says about curriculum
The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and towards learning how to learn
Emphasis on conceptual understanding rather than rote learning and learning-for-exams
Reduce curriculum content to enhance essential learning and critical thinking
Classroom transactions must shift, towards competency-based learning and education
Curriculum with Local Content and Flavour to address societal needs
Pedagogy must evolve to make education more
experiential,
holistic,
integrated,
inquiry-driven,
discovery-oriented,
learner-centred,
discussion-based,
flexible, and, of course, enjoyable
Student Centric
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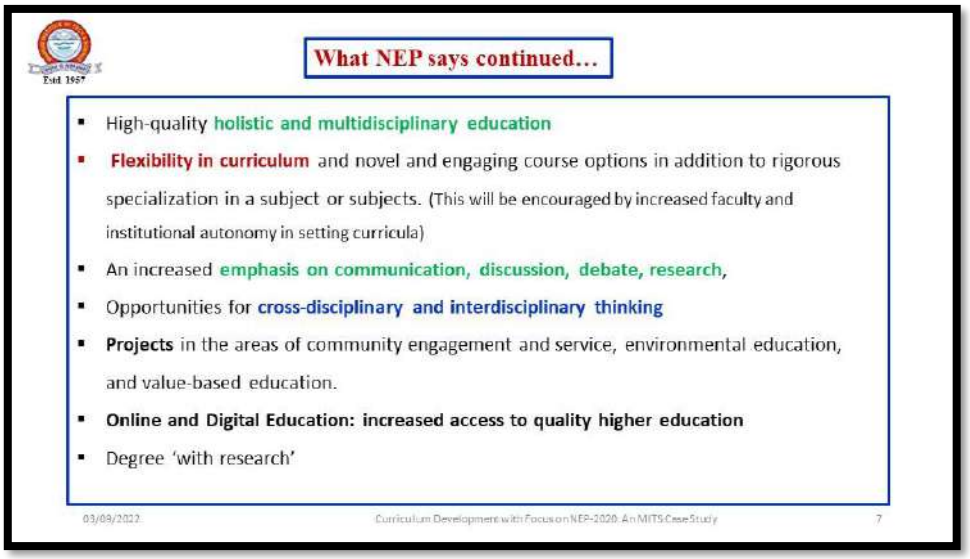
What NEP says continued…
High-quality holistic and multidisciplinary education
Flexibility in curriculum and novel and engaging course options in addition to rigorous specialization in a subject or subjects. (This will be encouraged by increased faculty and institutional autonomy in setting curricula)
An increased emphasis on communication, discussion, debate, research,
Opportunities for cross-disciplinary and interdisciplinary thinking
Projects in the areas of community engagement and service, environmental education, and value-based education.
Online and Digital Education: increased access to quality higher education
Degree 'with research'
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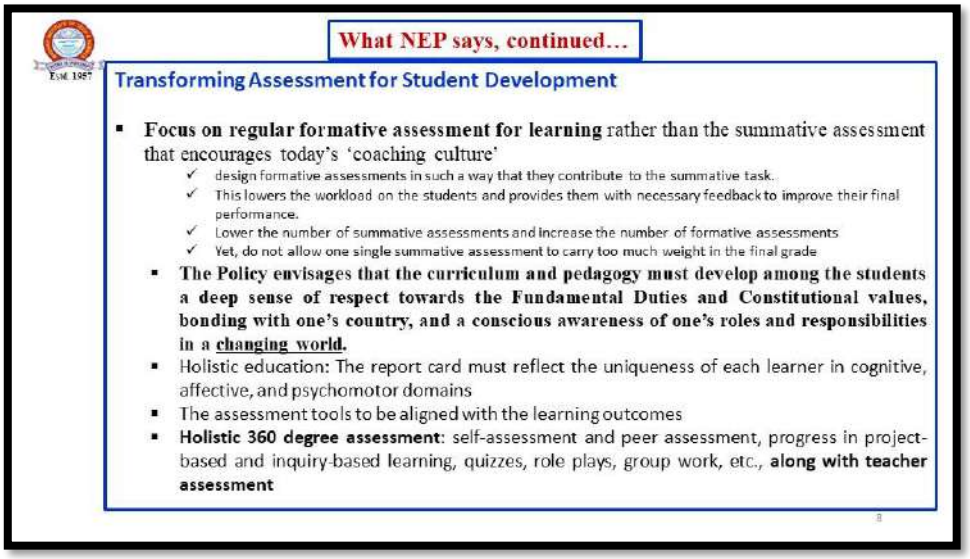
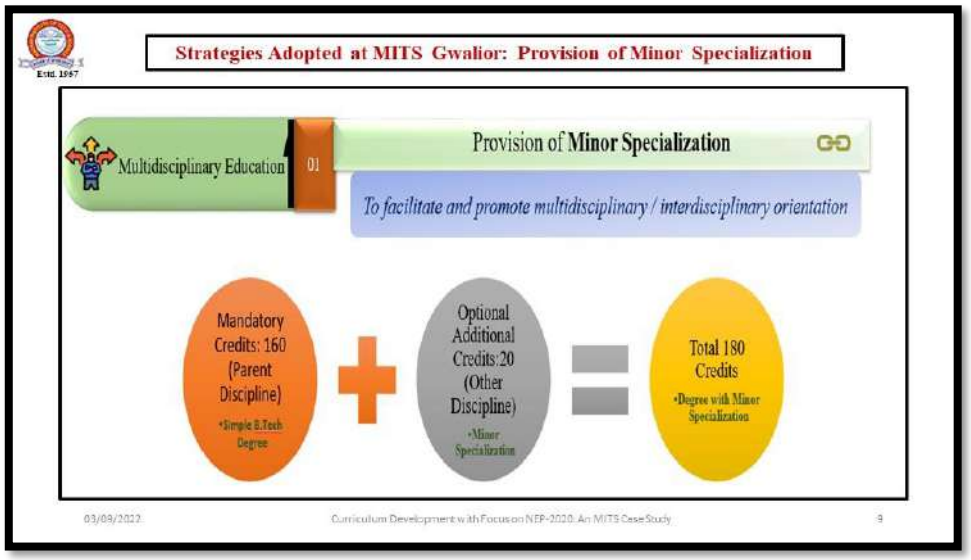

What NEP says, continued…
Transforming Assessment for Student Development
Focus on regular formative assessment for learning rather than the summative assessment that encourages today's 'coaching culture'
design formative assessments in such a way that they contribute to the summative task.
This lowers the workload on the students and provides them with necessary feedback to improve their final performance.
Lower the number of summative assessments and increase the number of formative assessments
Yet, do not allow one single summative assessment to carry too much weight in the final grade
The Policy envisages that the curriculum and pedagogy must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world.
Holistic education: The report card must reflect the uniqueness of each learner in cognitive, affective, and psychomotor domains
The assessment tools to be aligned with the learning outcomes
Holistic 360 degree assessment: self-assessment and peer assessment, progress in project-based and inquiry-based learning, quizzes, role plays, group work, etc., along with teacher assessment


Strategies Adopted at MITS Gwalior: Provision of Minor Specialization
Multidisciplinary Education
01
Provision of Minor Specialization
To facilitate and promote multidisciplinary / interdisciplinary orientation
Mandatory Credits: 160 (Parent Discipline)
•Simple B.Tech Degree
Optional Additional Credits:20 (Other Discipline)
•Minor Specialization
Total 180 Credits
•Degree with Minor Specialization
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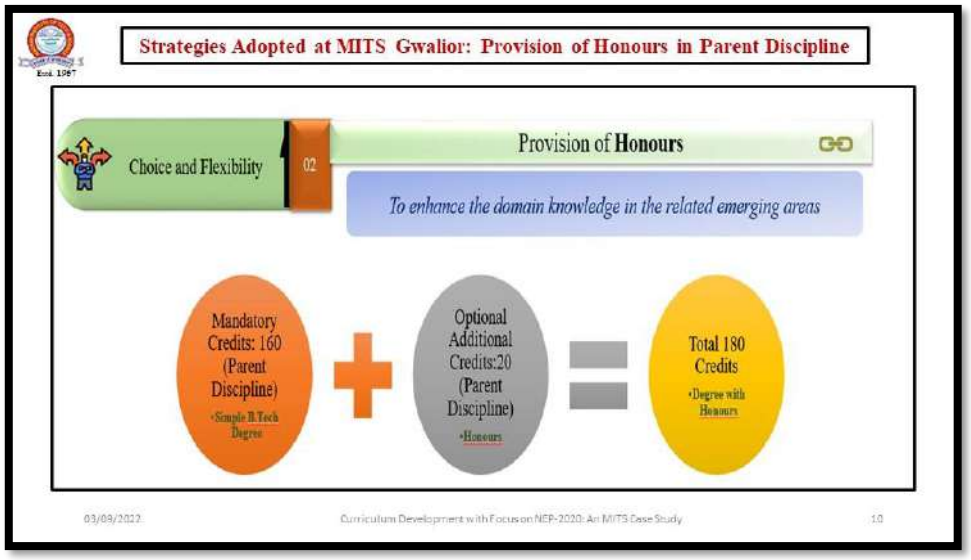
Strategies Adopted at MITS Gwalior: Provision of Honours in Parent Discipline
Choice and Flexibility
02
Provision of Honours
To enhance the domain knowledge in the related emerging areas
Mandatory Credits: 160 (Parent Discipline)
•Simple B.Tech Degree
Optional Additional Credits:20 (Parent Discipline)
•Honours
Total 180 Credits
•Degree with Honours
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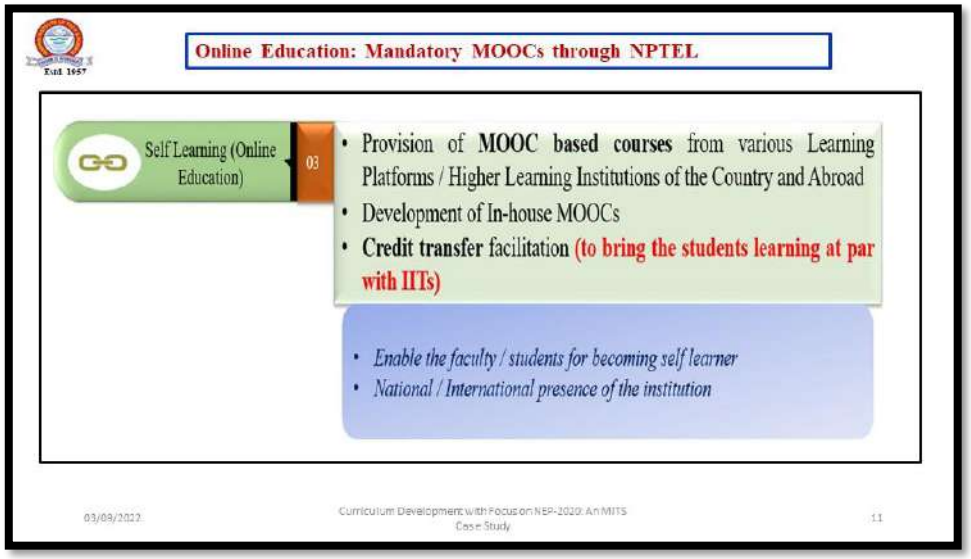
Online Education: Mandatory MOOCs through NPTEL
Self Learning (Online Education)
03
• Provision of MOOC based courses from various Learning Platforms / Higher Learning Institutions of the Country and Abroad
• Development of In-house MOOCs
• Credit transfer facilitation (to bring the students learning at par with IITs)
• Enable the faculty / students for becoming self learner
• National / International presence of the institution
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Curriculum Development with Focus on NEP-2020: An MITS Case Study
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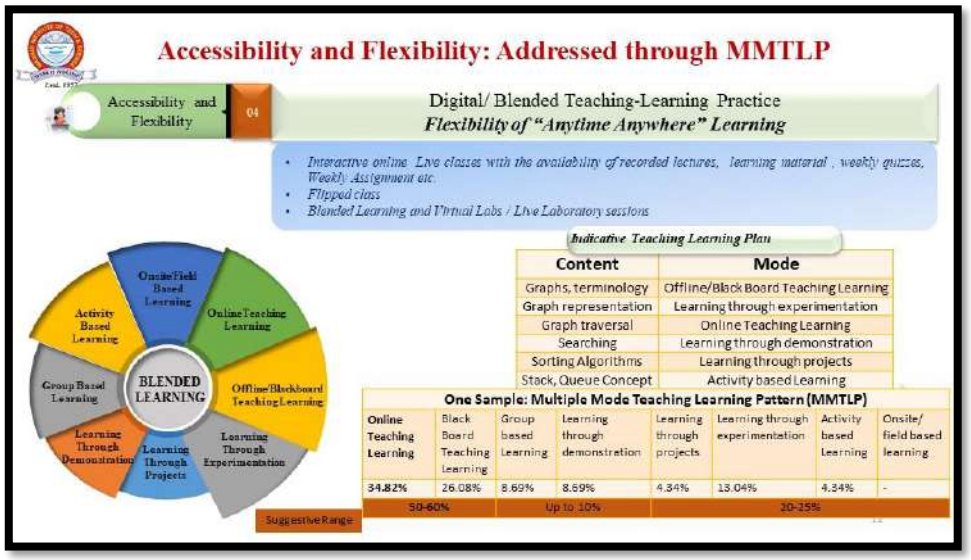
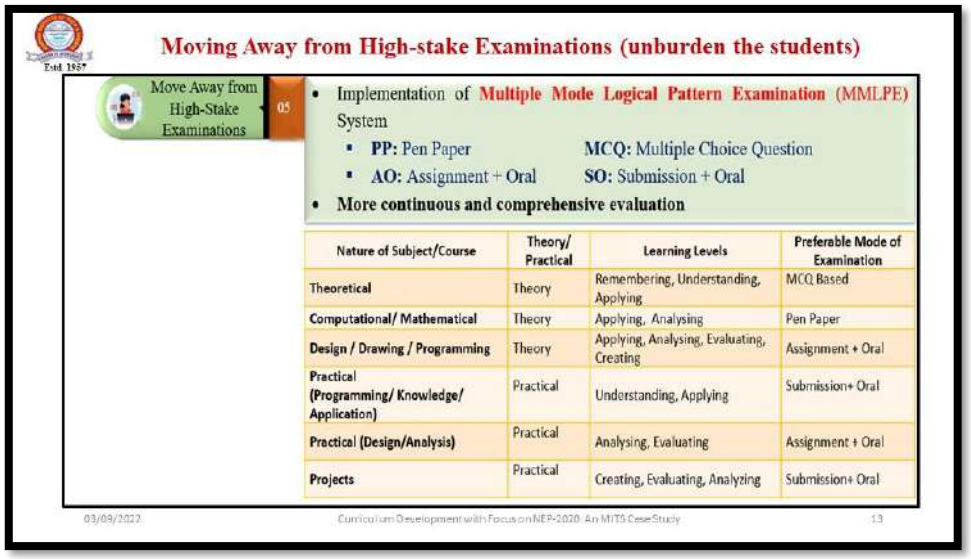

Accessibility and Flexibility: Addressed through MMTLP
Accessibility and Flexibility
04
Digital/ Blended Teaching-Learning Practice
Flexibility of "Anytime Anywhere" Learning
Interactive online Live classes with the availability of recorded lectures, learning material , weekly quizzes, Weekly Assignment etc.
Flipped class
Blended Learning and Virtual Labs / Live Laboratory sessions
Indicative Teaching Learning Plan
Content
Mode
Graphs, terminology
Offline/Black Board Teaching Learning
Graph representation
Learning through experimentation
Graph traversal
Online Teaching Learning
Searching
Learning through demonstration
Sorting Algorithms
Learning through projects
Stack, Queue Concept
Activity based Learning
BLENDED LEARNING
Onsite Field Based Learning
Online Teaching Learning
Offline/Blackboard Teaching Learning
Learning Through Experimentation
Learning Through Projects
Learning Through Demonstration
Group Based Learning
Activity Based Learning
One Sample: Multiple Mode Teaching Learning Pattern (MMTLP)
Online Teaching Learning
Black Board Teaching Learning
Group based Learning
Learning through demonstration
Learning through projects
Learning through experimentation
Activity based Learning
Onsite/ field based learning
34.82%
26.08%
8.69%
8.69%
4.34%
13.04%
4.34%
-
Suggestive Range
50-60%
Up to 10%
20-25%


Moving Away from High-stake Examinations (unburden the students)
Move Away from High-Stake Examinations
05
Implementation of Multiple Mode Logical Pattern Examination (MMLPE) System
PP: Pen Paper
MCQ: Multiple Choice Question
AO: Assignment + Oral
SO: Submission + Oral
More continuous and comprehensive evaluation
Nature of Subject/Course
Theory/ Practical
Learning Levels
Preferable Mode of Examination
Theoretical
Theory
Remembering, Understanding, Applying
MCQ Based
Computational/ Mathematical
Theory
Applying, Analysing
Pen Paper
Design / Drawing / Programming
Theory
Applying, Analysing, Evaluating, Creating
Assignment + Oral
Practical (Programming/ Knowledge/ Application)
Practical
Understanding, Applying
Submission+ Oral
Practical (Design/Analysis)
Practical
Analysing, Evaluating
Assignment + Oral
Projects
Practical
Creating, Evaluating, Analyzing
Submission+ Oral
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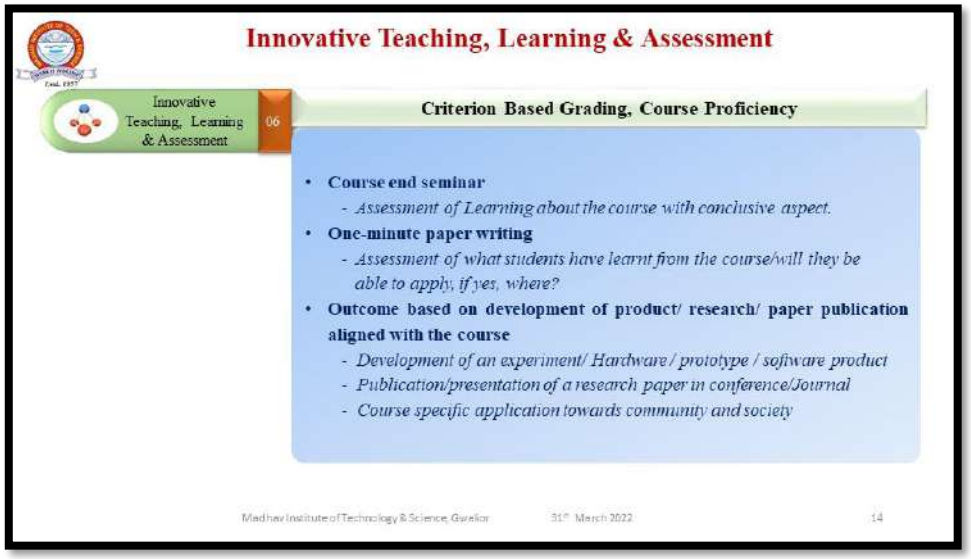
Innovative Teaching, Learning & Assessment
Innovative Teaching, Learning & Assessment
06
Criterion Based Grading, Course Proficiency
Course end seminar
- Assessment of Learning about the course with conclusive aspect.
One-minute paper writing
- Assessment of what students have learnt from the course/will they be able to apply, if yes, where?
Outcome based on development of product/ research/ paper publication aligned with the course
- Development of an experiment/ Hardware / prototype / software product
- Publication/presentation of a research paper in conference/Journal
- Course specific application towards community and society
Madhav Institute of Technology & Science, Gwalior
31st March 2022
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Future Skill Areas and Innovative Domains
Future Skill Areas and Innovative Domains
07
•New UG Programmes in Diversified Domains as per Societal and Industrial Need
•Certificate Courses
• Curriculum development as per the nature of the programmes and arrangement of other related facilitation.
• Inculcating the Market Driven Technology specific micro specialization / specialization through Minors, Honors and Value Added Courses
• Smart Materials and Structure (with Civil Engineering)
• Drone Surveying (with Civil Engineering)
• Clean Energy Technologies (with Chemical Engineering)
• Robotics , Electric Vehicles (with Mechanical Engineering)
• Machine Learning (with Electrical and Electronics Engineering)
• Financial Engineering and many more...
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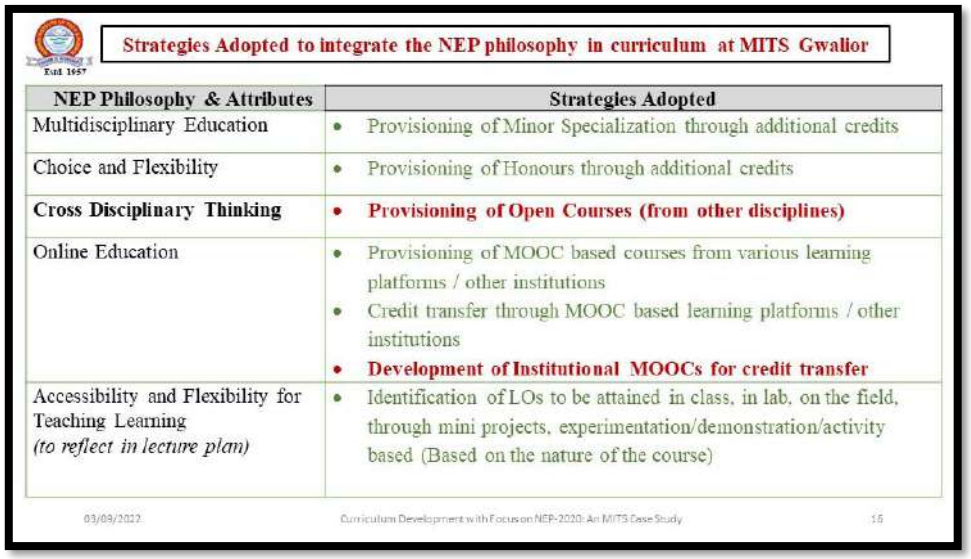
Strategies Adopted to integrate the NEP philosophy in curriculum at MITS Gwalior
NEP Philosophy & Attributes
Strategies Adopted
Multidisciplinary Education
• Provisioning of Minor Specialization through additional credits
Choice and Flexibility
• Provisioning of Honours through additional credits
Cross Disciplinary Thinking
• Provisioning of Open Courses (from other disciplines)
Online Education
• Provisioning of MOOC based courses from various learning platforms / other institutions
• Credit transfer through MOOC based learning platforms / other institutions
• Development of Institutional MOOCs for credit transfer
Accessibility and Flexibility for Teaching Learning
(to reflect in lecture plan)
• Identification of LOs to be attained in class, in lab, on the field, through mini projects, experimentation/demonstration/activity based (Based on the nature of the course)
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Curriculum Development with Focus on NEP-2020: An MITS Case Study
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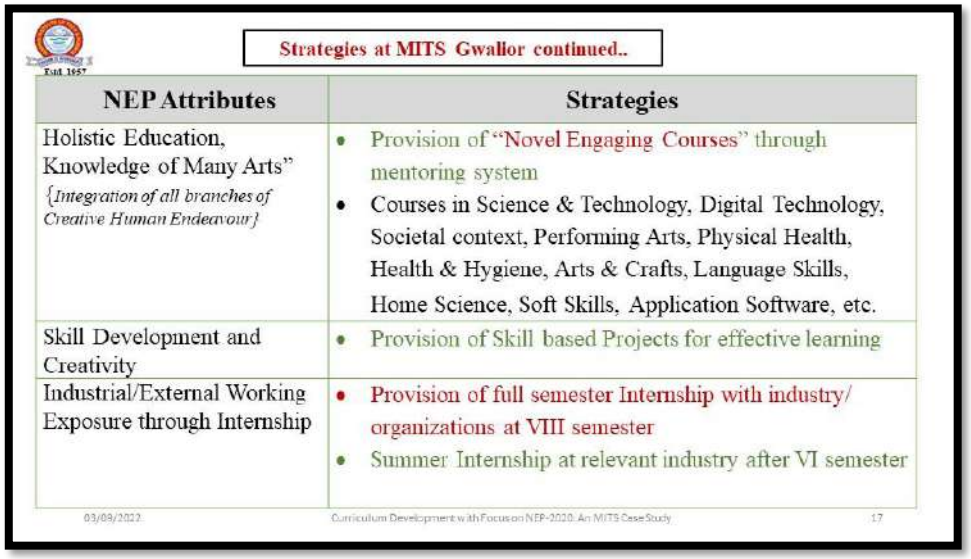
Strategies at MITS Gwalior continued..
NEP Attributes
Strategies
Holistic Education, Knowledge of Many Arts"
{Integration of all branches of Creative Human Endeavour}
• Provision of "Novel Engaging Courses" through mentoring system
• Courses in Science & Technology, Digital Technology, Societal context, Performing Arts, Physical Health, Health & Hygiene, Arts & Crafts, Language Skills, Home Science, Soft Skills, Application Software, etc.
Skill Development and Creativity
• Provision of Skill based Projects for effective learning
Industrial/External Working Exposure through Internship
• Provision of full semester Internship with industry/ organizations at VIII semester
• Summer Internship at relevant industry after VI semester
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Curriculum Development with Focus on NEP-2020: An MITS Case Study
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Strategies at MITS Gwalior continued..

NEP Attributes	Strategies
All Round involvement	• Inclusion of Extra Curricular Activities and attainments in the Curricula through credits (Professional Development)
Move Away from high-stake examinations (unburden the students)	• More continuous and comprehensive evaluation • Implementation of Multiple Mode Logical Pattern Examination (MMLPE) System
Integration of "Humanities and Arts" From STEM to STEAM	• Provision of **Mandatory Audit Courses (MAC)** and **Value Added Courses (VACs)** for positive Learning Outcomes • A bucket of courses can be offered here

Strategies at MITS Gwalior continued..

NEP Attributes	Strategies
Innovative / Multidisciplinary Research	• Promote research activities by extending support to Research Assistants (RAs)/ students/ faculty members • Innovative Research Scheme (IRS) for faculty • Mandate research publication/ presentation as a part of Major Project • Award for Best Research Oriented Project at programme/department and Institute Level • Research awards to faculty for publication of quality research papers
Industry Readiness	• Provision of Industry Collaborative Courses
Training the faculty for Innovative Teaching, Learning & Assessment	• Training of faculty members and technical staff for enrichment of their knowledge • In-house workshops for sharing of ideas/practices

National Education Policy 2020 (NEP 2020): NEP Attributes and Strategies

NEP Attributes	Strategies
Cross disciplinary and Interdisciplinary thinking, Innovation	• Focus on Interdisciplinary Projects
Promote Entrepreneurship, Start-up activities	• Provision of Skill based Courses in Local / Regional Language • Facilitation for Incubation Center, Start-up and Business Development training and support
Promote future skill areas and innovative domains	• Introduction of new Programmes in emerging areas • Provision of Certificate Courses • Provision of courses for Industry Persons (industrial executives / manpower)

National Education Policy 2020 (NEP 2020): **NEP Attributes and Strategies**

NEP Attributes	Strategies
Quality Assurance	• NBA/NAAC Accreditation • NIRF Ranking
Degree with Research at UG Level	• Provisioning of Research oriented major project for the award of UG Degree with Research
Multiple Entry and Exit Options	• Provisioning to offer certificate, diploma & Bachelor degree for enhanced choice and flexibility
Promote Education through Open Distance Learning (ODL)	• Provision for the courses and Grades (with credit transfer) through Distance Learning
Academic Bank of Credit (ABC)	• Accountability of Credits earned by an individual from various institutions /platforms

NEP 2020: Action Plan, MITS Gwalior 3rd July 2021 21

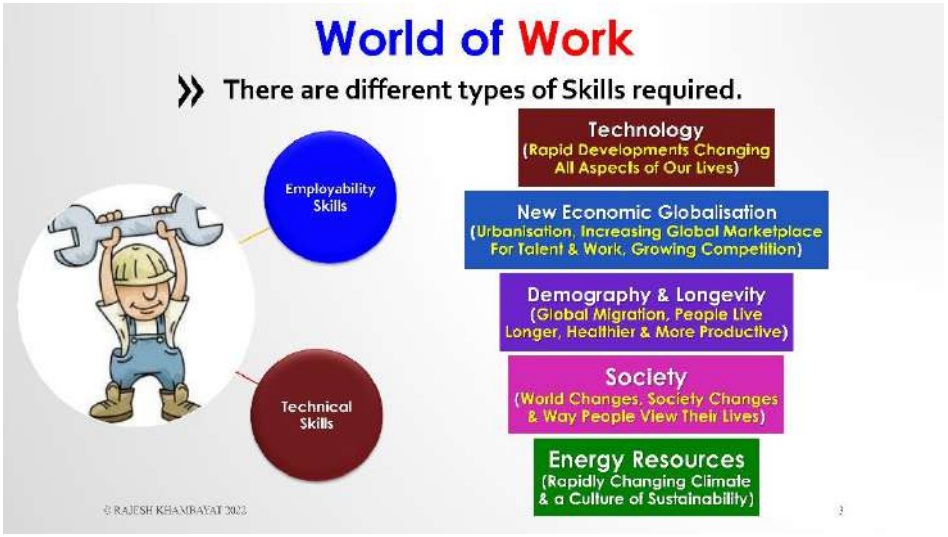
National Education Policy 2020 (NEP 2020): **NEP Attributes and Strategies**

NEP Attributes	Strategies
Digital Infrastructure: Enhancement of Capability and Capacity	• MOOC Development Centre, Smart Class Rooms • Arrangement of advanced technology tools with latest state of the art digital infrastructure
To attain the status of "Teaching Intensive University" or "Research Intensive University" or "Autonomous Degree Granting College (AC)"	• Expansion in multidisciplinary education and research activities • Arrangement of resources as per the requirement of regulatory bodies • Arrangement of Building, Amenities and other infrastructure [as needed for attaining the status of Teaching Intensive University or Autonomous Degree Granting College (AC)] • Arrangement of faculty and staff as per norms

NEP 2020: Action Plan, MITS Gwalior 3rd July 2021 22

Thank you

Prof. R. P. Khambayat
Professor, NITTTR, Bhopal


World of Work
There are different types of Skills required.
Employability Skills
Technical Skills
Technology
(Rapid Developments Changing All Aspects of Our Lives)
New Economic Globalisation
(Urbanisation, Increasing Global Marketplace For Talent & Work, Growing Competition)
Demography & Longevity
(Global Migration, People Live Longer, Healthier & More Productive)
Society
(World Changes, Society Changes & Way People View Their Lives)
Energy Resources
(Rapidly Changing Climate & a Culture of Sustainability)
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Why Employability & Skills?
Significance of Employability & Skills for New-age Engg. Professionals
1 The need to remain competitive.
2 The need to acquire new knowledge & information in the knowledge – based global economy (kworld).
3 Need to interact and socialize among one another in an inter-dependent world.
4. The demands of the new workplace.
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Top 10 Skills 2025
Future of Jobs Report, World Economic Forum, 2016
Top 10 Job Skills: 2020
1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility
Top 10 Job Skills: 2025
1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity
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INDIA: NBA ACCREDITATION CRITERIA
Graduate Attributes
(Washington Accord)
1. Engineering Knowledge
2. Problem Analysis
3. Design/Development of Solutions
4.Conduct investigations of complex problems
5. Modern tool usage
6. The Engineer and Society
7. Environment and Sustainability
8.Ethics
9.Individual and Team Work
10.Communication
11. Project management and finance
11. Life-Long Learning
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6


KEY CHALLENGES FACED
IN EMPLOYABILITY & SKILLS
1. Personality Differences
2. Differences in Attitude
3. Differences in Age
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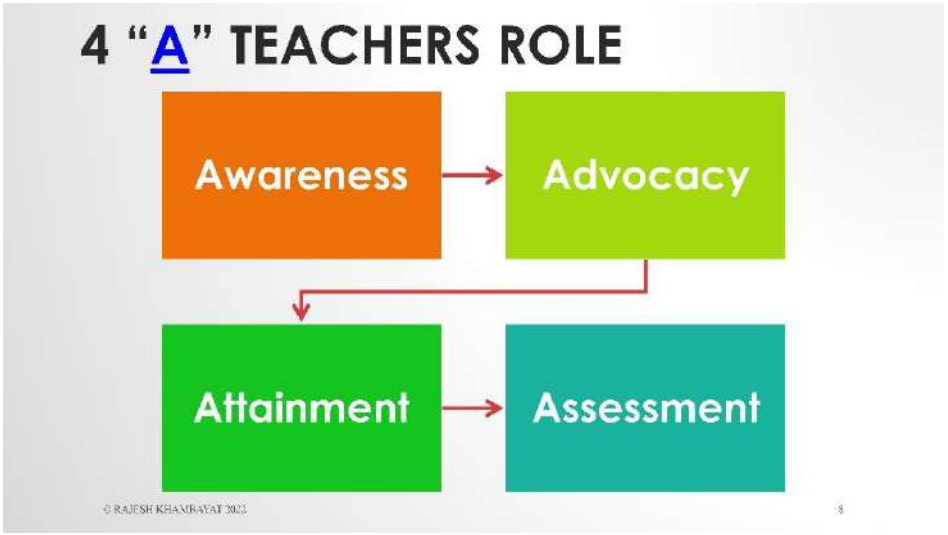
7


4 "A" TEACHERS ROLE
Awareness
Advocacy
Attainment
Assessment
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Models and Approaches for
Developing Employability & Skills
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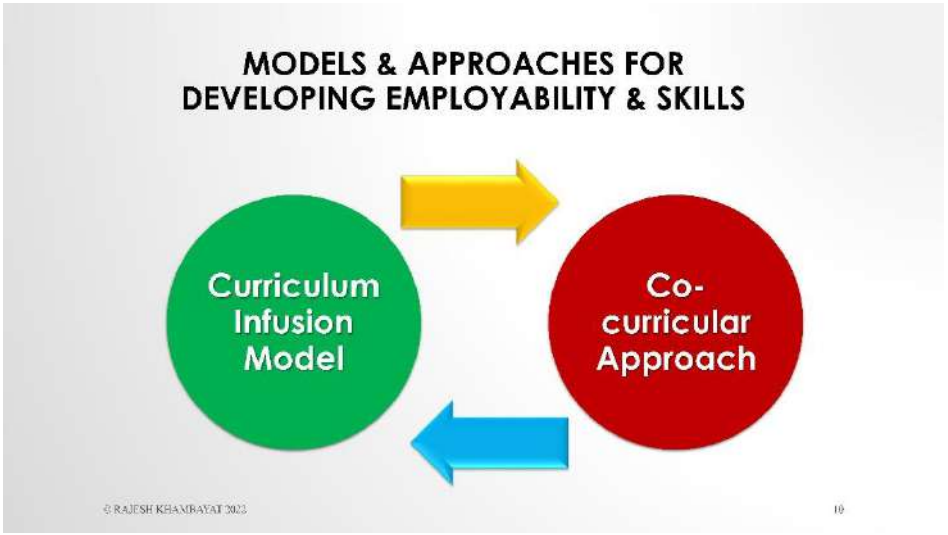
MODELS & APPROACHES FOR
DEVELOPING EMPLOYABILITY & SKILLS
Curriculum Infusion Model
Co-curricular Approach
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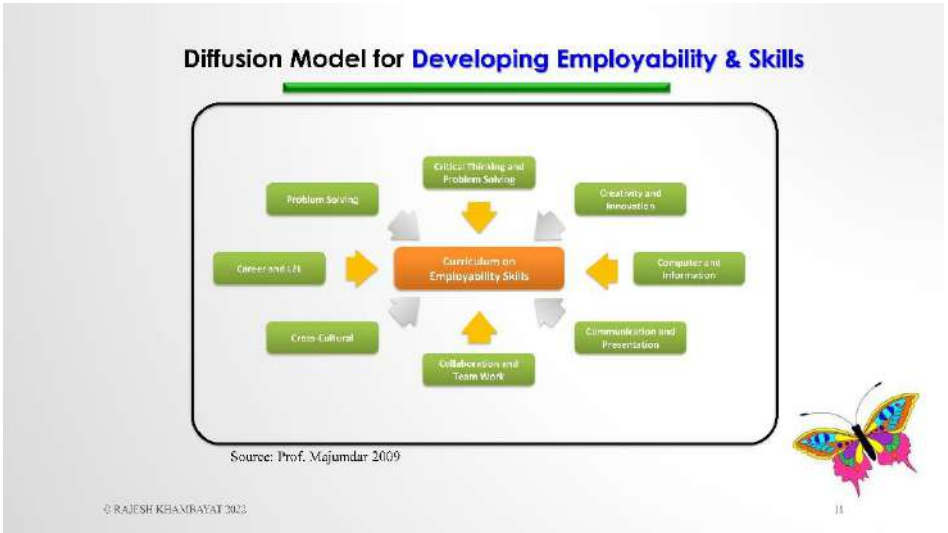
10


Diffusion Model for Developing Employability & Skills
Critical Thinking and Problem Solving
Problem Solving
Creativity and Innovation
Career and LEL
Curriculum on Employability Skills
Computer and Information
Cross-Cultural
Communication and Presentation
Collaboration and Team Work
Source: Prof. Majumdar 2009
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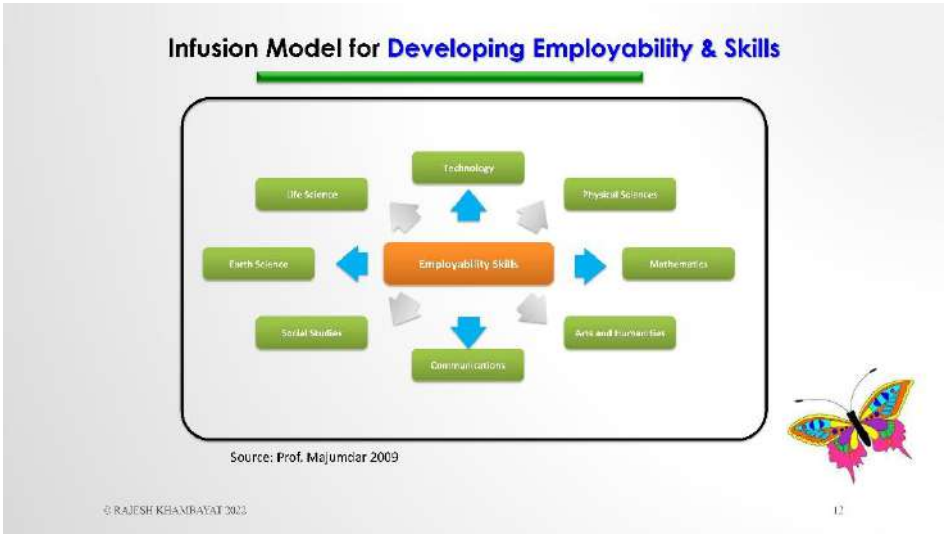
Infusion Model for Developing Employability & Skills
Technology
Life Science
Physical Sciences
Earth Science
Employability Skills
Mathematics
Social Studies
Arts and Humanities
Communications
Source: Prof. Majumdar 2009
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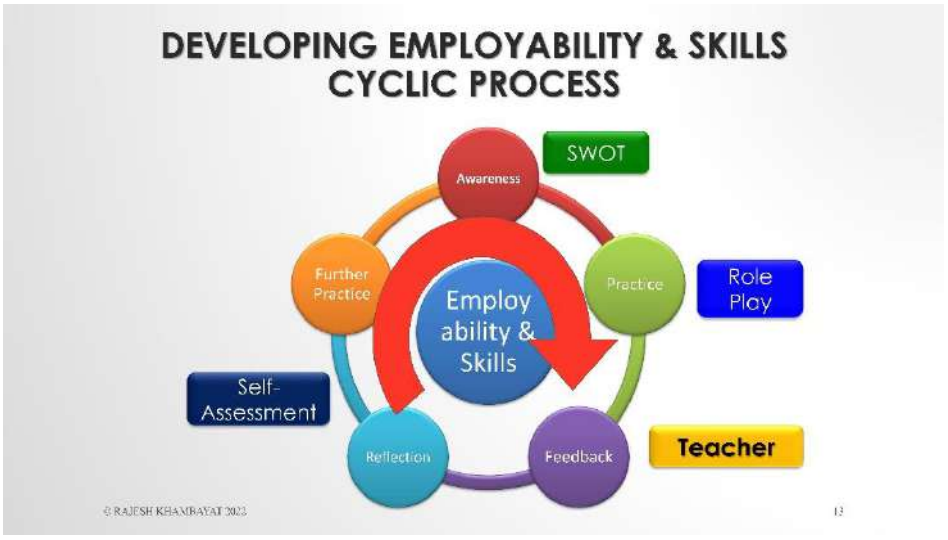
DEVELOPING EMPLOYABILITY & SKILLS
CYCLIC PROCESS
SWOT
Awareness
Further Practice
Practice
Role Play
Employ ability & Skills
Self-Assessment
Reflection
Feedback
Teacher
© RAJESH KHAMBAYAT 2023
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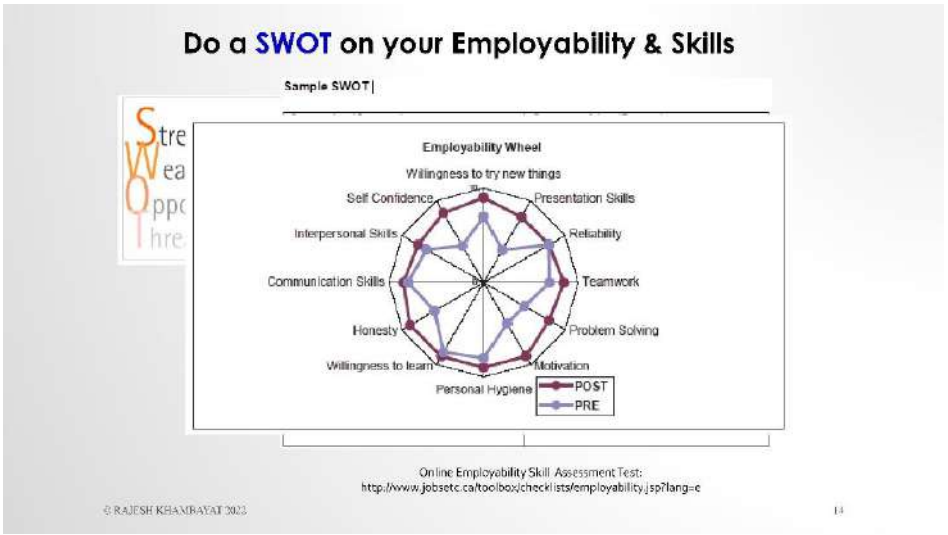
Do a SWOT on your Employability & Skills
Sample SWOT
Employability Wheel
Willingness to try new things
Self Confidence
Presentation Skills
Interpersonal Skills
Reliability
Communication Skills
Teamwork
Honesty
Problem Solving
Willingness to learn
Motivation
Personal Hygiene
POST
PRE
Online Employability Skill Assessment Test:
http://www.jobsetc.ca/toolbox/checklists/employability.jsp?lang=e
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APPROACHES FOR DEVELOPING EMPLOYABILITY & SKILLS
Structured Assignments
Activity-based Training
Integrated Project work
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HOW TO TEACH SKILLS?
Formulate Learning objectives targeting explicit skills
Encourage play-based learning
Break down learning into smaller pieces
Create a safe environment for learning
Develop a growth mindset
Foster nurturing relationships
Allow time to focus
Foster reflective reasoning and analysis
Offer appropriate praise
Guide a learner's discovery of topics
Help learners take advantage of their personality and strengths
Provide appropriate challenges
Use a hands-on approach
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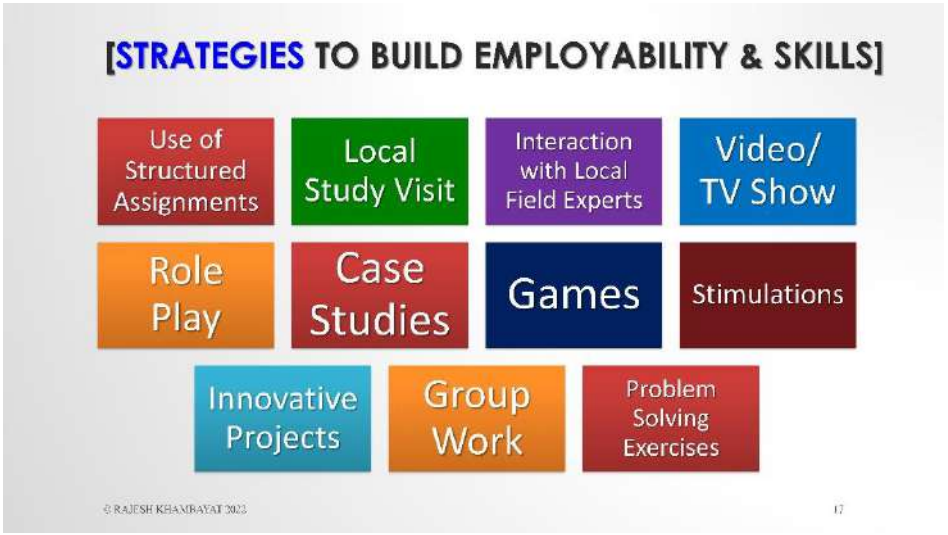
[STRATEGIES TO BUILD EMPLOYABILITY & SKILLS]
Use of Structured Assignments
Local Study Visit
Interaction with Local Field Experts
Video/ TV Show
Role Play
Case Studies
Games
Stimulations
Innovative Projects
Group Work
Problem Solving Exercises
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"3T" FOR EMPLOYABILITY & SKILLS DEVELOPMENT
Teachers
Training
Technology
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Ministry of Education
Government of India
National Council of
Educational Research and Training
Government of India
New Initiatives for
Strengthening Vocational Education in Schools
PSS Central Institute of Vocational Education (PSSCIVE), Bhopal
https://www.youtube.com/watch?v=tswX3xs99_I&t=8s


Ministry of Education
Government of India
National Council of
Educational Research and Training
Government of India
ABOUT PSSCIVE, BHOPAL
PSSCIVE
The PSS Central Institute of Vocational Education (PSSCIVE), Bhopal
[established in 1993] is a constituent unit of
National Council of Educational Research & Training (NCERT), New Delhi.
It is a UNEVOC Network Centre in India.
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Ministry of Education
Government of India
"Indian industry
Will need around
300 million skilled workers by 2022."
Skilling India Has Become The New Mantra
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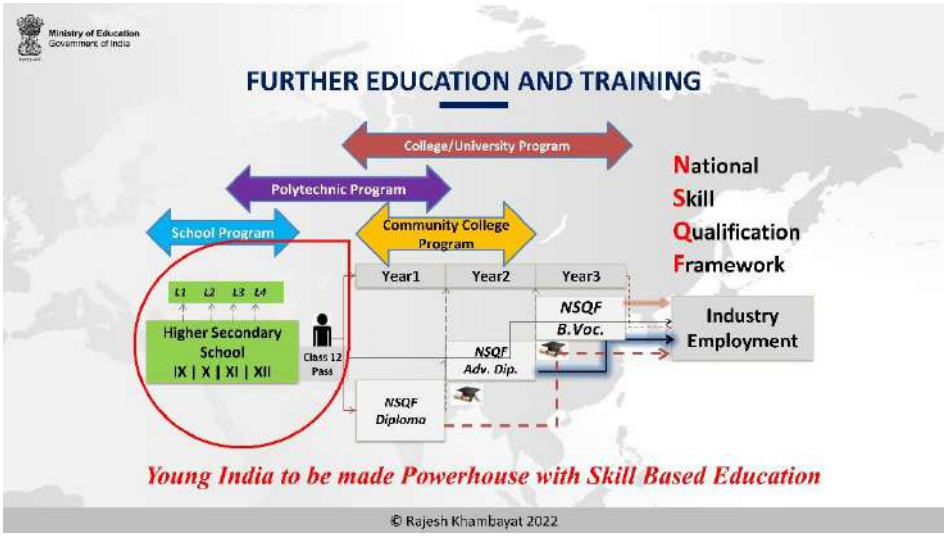
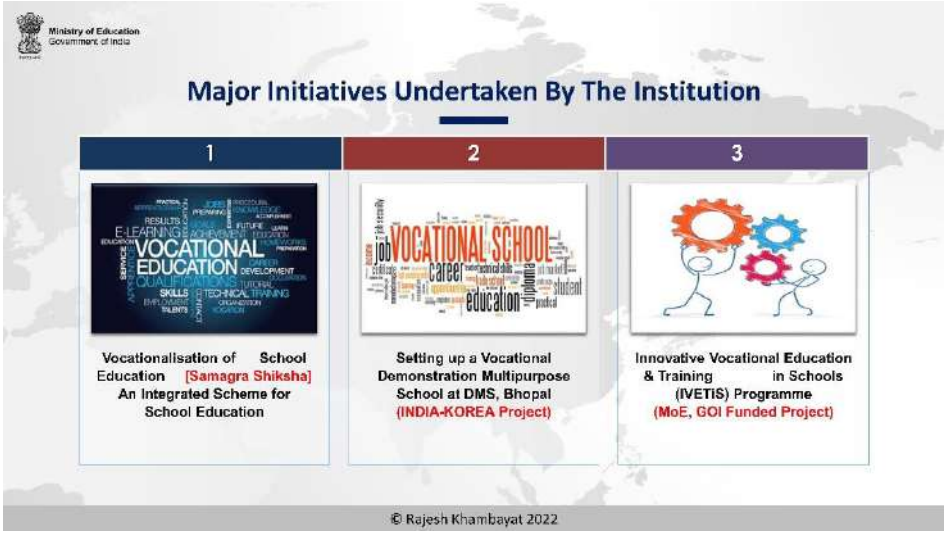

Ministry of Education
Government of India
FURTHER EDUCATION AND TRAINING
College/University Program
Polytechnic Program
School Program
Community College Program
National Skill Qualification Framework
Year1
Year2
Year3
L1 L2 L3 L4
Higher Secondary School
IX | X | XI | XII
Class 12 Pass
NSQF Diploma
NSQF Adv. Dip.
NSQF B.Voc.
Industry Employment
Young India to be made Powerhouse with Skill Based Education
© Rajesh Khambayat 2022


Ministry of Education
Government of India
Major Initiatives Undertaken By The Institution
1
2
3
VOCATIONAL EDUCATION
VOCATIONAL SCHOOL
Vocationalisation of School Education [Samagra Shiksha]
An Integrated Scheme for School Education
Setting up a Vocational Demonstration Multipurpose School at DMS, Bhopal
(INDIA-KOREA Project)
Innovative Vocational Education & Training in Schools
(IVETIS) Programme
(MoE, GOI Funded Project)
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Ministry of Education
Government of India
Vocationalisation of School Education
Two Major Competent
Employability Skills Development
Job Specific Skills Development
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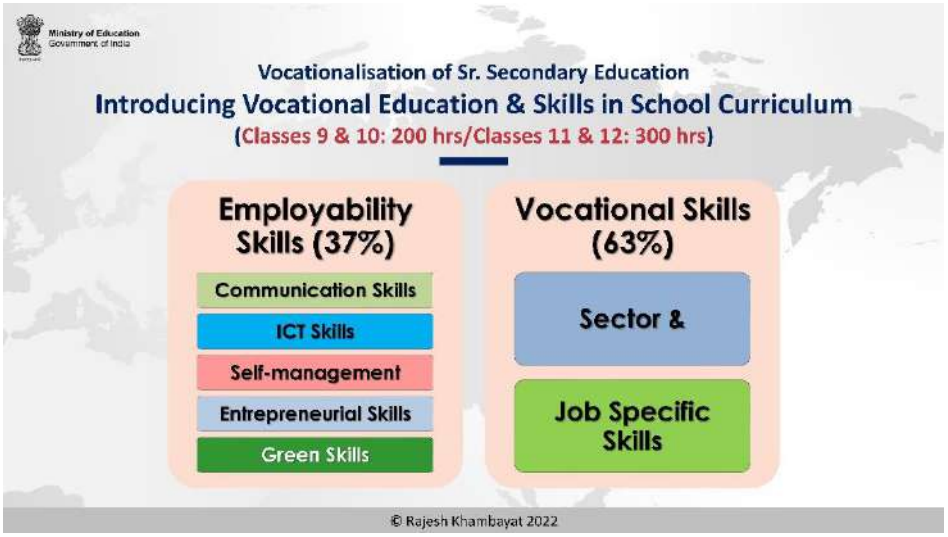
Ministry of Education
Government of India
Vocationalisation of Sr. Secondary Education
Introducing Vocational Education & Skills in School Curriculum
(Classes 9 & 10: 200 hrs/Classes 11 & 12: 300 hrs)
Employability Skills (37%)
Communication Skills
ICT Skills
Self-management
Entrepreneurial Skills
Green Skills
Vocational Skills (63%)
Sector &
Job Specific Skills
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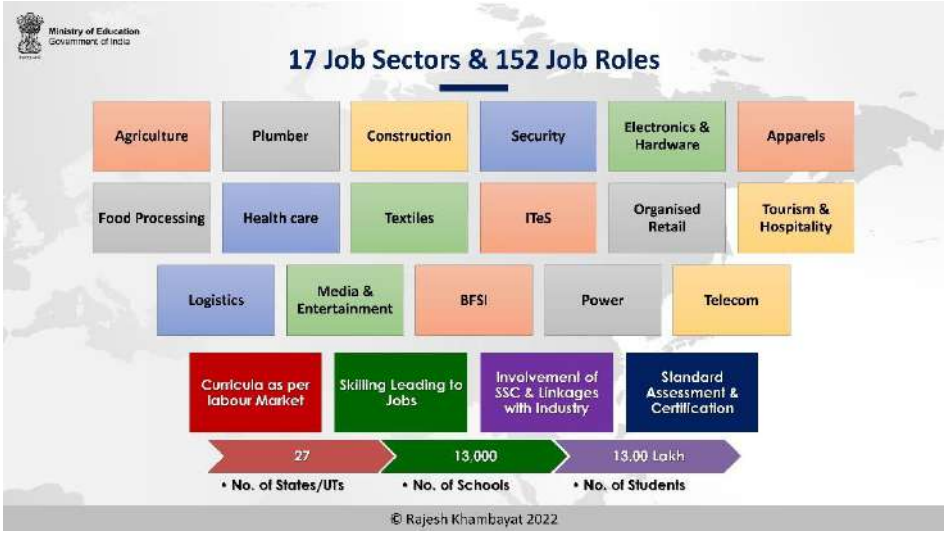
Ministry of Education
Government of India
17 Job Sectors & 152 Job Roles
Agriculture
Plumber
Construction
Security
Electronics & Hardware
Apparels
Food Processing
Health care
Textiles
ITeS
Organised Retail
Tourism & Hospitality
Logistics
Media & Entertainment
BFSI
Power
Telecom
Curricula as per labour Market
Skilling Leading to Jobs
Involvement of SSC & Linkages with Industry
Standard Assessment & Certification
27
• No. of States/UTs
13,000
• No. of Schools
13.00 Lakh
• No. of Students
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Ministry of Education
Government of India
17 Job Sectors & 152 Job Roles
LEARNING OUTCOME BASED VOCATIONAL CURRICULUM
Employability Skills
Solanaceous Crop Cultivator
http://www.psscive.ac.in/stud_text_book.html
http://www.psscive.ac.in/Employability_Skills.html
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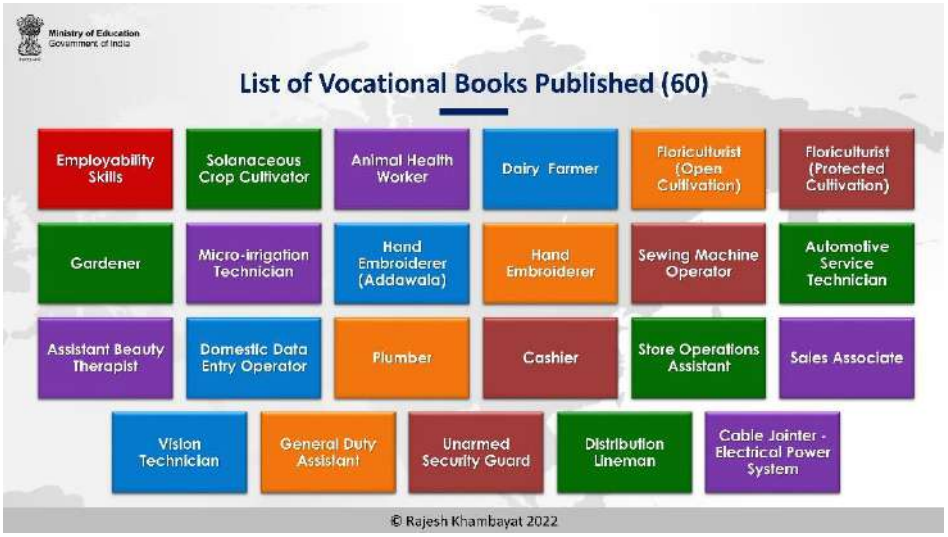
Ministry of Education
Government of India
List of Vocational Books Published (60)
Employability Skills
Solanaceous Crop Cultivator
Animal Health Worker
Dairy Farmer
Floriculturist (Open Cultivation)
Floriculturist (Protected Cultivation)
Gardener
Micro-irrigation Technician
Hand Embroiderer (Addawala)
Hand Embroiderer
Sewing Machine Operator
Automotive Service Technician
Assistant Beauty Therapist
Domestic Data Entry Operator
Plumber
Cashier
Store Operations Assistant
Sales Associate
Vision Technician
General Duty Assistant
Unarmed Security Guard
Distribution Lineman
Cable Jointer - Electrical Power System
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Ministry of Education
Government of India
Digitalisation of Vocational Education
https://www.youtube.com/channel/UCDvVm68kow2qhleTIoJI3_w/videos?view=0&sort=p&flow=grid
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Ministry of Education
Government of India
Establishment of
Vocational Education & Training Laboratory
Agriculture
Retail
Home Science
Engg. & Tech. [Automotive]
Health Science
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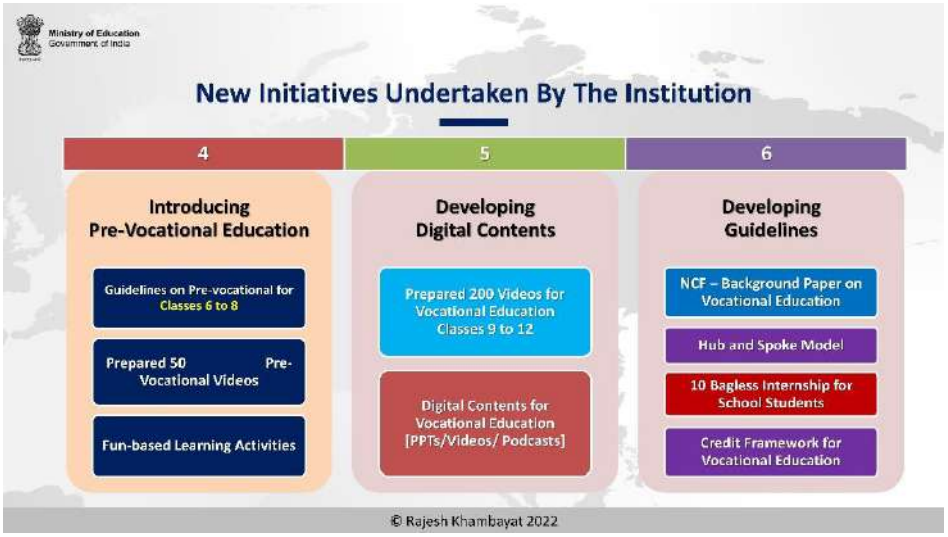
Ministry of Education
Government of India
New Initiatives Undertaken By The Institution
4
Introducing Pre-Vocational Education
Guidelines on Pre-vocational for Classes 6 to 8
Prepared 50 Pre-Vocational Videos
Fun-based Learning Activities
5
Developing Digital Contents
Prepared 200 Videos for Vocational Education Classes 9 to 12
Digital Contents for Vocational Education [PPTs/Videos/ Podcasts]
6
Developing Guidelines
NCF – Background Paper on Vocational Education
Hub and Spoke Model
10 Bagless Internship for School Students
Credit Framework for Vocational Education
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Ministry of Education
Government of India
New Initiatives
VOCATIONAL INTEREST INVENTORY
Class 8
Vocational Interest Inventory
Class 10
Skill Based Aptitude Test
Online
Vocational Interest Inventory
For Class 8th Students
Vocational Interest Inventory is a free guidance tool designed to assist students of Grade 8 in making vocational choice(s) based on their interests.
What Are Your Vocational Interests?
https://www.youtube.com/watch?v=aIJdRSRHfLI
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Ministry of Education
Government of India
New Initiatives
NISHTHA & DIKHSHA FOR VOCATIONAL EDUCATION
NISHTHA for Vocational Teachers' Training
DIKSHA for Vocational Education
NISHTHA
https://diksha.gov.in/vocational-education.html
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Ministry of Education
Government of India
New Initiatives
VIRTUAL E-SKILLS LABORATORIES FOR VOCATIONAL EDUCATION (PAB FUNDED)
2022-23
100
2023-24
200
2024-25
200
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Ministry of Education
Government of India
New Initiatives
ONLINE CERTIFICATE COURSE ON VOCATIONAL PEDAGOGY
E-LEARNING
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Ministry of Education
Government of India
New Initiatives
DEVELOPING CURRICULUM FOR 25 NEW JOB ROLES
(PAB FUNDED)
IOT
3D Printing
Big Data
Cloud Computing
Cyber Security
System Integration
Autonomous Robots
Augmented Reality
Simulation
INDUSTRY
4.0
LEARNING OUTCOME
BASED
VOCATIONAL CURRICULUM
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Ministry of Education
Government of India
KEY STAKEHOLDERS CONSULTATION MEETINGS
(PAB FUNDED)
1
Regional Consultation Meetings
2
National Consultation Meetings
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Ministry of Education
Government of India
Capacity Building for Vocationalisation of School Education
Orientation of Key Functionaries [State Functionaries/ Head of Schools/Principals]
Special Capacity building Programme for TVET Teachers [Vocational Pedagogy]
Major Focus
Content Updating Programme for Vocational Teachers [Up-skilling & Re-skilling]
Conducting Research Study
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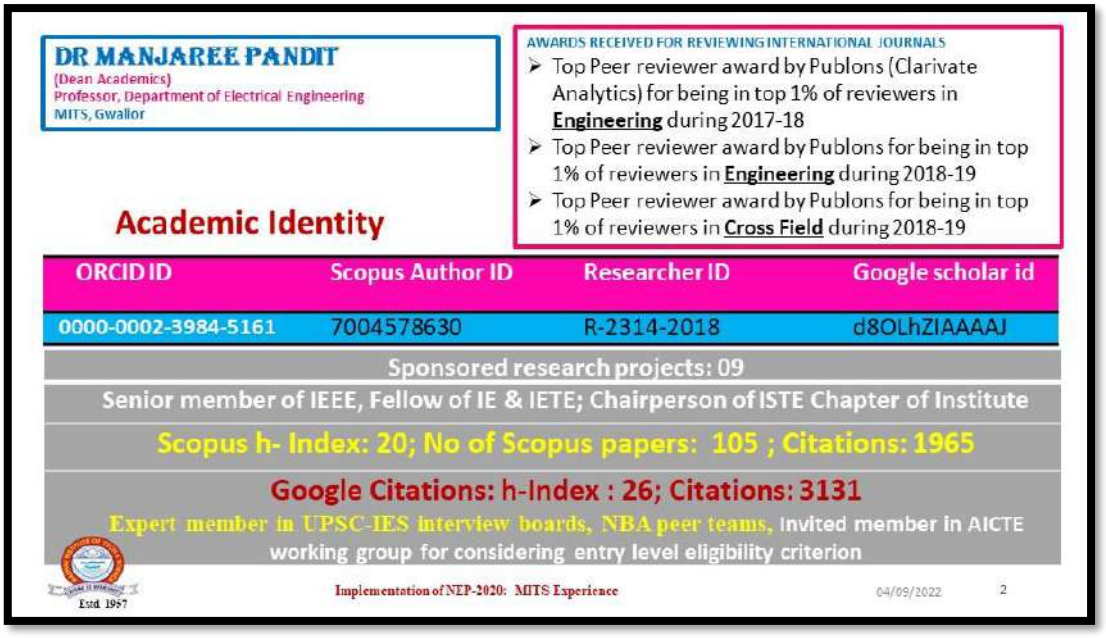
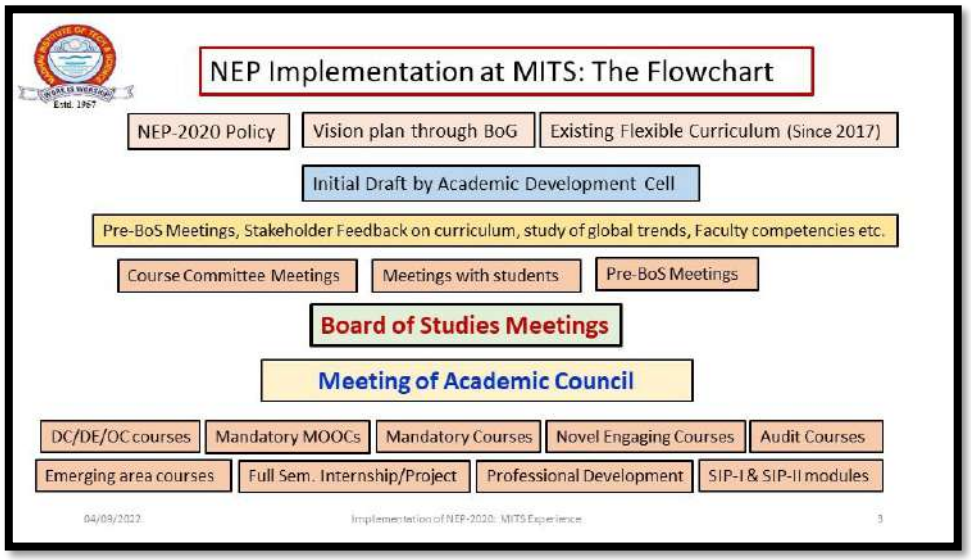
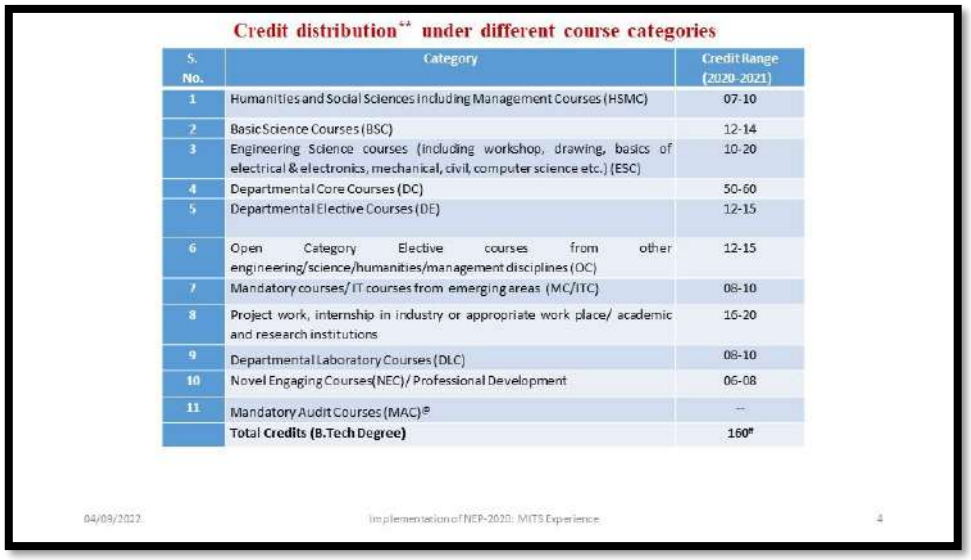
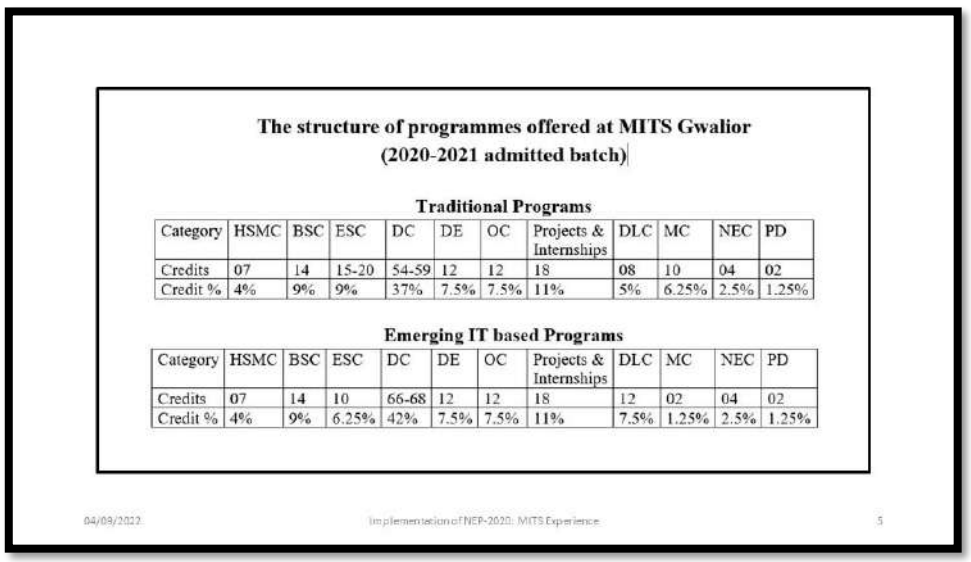
Dr. Manjaree Pandit

Professor and Dean Academics, MITS, Gwalior




NEP Implementation at MITS: The Flowchart
NEP-2020 Policy
Vision plan through BoG
Existing Flexible Curriculum (Since 2017)
Initial Draft by Academic Development Cell
Pre-BoS Meetings, Stakeholder Feedback on curriculum, study of global trends, Faculty competencies etc.
Course Committee Meetings
Meetings with students
Pre-BoS Meetings
Board of Studies Meetings
Meeting of Academic Council
DC/DE/OC courses
Mandatory MOOCs
Mandatory Courses
Novel Engaging Courses
Audit Courses
Emerging area courses
Full Sem. Internship/Project
Professional Development
SIP-I & SIP-II modules
04/09/2022
Implementation of NEP-2020: MITS Experience
3


Credit distribution** under different course categories
S. No.
Category
Credit Range (2020-2021)
1 Humanities and Social Sciences including Management Courses (HSMC) 07-10
2 Basic Science Courses (BSC) 12-14
3 Engineering Science courses (including workshop, drawing, basics of electrical & electronics, mechanical, civil, computer science etc.) (ESC) 10-20
4 Departmental Core Courses (DC) 50-60
5 Departmental Elective Courses (DE) 12-15
6 Open Category Elective courses from other engineering/science/humanities/management disciplines (OC) 12-15
7 Mandatory courses/ IT courses from emerging areas (MC/ITC) 08-10
8 Project work, internship in industry or appropriate work place/ academic and research institutions 16-20
9 Departmental Laboratory Courses (DLC) 08-10
10 Novel Engaging Courses(NEC)/ Professional Development 06-08
11 Mandatory Audit Courses (MAC)@ --
Total Credits (B.Tech Degree) 160#
04/09/2022
Implementation of NEP-2020: MITS Experience
4


The structure of programmes offered at MITS Gwalior
(2020-2021 admitted batch)
Traditional Programs
Category HSMC BSC ESC DC DE OC Projects & Internships DLC MC NEC PD
Credits 07 14 15-20 54-59 12 12 18 08 10 04 02
Credit % 4% 9% 9% 37% 7.5% 7.5% 11% 5% 6.25% 2.5% 1.25%
Emerging IT based Programs
Category HSMC BSC ESC DC DE OC Projects & Internships DLC MC NEC PD
Credits 07 14 10 66-68 12 12 18 12 02 04 02
Credit % 4% 9% 6.25% 42% 7.5% 7.5% 11% 7.5% 1.25% 2.5% 1.25%
04/09/2022
Implementation of NEP-2020: MITS Experience
5

B. Tech. I Semester (Information Technology)

Estd. 1957

(for batch admitted in academic session 2022 – 23)

S. No.	Subject Code	Category Code	Subject Name	Theory Slot: End Term Evaluation: End Sem. Exam	Theory Slot: End Term Evaluation: $Proficiency in subject /course	Theory Slot: Continuous Evaluation: Mid Sem. Exam	Theory Slot: Continuous Evaluation: Quiz/ Assignment	Practical Slot: End Sem. Exam.	Practical Slot: Continuous Evaluation: Lab work & Sessional	Practical Slot: Continuous Evaluation: Skill Based Mini Project	Total Marks	L	T	P	Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam.
1.	160112	ESC	Introduction to Computer Programming	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	AO
2.	100022	ESC	Basic Electrical & Electronics Engineering	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	MCQ
3.	100020	ESC	Basic Civil Engineering & Mechanics	50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	PP
4.	100021	ESC	Basic Mechanical Engineering	50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	MCQ
5.	100015	HSMC	Energy, Environment, Ecology & Society	50	10	20	20	-	-	-	100	3	-	-	3	Online	MCQ
6.	160111	DLC	IT workshop	-	-	-	-	60	20	20	100	-	-	4	2	Offline	SO
			Total	250	50	100	100	180	60	60	800	11	04	08	19	-	-
7.	1000004	MAC	Engineering Chemistry	50	10	20	20	-	-	-	100	2	-	-	GRADE	Online	MCQ

Induction program of first three weeks (MC):Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visit / Virtual Visit to local Areas, Familiarization to Dept./Branch & Innovations

$ proficiency in course/subject-includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	Total Credits
-	03	08	04	04	03	03	09	04	19
-	15.79%	42.11%	21.05%	21.05%	15.79%	15.79%	47.37%	21.05%	Credits %

04/09/2022 Implementation of NEP-2020: MITS Experience 6

B. Tech I Semester in Computer Science and Design

Estd. 1957

I Semester

For batch admitted in academic session 2022-23

S. No.	Subject Code	Category Code	Subject Name	Theory Slot: End Term Evaluation: End Sem. Exam	Theory Slot: End Term Evaluation: $Proficiency in subject /course	Theory Slot: Continuous Evaluation: Mid Sem. Exam.	Theory Slot: Continuous Evaluation: Quiz/Assignment	Practical Slot: End Sem. Exam	Practical Slot: Continuous Evaluation: Lab Work & Sessional	Practical Slot: Continuous Evaluation: Skill Based Mini Project	Total Marks	L	T	P	Total Credits	Mode of Teaching (Offline/ Online)	$$Mode of Exam.
1.	290101	DC	Introduction to Computer Science and Design	50	10	20	20	-	-	-	100	4	-	-	4	Blended (3/1)	MCQ
2.	230102	ESC	Introduction to computer programming	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	A+O
3.	100022	ESC	Basic Electrical & Electronics Engineering	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	MCQ
4.	250100	BSC	Linear Algebra	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP
5.	100015	HSMC	Energy, Environment, Ecology & Society	50	10	20	20	-	-	-	100	3	-	-	3	Online	MCQ
			Total	250	50	100	100	120	40	40	700	14	3	4	19		
7.	1000004	MAC	Engineering Chemistry	50	10	20	20	-	-		100	2	-	-	Grade	Online	MCQ

Induction program of first three weeks (MC):Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visit / Virtual Visit to local Areas. Familiarization to Dept./Branch & Innovations, $ proficiency in course/subject-includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.

$$MCQ: Multiple Choice Question $$AO: Assignment + Oral $$PP: Pen Paper $$SO: Submission + Oral

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	NEC: Interactive	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	SIP/ SLP/ NEC: SO	Total Credits
4	3	7	3	2	-	4	4	11	-	-	19
21.05	15.78	36.84	15.78	10.52	-	21.05	21.05	57.89	-	-	Credits %

04/09/2022 Implementation of NEP-2020: MITS Experience 7

Changes/Challenges in I & II Semester Schemes: A step towards NEP-2020

(w.e.f 2020-2021)

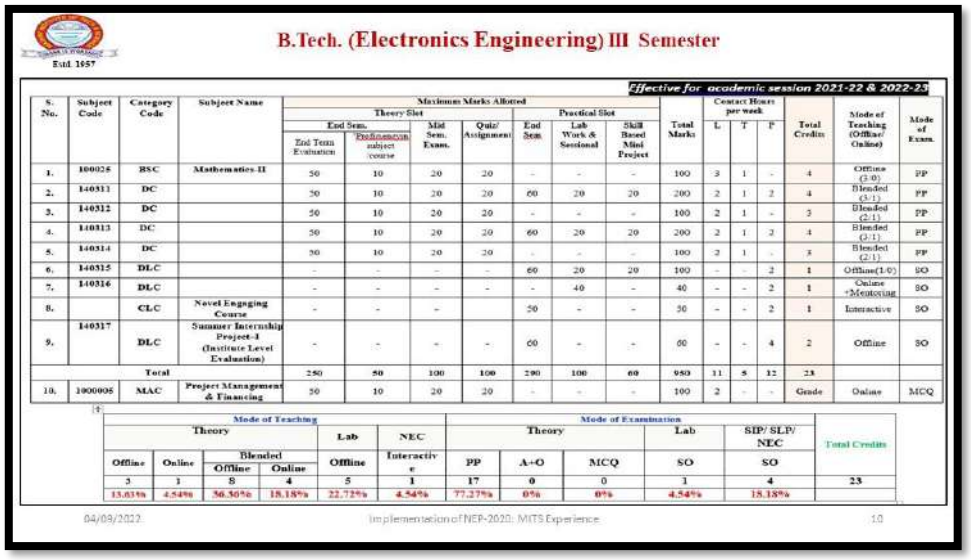
Estd. 1957

S. No.	Subject Code	Category Code	Subject Name	Theory Slot: End Term Evaluation: End Sem. Exam	Theory Slot: End Term Evaluation: Proficiency in subject /course	Theory Slot: Continuous Evaluation: Mid Sem. Exam.	Theory Slot: Continuous Evaluation: Quiz/ Assignment	Practical Slot: End Term evaluation	Practical Slot: Continuous Evaluation: Lab Work & Sessional	Practical Slot: Continuous Evaluation: Skill Based Mini Project	Total Marks
1.	XXXXXX1	BSC	YYYYYY	50	10	20	20	-	-	-	100
2.	XXXXXX2	DC	ZZZZZZ	50	10	20	20	60	20	20	200

1. **Weightage of continuous evaluation increased**, changed from 30:70 to 40:60; **(Moving towards reducing the pressure due to high-stake end-term exam)**
2. Practice of regular weekly quiz conduction on MITS-MOODLE **(Weightage of formative assessment doubled)**
3. Introduced the 'Evaluation of Course Proficiency' gained (**Stress on development of Concept & Application**)
4. **Detailed norms were prepared for the evaluation of 'Course Proficiency' based on LOs.**
5. Weightage was given to **'Skill Based Mini Project'** to encourage **'activity based learning'**.
6. The faculty is encouraged to design problems addressing real-life issues.**(emphasis on conceptual understanding rather than rote learning and learning-for-exams)**
7. One Audit Course introduced.

04/09/2022 Implementation of NEP-2020: MITS Experience 8

Electrical Engineering	Hands on Training on MATLAB / SIMULINK
	Introduction to Solar systems & Solar Photovoltaic (PV) Modeling using PVsyst Software and Simulink
	Numerical Computational Techniques using MATLAB
	Hands on Training on OCTAVE (An open source software)
	Electricity usage for Domestic & Industrial applications
Mechanical Engineering/ Automobile	State of art of ground Vehicles
	Introduction to Auto CAD for Engineering Applications
	SOLIDWORKS with GD&T
	Visualization and learning of repair and maintenance of a vehicle
	Descriptive Statistics with Python
CSE&IT	Analytics using R Tool
	Internet of Things (IoT)
	Python Programming with Applications to Machine Learning
	FRONT END WEB DEVELOPER
	Google Services
Electronics Engineering	Electronic Circuit Design Using LTSPICE
	Python for Engineers
	Training on Scilab
Civil Engineering	Advancing from BASICS by Practicing through "VIRTUAL LABS" in Civil Engineering
	Basics of Python and its applications in Civil Engineering
	Civil Engineering Structural elements drawing using AutoCAD
Chemical Engineering	Chemical Reaction Engineering: A flyover between Nano and Macro world
	Introduction to Analytical Instruments
	Introduction of Mineral Processing and Challenges
Applied Science	Chromatographic Techniques used in identification
	Uses of Fiber Optics in Current Scenario
	Applications of Lasers in Engineering, Technology, Space & Medical Science
	Differential Equations and its Application
	Discrete Mathematics



B.Tech. (Electronics Engineering) III Semester

Effective for academic session 2021-22 & 2022-23

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted: Theory Slot: End Sem. End Term Evaluation	Theory Slot: End Sem. Proficiency in subject course	Theory Slot: Mid Sem. Exam.	Theory Slot: Quiz/ Assignment	Practical Slot: End Sem.	Practical Slot: Lab Work & Sessional	Practical Slot: Skill Based Mini Project	Total Marks	Contact Hours per week: L	T	P	Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam.
1.	100025	BSC	Mathematics-II	50	10	20	20	-	-	-	100	3	1	-	4	Offline (3:0)	PP
2.	140311	DC		50	10	20	20	60	20	20	200	2	1	2	4	Blended (3:1)	PP
3.	140312	DC		50	10	20	20	-	-	-	100	2	1	-	3	Blended (2:1)	PP
4.	140313	DC		50	10	20	20	60	20	20	200	2	1	2	4	Blended (2:1)	PP
5.	140314	DC		50	10	20	20	-	-	-	100	2	1	-	3	Blended (2:1)	PP
6.	140315	DLC		-	-	-	-	60	20	20	100	-	-	2	1	Offline(1:0)	SO
7.	140316	DLC		-	-	-	-	-	40	-	40	-	-	2	1	Online +Mentoring	SO
8.		CLC	Novel Engaging Course	-	-	-		50	-	-	50	-	-	2	1	Interactive	SO
9.	140317	DLC	Summer Internship Project-I (Institute Level Evaluation)	-	-	-	-	60	-	-	60	-	-	4	2	Offline	SO
		Total		250	50	100	100	290	100	60	950	11	5	12	23		
10.	1900005	MAC	Project Management & Financing	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	NEC: Interactive	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	SIP/ SLP/ NEC: SO	Total Credits
3	1	8	4	5	1	17	0	0	1	4	23
13.63%	4.54%	36.36%	18.18%	22.72%	4.54%	77.27%	0%	0%	4.54%	18.18%	

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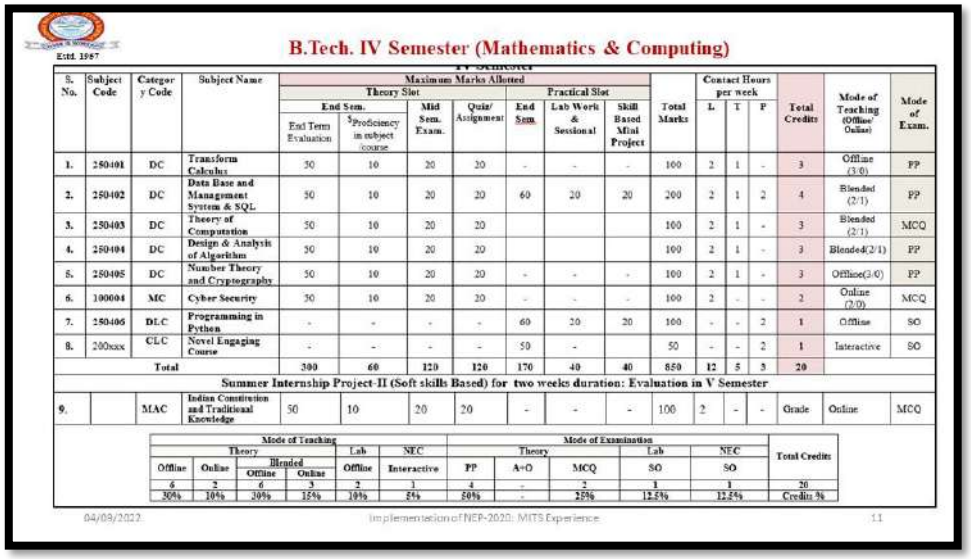

B.Tech. IV Semester (Mathematics & Computing)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted: Theory Slot: End Sem. End Term Evaluation	Theory Slot: End Sem. Proficiency in subject course	Theory Slot: Mid Sem. Exam.	Theory Slot: Quiz/ Assignment	Practical Slot: End Sem.	Practical Slot: Lab Work & Sessional	Practical Slot: Skill Based Mini Project	Total Marks	Contact Hours per week: L	T	P	Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam.
1.	250401	DC	Transform Calculus	50	10	20	20	-	-	-	100	2	1	-	3	Offline (3:0)	PP
2.	250402	DC	Data Base and Management System & SQL	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
3.	250403	DC	Theory of Computation	50	10	20	20				100	2	1	-	3	Blended (2/1)	MCQ
4.	250404	DC	Design & Analysis of Algorithm	50	10	20	20				100	2	1	-	3	Blended(2/1)	PP
5.	250405	DC	Number Theory and Cryptography	50	10	20	20	-	-	-	100	2	1	-	3	Offline(3:0)	PP
6.	100004	MC	Cyber Security	50	10	20	20	-	-	-	100	2	-	-	2	Online (2:0)	MCQ
7.	250406	DLC	Programming in Python	-	-	-	-	60	20	20	100	-	-	2	1	Offline	SO
8.	200xxx	CLC	Novel Engaging Course	-	-	-	-	50	-		50	-	-	2	1	Interactive	SO
		Total		300	60	120	120	170	40	40	850	12	5	3	20		
Summer Internship Project-II (Soft skills Based) for two weeks duration: Evaluation in V Semester																	
9.		MAC	Indian Constitution and Traditional Knowledge	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	NEC: Interactive	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	NEC: SO	Total Credits
6	2	6	3	2	1	4	-	2	1	1	20
30%	10%	30%	15%	10%	5%	50%	-	25%	12.5%	12.5%	Credits %

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Changes/Challenges in III Semester Schemes: A step towards NEP-2020
(w.e.f 2021-2022)

1. Blended learning introduced: **Multiple mode teaching-learning pattern (MMTLP)**, learning in online/off-line/blended modes proposed by BoS for each course. (*Online Teaching Learning, Black Board Teaching Learning, Group based Learning, learning through demonstration, learning through projects, learning through experimentation, Activity based Learning and Onsite/ field based learning.*)
2. Move away from high stake examinations: Implementation of "**Multiple Mode Logical Pattern Examination (MMLPE)**" System.

Nature of Subject/Course	Learning Levels	Preferable Mode of Examination
Theoretical	Remembering, Understanding, plying	MCQ Based
Computational/ Mathematical	Applying, Analysing	Pen Paper
Design / Drawing / Programming	Applying, Analysing, Evaluating, Creating	Assignment + Oral
Practical (Programming/Knowledge/Application)	Understanding, Applying	Submission+ Oral
Practical (Design/Analysis)	Analysing, Evaluating	Assignment + Oral
Projects	Creating, Evaluating, Analyzing	Submission+ Oral
MOOCs	As decided by the course mentor	Assignment + Proctored Exam

Changes/Challenges in III & IV Semester continued..

3. **Holistic Education, Knowledge of Many Arts, interdisciplinary interactions & flexibility in** curriculum: **Novel Engaging Course offered,** 01 credit each in III, IV, V and VI semesters for **"learning by doing"** {*Challenges were in designing these courses, coordination with external mentors where necessary, preparing time-table, preparing the registration mechanism etc.*}

4. **Activity based learning/Informal learning/Cross disciplinary learning: In-house Summer Internship Programme-I and In-house Summer Internship Programme-II** were offered and evaluated based on rubrics {*Gives a different learning experience than theory classes, Labs, tutorials etc., better interaction among students, emphasis is on individual performance, communication, soft skills etc.*}

5. Second Audit Course introduced: **for domain specific/ cross disciplinary value addition and knowledge enhancement**

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Novel Courses (38 Nos) offered in August-December 2021

Name of Course/Code	Registered Students	Name of Course/Code	Registered Students
3D Printing (2000001)	50	National Service Scheme (2000016)	59
Amateur Radio Communication (2000002)	14	Organic Farming (2000024)	22
Animation (2000009)	50	Performing Arts – Dance (2000030)	9
Artistry (2000044)	17	Performing Arts - Music (2000031)	29
Career Guidance & Preparedness (2000053)	23	Personality Development (2000056)	50
Coding Skills (2000060)	51	Physical Fitness (2000036)	50
Data Analysis Skills (2000004)	50	Preliminary Journalism Skills (2000050)	14
Design Skills Using Simulation Software (2000003)	50	Public Speaking (2000058)	50
Digital Learning (2000010)	50	Pythons of Programming (2000065)	50
Elements of Photographic Skills (2000012)	51	Robotics (2000007)	50
Emerging Technologies in Computer Science (2000064)	50	Sculpture Making (2000046)	11
English Literary Skills (2000048)	33	Short Story Writing (2000051)	10
Environment Protection (2000013)	51	Software Development (2000066)	52
Food and Nutrition (2000052)	25	Vehicular Skill Development (2000008)	40
National Service Scheme (2000016)	59	Performing Arts – Dance (2000030)	9
Organic Farming (2000024)	22	Mentoring Skills (2000028)	24
Total No. of Registered Students	**1178**	National Cadet Corps (2000020)	28

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Novel Courses (73 Nos) offered in July-December 2022:

Course Title	Offering Dept.	Registered Students	Course Title	Offering Dept.	Registered Students
3D Printing	ME	50	English Literary Skills	Humanities	18
Animation	CSE	50	Entrepreneurship: Concept to Company*-I	EC	42
Basic and Advanced Excel	CE	50	Environment Protection* - I	CE	50
Basic Programming of Python using Google Colab	EC	50	Fire Safety and Regulation in Building	CE	24
Basics and Applications of Mathematica	MAC	11	Food and Nutrition	App. Sc.	25
Basics of Campus Recruitment Training	Management	50	Games & Sports** - I	Sports	50
Basics of Control Systems for Engineers	EC	11	Games & Sports** - III	Sports	40
Basics of MATLAB Programming	EC	37	Graphic Design	Arch.	50
Basics of Technical Analysis in Stocks	Arch.	50	Hindi Language Skills	MAC	23
Bhagwad Gita- An Introduction	ME	50	Holistic Health* - I	EE	8
Career Guidance & Preparedness	EE & CM	50	Imbalance Learning	IT (AIR)	8
CFD Foundation Course using ANSYS FLUENT	ME	10	Innovation: From Creativity to Entrepreneurship**-I	EE	50
Cloud Computing: Techniques & Tools	CSE	50	Introduction to Auto CAD for Engineers	ME	50
Coding Skills** - I	CSE	50	IT Tools	IT	50
Coding Skills** - III	CSE	25	Know your Country: History, Culture & Traditions	IT	50
Computational Thinking for Problem Solving	IT	44	LT Spice Tutorial for Circuit Simulation	EC	20
Corporate Governance	MBA	8	Material Characterization Techniques for Engineering Applications	ME	10
Creative thinking and problem solving	ME	50	Microsoft Office-Excel Skills	IT	50
Data Analysis Skills	MAC	50	Modern techniques for business correspondence	IT	16
Demystifying Online Social networks	CSE	25	National Cadet Corps** (NCC) - I	NCC	50
Design Skills Using Simulation Software	ME	21	National Cadet Corps** (NCC) III	NCC	12

Novel Courses (73 Nos) offered in July-December 2022: list continued..

Course Title	Offering Dept.	Registered Students	Course Title	Offering Dept.	Registered Students
Developments in Pavement Construction: Past to Future	CE	10	National Service Scheme** (NSS) - I	NSS	37
Digital Circuit Design	EE	11	National Service Scheme** (NSS) - III	NSS	18
Digital Learning* - I	IT	23	Organic Farming	CE	19
Elements of Photographic Skills	EC	50	Emerging Technologies in Computer Science	CSE	50
			Solar Applications	ME	17
Photo Editing Software: Adobe Photoshop	Arch.	50	Statistical data analysis through programming	IT	50
Practical Electronics for Inventors	EC	7	Study of Historical Monuments of Gwalior	CSE	11
Preliminary Journalism Skills	CM	10	Understanding Financial Markets	IT	50
Proficiency in Microsoft Excel	EE	50	Understanding Logic Gates	EC	31
Project Management	ME	50	Vehicular Skill Development	ME	14
Public Speaking* - I	CSE & Arch.	50	World Heritage Sites: A Brief Overview	Arch.	45
Python for Image processing applications using Open CV	IT (AIR)	50	Sculpture Making* - I	Arch.	8
Research Paper Writing	EC	5	Shutter Up-Flash Me Photography	CM	50
Robotics	EC	50	Smart Home Technologies	IT	50
Role of MATLAB in Computations	CSE	29	Software Development** - I	Data Resource	50
Science and Technology Around Us	CM	12	Software Development** - III	Data Resource	18
	TOTAL	2463			

B. Tech. V Semester (Civil Engineering)

For batches admitted in academic session 2020 – 21 onwards

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted: Theory Slot: End Term Evaluation: End Sem Exam	Theory Slot: End Term Evaluation: *Proficiency in subject /course	Theory Slot: Continuous Evaluation: Mid Sem	Theory Slot: Continuous Evaluation: Quiz/ Assignment	Practical Slot: End Sem Exam	Practical Slot: Continuous Evaluation: Lab Work & Sessional	Practical Slot: Continuous Evaluation: Skill Based Mini Project	Total Marks	Contact Hours per week: L	T	P	Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam
1.	110520	MC	Data Science	50	10	20	20	60	20	20	200	3	0	2	4	Blended (2/1)	MCQ
2.	110511	DC		50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
3.	110512	DC		50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	PP
4.	110513	DC		50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	PP
5.	110514	DC		50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	PP
6.	110515	DLC		-	-	-	-	60	40	-	100	-	-	4	2	Offline (2/0)	SO
7.	110516	DLC		-	-	-	-	-	40	-	40	-	-	2	1	Online + Mentoring	SO
8.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
9.	110517	DLC	Summer Internship Project--II (Institute Level) (Evaluation)	-	-	-	-	60	-	-	60	-	-	4	2	Offline (2/0)	SO
			Total	250	50	100	100	290	120	40	950	11	4	16	23	-	-
10.	1000006	MAC	Disaster Management	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ
11.	1000005	MAC	Project Management & Financing	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ

Additional Courses for obtaining Honours or Minor Specialization — Permitted to opt for maximum 02 additional courses for the award of Honours or Minor Specialization

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	Seminar Online Mentoring	NEC Interactive	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	SIP/SLP/NEC: SO	Total Credits
-	-	10	5	6	1	1	12	-	3	4	4	23
-	-	43%	22%	27%	4%	4%	52%	-	14%	17%	17%	Credits %

B.Tech. VI Semester (Mathematics & Computing)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted: Theory Slot: End Sem. End Term Evaluation	Theory Slot: End Sem. Proficiency in subject /course	Theory Slot: Mid Sem. Exam.	Theory Slot: Quiz/ Assignment	Practical Slot: End Sem	Practical Slot: Lab Work & Sessional	Practical Slot: Skill Based Mini Project	MOOCs: Assignment	MOOCs: Exam	Total Marks	Contact Hours per week: L	T	Total Credits: P	Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam.
1.	250601	DC		50	10	20	20	-	-	-			100	3	-	-	4	Blended (2/1	PP
2.	250602	DC		50	10	20	20	60	20	20			200	3	-	2	4	Blended (2/1)	PP
3.	250603	DE		50	10	20	20						100	3	1	-	4	Blended (2/1)	PP
4.	250604	DE									25	75	100	3	-	-	3	Online	MCQ
5.	250605	OC		50	10	20	20	-	-	-			100	3	-	-	3	Offline(3-0)	MCQ
6.	250606	DLC	Minor Project-II	50	10	20	20						100	-	-	4	2	Online (2/0)	MCQ
7.	200xxx	CLC	Novel Engaging Course	-	-	-	-	60	20	20			100	-	-	2	1	Offline	A+O
Total				250	50	100	100	120	40	40	25	75	800	15	1	8	21		
Summer Interaship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester																			
8.			Additional Course for Honours or minor Specialization	50	10	20	20	-					100	2		GRADE		Online	MCQ

Changes/Challenges in V & VI Semester continued..

1. **Honours & Minor specialization**: Provision for opting 02 courses for **Honours (Parent Discipline)** or **Minors (Allied field)** based on aspirations of students {*The BoS offered suitable MOOCs in each category after discussion and deliberations, awareness created among students*}
2. **To meet the challenge of 'creating awareness', interactive orientation sessions and session closing programs** were conducted to guide the students about these provisions and for helping them in course selection, if necessary
3. To address student development, effective learning experiences are given through **project-based and inquiry-based learning** Minor Project-I & II are introduced. {*department level exercises conducted for effective implementation of this task, efforts were made for designing problems focusing on local & societal issues*}
4. **Choice & Flexibility**: Departmental Electives **(DEs)** & Open Category **(OCs)** Electives offered since VI semester
5. **Digital learning/Self-learning: To address this, a few mandatory electives (about 50%) are offered through MOOC platforms, with credit transfer. Mentors are assigned for these and mentoring sessions conducted.**

Changes/Challenges in V & VI Semester continued..

Honours & Minor specialization: These courses are offered through MOOCs. Course selection is challenging. The overlap with similar elective courses needs to be avoided. However, all courses in elective buckets are not opted by a particular student.

Issues faced: Many students end up with earning slightly less than 20 additional credits and thus are deprived of the minor/honours degree.
However, the additional credits earned are reflected in their mark sheet.

Outcome of this initiative

Year	Degree/Specialization	No. of students	Branch-wise Break-up
2020-2021	B.Tech with Minor Specialization in CSE	11	ME: 03, AU: 02, EC: 02 , ET:02, BT:02
2020-2021	B.Tech with Honors	25	ME:13, AU:01, IT:02, EE: 04, EC: 01, CSE:03, ET:01
2021-2022	B.Tech with Minor Specialization in CSE	04	EC-02, EE-01, CE-01
2021-2022	B.Tech with Honors	29	AU:02, BT:01, CE:05, CM:07, EE:05, IT:02, ME: 06

Challenges continued...

Choice & Flexibility through DEs and OCs: The registration for these courses required lot of energy in spite of significant efforts made for creating awareness about these provisions, at every level.

Issues faced: Some OC courses turned out to be tough/had some pre-requisites.

Policy being used is FCFS : Some students failed to get seats in the courses of their choice. Excuses such as technical failure/internet issues etc. were quoted; however the registration team was able to resolve most of these issues.

MOOC issues: Some students fail in the mandatory MOOCs, as all students do not have self-learning potential or their course selection is bad. Such students were permitted to re-appear in institute level exam conducted by their course mentors.

MITS achievement in Self-learning through MOOCs

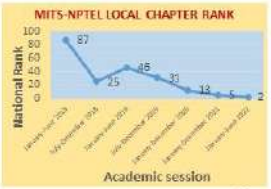
To address this important graduate attribute, the institute started the MITS-NPTEL Local Chapter way back in 2017 itself.

Provisions were also made in the curriculum for mandatory registration in one MOOC course from the bucket approved by the BoS against the "self-study/seminar" course.

The training students and faculty received through this initiative, immensely helped in the effective implementation of the Flexible curriculum and its orientation towards NEP-2020 attributes.

Due to the contribution of faculty and students, the MITS-NPTEL local chapter has been appearing in top 100 local chapters of the country, since inception.

Session/Year	Rank (among top 100)
January-June 2018	87th
July-December 2018	25th
January-June 2019	46th
July-December 2019	31st
January-December 2020	13th
January-December 2021	5th
January-June 2022	2nd



B.Tech. (Electronics Engineering) VII Semester

Effective for academic session 2019-2023

S.N.	Subject Code	Category	Subject Name & Title	Maximum Marks Allotted: Theory Slot: End Sem.	Theory Slot: Mid Sem. Exam	Theory Slot: Quiz/ Assignment	Practical Slot: End Sem.	Practical Slot: Term Work & Lab Work & Sessional	MOOCS: Assignment	MOOCS: Exams	Total Marks	Contact Hours per week: L	T	P	Total Credits	Mode of Teaching (Online, Offline, Blended)	Mode of Exam
1.	1407XX	DE	DE-3	70	20	10	-	-	-	-	100	3	-	-	3	Blended (2/1)	PP
2.	1407XX	DE	DE -4*	-	-	-	-	-	25	75	100	2	-	-	2	Online	MCQ
3.		OC	OC -2	70	20	10	-	-	-	-	100	3	-	-	3	Blended (2/1)	PP
4.		OC	OC-3	70	20	10	-	-	-	-	100	3	-	-	3	Blended (2/1)	PP
5.	100008	MC	Intellectual Property Rights (IPR) (MC)	70	20	10	-	-	-	-	100	2	-	-	2	Online (2/0)	MCQ
6.	140701	DLC	VLSI Lab (DLC-6)	-	-	-	50	50	-	-	100	-	-	4	2	Offline	SO
7.	140702	DLC	Summer Internship Project-III (DLC-7) (04 weeks)	-	-	-	50	50	-	-	100	-	-	4	2	Offline	SO
8.	140703	DLC	Creative Problem Solving (DLC-8)	-	-	-	25	25	-	-	50	-	-	2	1	Offline	SO
			Total	280	80	40	125	125	25	75	750	13	-	10	18		

Additional Courses for obtaining Honours or minor Specialization by desirous students — Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization

Mode of Teaching: Theory: Offline	Theory: Online	Theory: Blended: Offline	Theory: Blended: Online	Lab: Offline	NEC: Interactive	Mode of Examination: Theory: PP	Theory: A+O	Theory: MCQ	Lab: SO	NEC: SO	Total Credits
0	4	6	3	5	0	9	0	4	5	0	14
0%	22.22%	35.29%	17.64%	29.41%	0%	52.94%	0%	22.22%	29.41%	0%	

B.Tech. VIII Semester (Mathematics & Computing)

For batches admitted in academic session 2020-21

Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Online, Offline, Blended)	Mode of Exam.
			Theory Slot				Practical Slot			MOOCs			L	T	P			
			End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
			End Sem. Exam.	Proficiency in subject /course	Mid Sem. Exam	Quiz/ Assignment		Lab work & Sessional	Skill Based Mini Project									
DE	DE	Departmental Elective* (DE-5)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	Online
DE	DE	Departmental Elective * (DE-6)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	Online
OC	OC	Open Category* (OC-4)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	Online
DLC	DLC	Internship/Project	-	-	-	-	250	150	-	-	-	400	-	-	16	8	Online/offline	Offline
	-	Professional Development#	-	-	-	-	50	-	-	-	-	50	-	-	4	2	.....	Offline
Total			-	-	-	-	300	150	-	75	225	750	9	-	20	19	-	-
Additional Course for Honours or minor Specialization			Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization															

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Challenges in implementing the VIII Semester

1. Employability enhancement & industry/market exposure through **Full semester internship/project** in approved organizations
2. Credits earned towards **"Professional Development"** based on participation and achievement in extra & co-curricular activities over the B.Tech duration {Detailed evaluation format prepared with weigh assigned to different activities and roles}
3. Internship policy, **Fortnightly Progress Report (FPR)** and evaluation rubrics were drafted
4. An alternate provision for undertaking Project under institute faculty is also there. These students are required to publish one paper in conference or journal.

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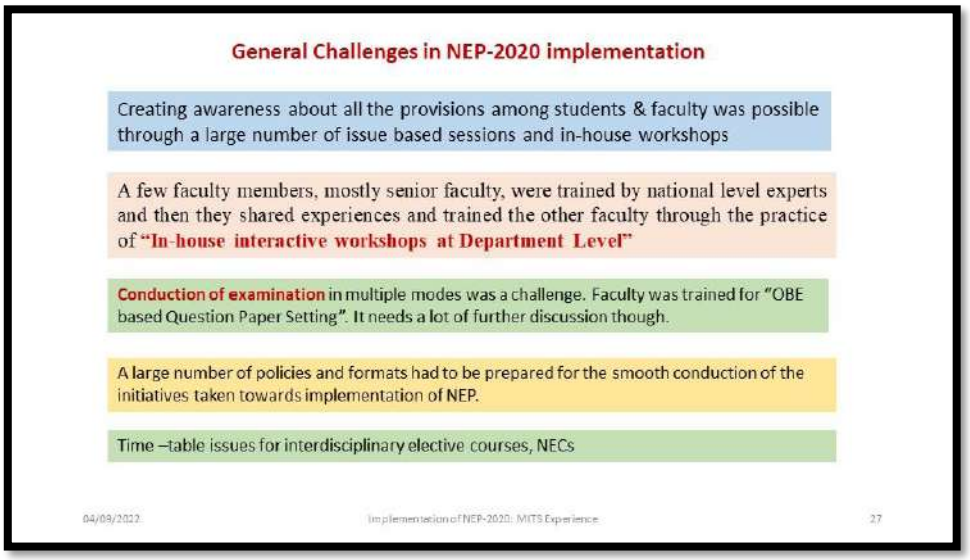
Challenges in VIII Semester continued..

Professional Development: A proper format has been prepared for evaluation. Weights are assigned to different extra& co-curricular activities, roles in administrative committees etc.

Issues faced: Some students had not participated in any of the mentioned categories. Special department level events were conducted for such students. In future, lesser cases are expected as awareness would grow.

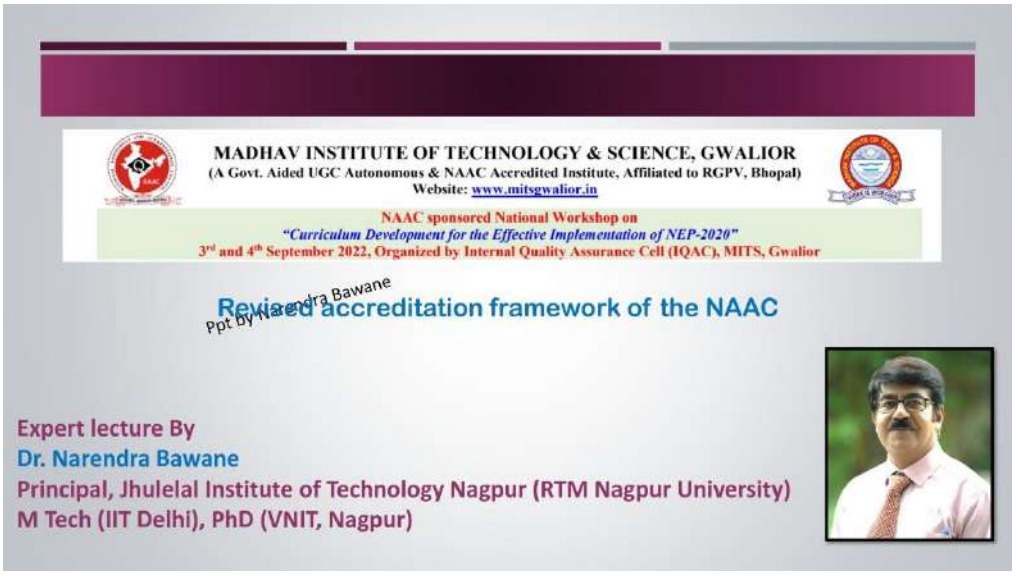
Full VIII Semester Internship/Project: Arranging internship placements for all students is a challenge, particularly for core sector students.
Those who do not get internship placement, land up in Project under institute mentor. Only a few opt for project out of interest.
Also, approving companies for internship is a challenge for the departments and T&P cell. Some companies charge for giving certificates and do not provide any practical exposure/experiences to students.
However, a lot of effort was put into this activity by coordinators, HoDs and T&P Cell, particularly for 2022 batch.

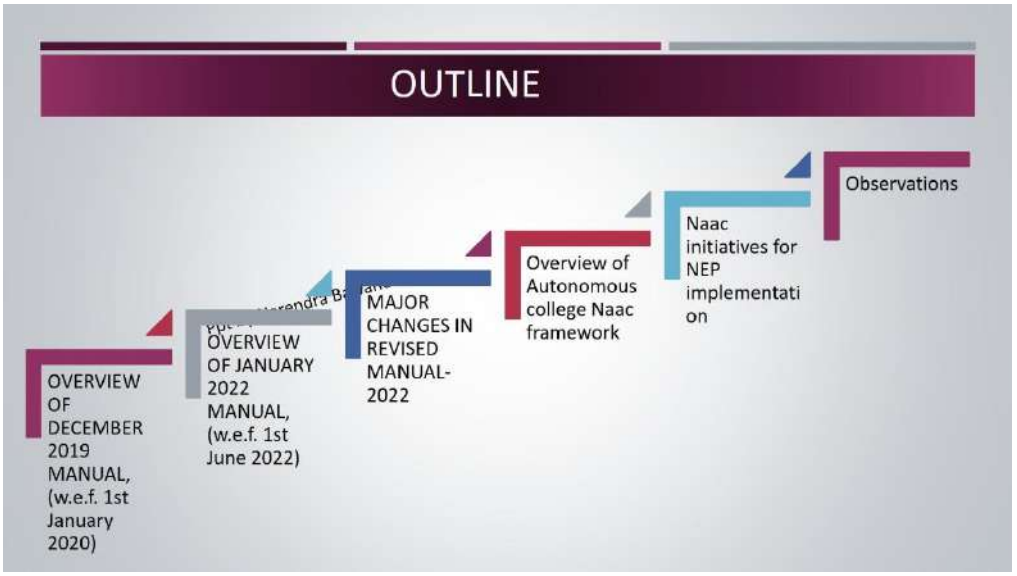
04/09/2022 Implementation of NEP-2020: MITS Experience 26

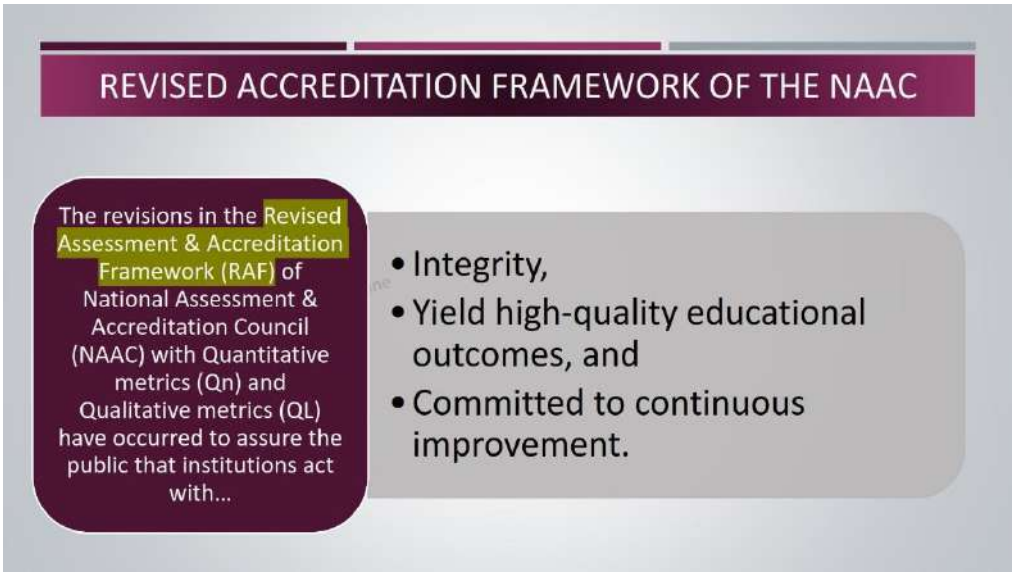


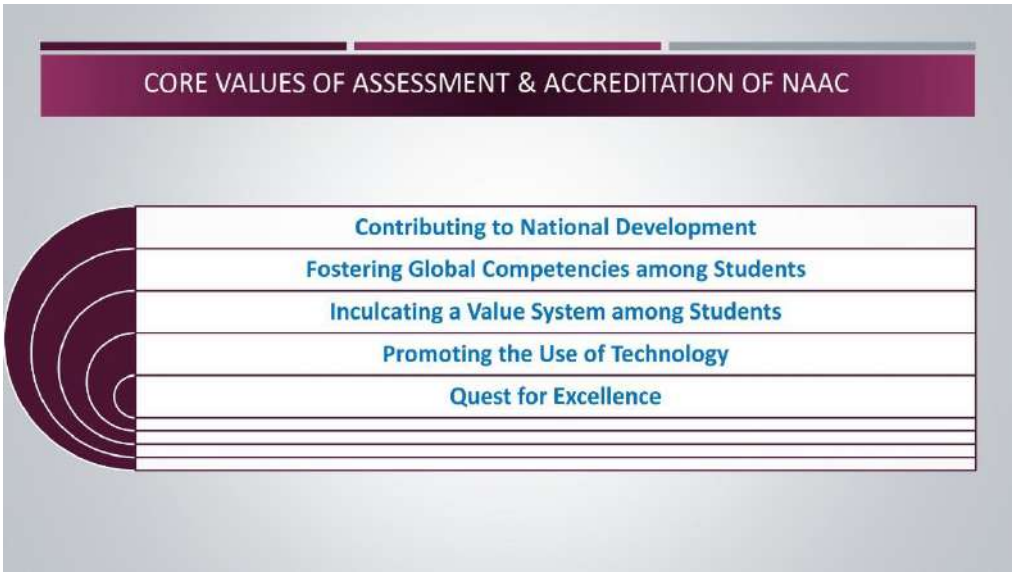
Dr. Narendra G. Bawane

Principal, JIT, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

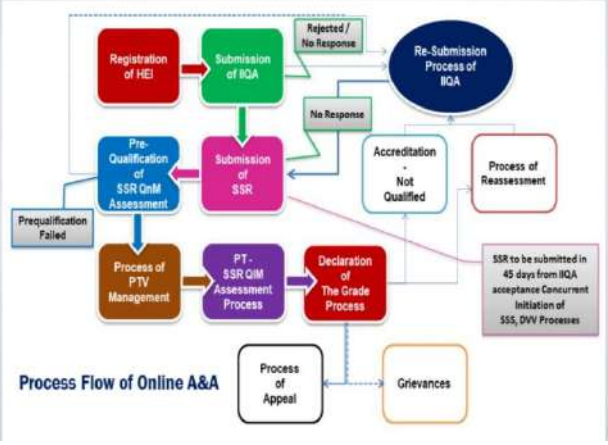



OUTLINE
OVERVIEW OF DECEMBER 2019 MANUAL, (w.e.f. 1st January 2020)
OVERVIEW OF JANUARY 2022 MANUAL, (w.e.f. 1st June 2022)
MAJOR CHANGES IN REVISED MANUAL-2022
Overview of Autonomous college Naac framework
Naac initiatives for NEP implementation
Observations


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
The revisions in the Revised Assessment & Accreditation Framework (RAF) of National Assessment & Accreditation Council (NAAC) with Quantitative metrics (Qn) and Qualitative metrics (QL) have occurred to assure the public that institutions act with...
• Integrity,
• Yield high-quality educational outcomes, and
• Committed to continuous improvement.


CORE VALUES OF ASSESSMENT & ACCREDITATION OF NAAC
Contributing to National Development
Fostering Global Competencies among Students
Inculcating a Value System among Students
Promoting the Use of Technology
Quest for Excellence

REVISED ACCREDITATION FRAMEWORK OF THE NAAC



REVISED ASSESSMENTAND ACCREDITATION (A&A) FRAMEWORK

- The Revised Assessment and Accreditation Framework was launched in July 2017.
- It has undergone many revisions
- It represents an explicit paradigm shift making it ICT enabled, objective, transparent, scalable and robust.

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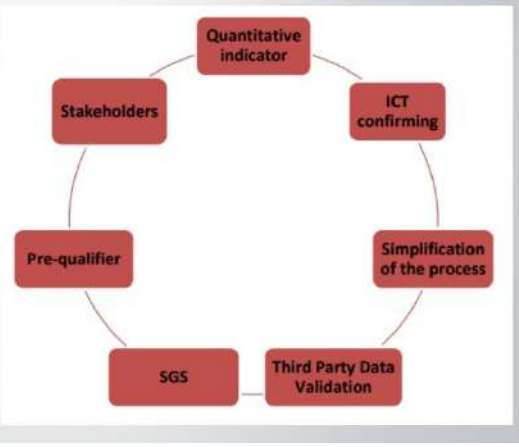

REVISED ACCREDITATION FRAMEWORK OF THE NAAC

Quantitative indicator	ICT confirming	Simplification of the process
from qualitative peer judgment to data-based quantitative indicator evaluation with increased objectivity and transparency	towards extensive use of ICT confirming scalability and robustness	in terms of simplification of the process drastic reduction in the number of questions, size of the report, visit days, and so on

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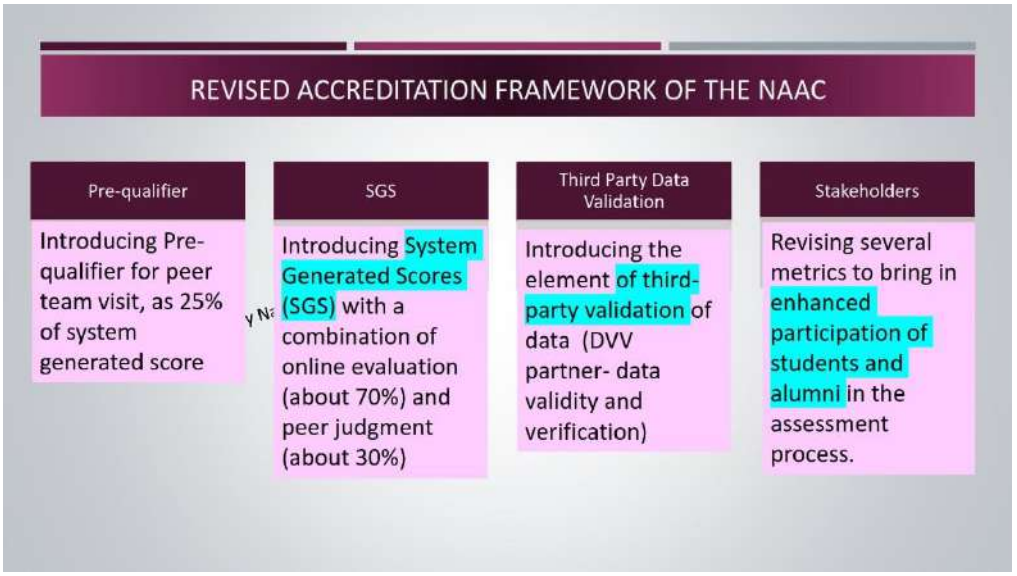
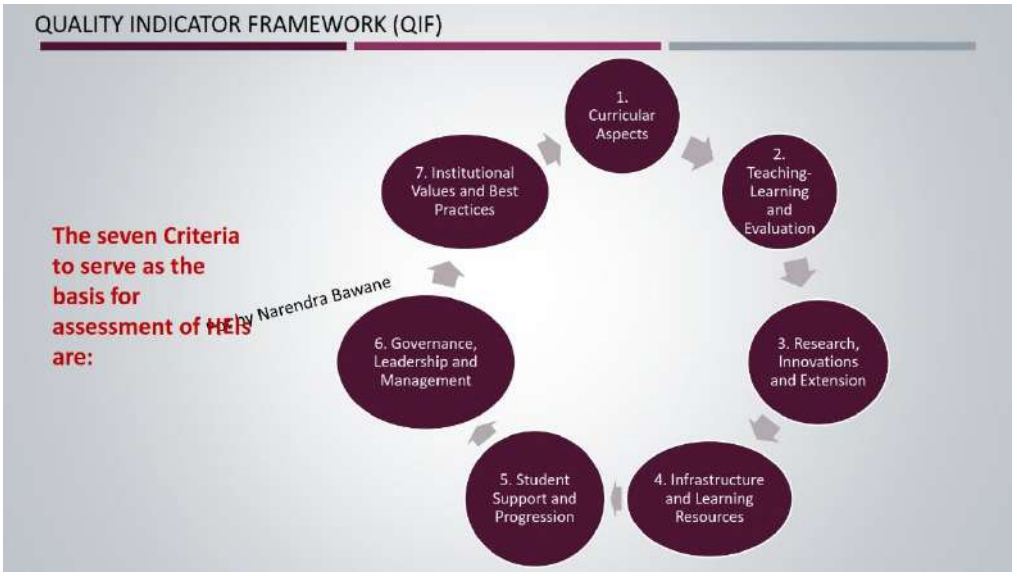

REVISED ACCREDITATION FRAMEWORK OF THE NAAC
Pre-qualifier
Introducing Pre-qualifier for peer team visit, as 25% of system generated score
SGS
Introducing System Generated Scores (SGS) with a combination of online evaluation (about 70%) and peer judgment (about 30%)
Third Party Data Validation
Introducing the element of third-party validation of data (DVV partner- data validity and verification)
Stakeholders
Revising several metrics to bring in enhanced participation of students and alumni in the assessment process.


QUALITY INDICATOR FRAMEWORK (QIF)
The seven Criteria to serve as the basis for assessment of HEIs are:
1. Curricular Aspects
2. Teaching-Learning and Evaluation
3. Research, Innovations and Extension
4. Infrastructure and Learning Resources
5. Student Support and Progression
6. Governance, Leadership and Management
7. Institutional Values and Best Practices
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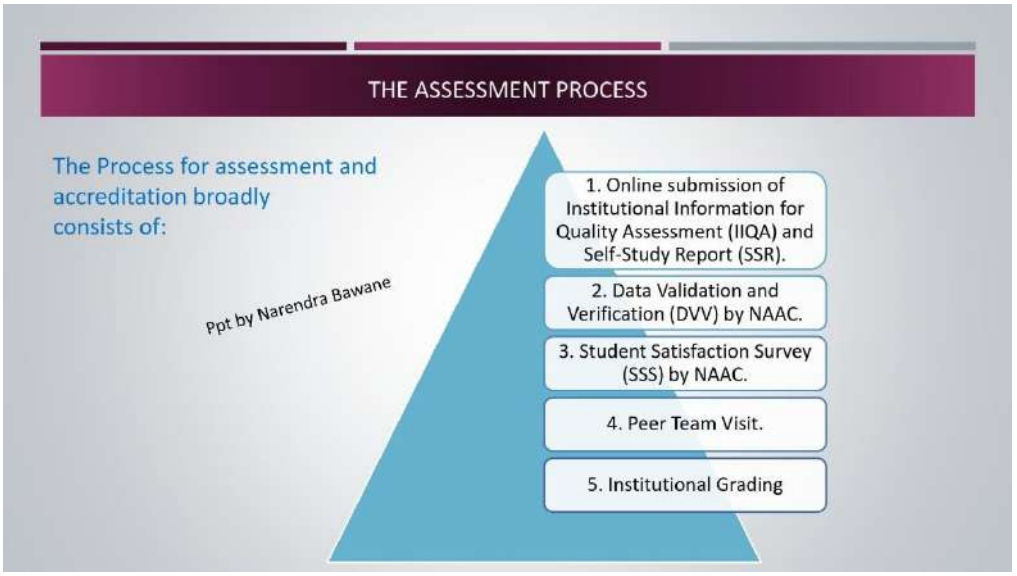
THE ASSESSMENT PROCESS
The Process for assessment and accreditation broadly consists of:
Ppt by Narendra Bawane
1. Online submission of Institutional Information for Quality Assessment (IIQA) and Self-Study Report (SSR).
2. Data Validation and Verification (DVV) by NAAC.
3. Student Satisfaction Survey (SSS) by NAAC.
4. Peer Team Visit.
5. Institutional Grading

Distribution of Metrics across Criteria (affiliated old manual 2019)

Criteria	QnM Metrics (Quantitative)		QlM Metrics (Qualitative)	
	Count	Weightage	Count	Weightage
1. Curricular Aspects (100)	8	75	3	25
2. Teaching-Learning and Evaluation (350)	9	225	7	125
3. Research, Innovation and Extension (120)	12	110	2	10

Ppt by Narendr

Distribution of Metrics across Criteria

Criteria	QnM Metrics (Quantitative)		Q1M Metrics (Quantitative)	
	Count	Weightage	Count	Weightage
4. Infrastructure and Learning Resources (100)	8	71	5	29
5. Student Support and Progression (130)	11	120	2	10
6. Governance, Leadership and Management (100)	6	42	10	58
7. Institutional Values and Best Practices (100)	6	27	7	73
Total	**60**	**670**	**36**	**330**

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NAAC- OVERVIEW OF DECEMBER 2019 MANUAL (w.e.f. 1st January 2020): Affiliated Colleges

Type of HEIs	Universities	Autonomous Colleges	Affiliated / Constituent Colleges	
Criteria	7	7	7	7
Key Indicators(Kis)	34	34	31	32
Qualitative Metrics (Q1M)	36	35	35	36
Quantitative Metrics (QuM	79	72	58	60
Total Metrics (Q1M+QuM)	115	107	93	96

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REVISED AA FRAMEWORK FOR AFFILIATED COLLEGES THE MODIFIED KEY INDICATORS:

The key indicators are modified by NAAC with effect from 01.06.2022.

Q metrics indicators - UG colleges - 93 to 55

Q metrics) - UG & PG Colleges colleges- 96 to 55

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For the affiliated/ constituent colleges

- 34 - Quantitative metrics (QnM)
- 21 - Qualitative metrics (QlM)

DISTRIBUTION OF METRICS AND KI'S ACROSS CRITERIA

Wef. June 2022

Ppt by N

Type of HEIs	Universities	Autonomous Colleges	Affiliated/Constituent Colleges
Criteria	7	7	7
Key Indicators (KIs)	34	34	32
Qualitative Metrics (QlM)	36	35	21
Quantitative Metrics (QnM)	79	72	34
Total Metrics (QlM + QnM)	115	107	55

Source: NAAC Manual

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

Criteria	Key Indicators (KIs)	Affiliated/ Constituent Colleges
1. Curricular Aspects	1.1. Curricular Planning and Implementation	20
	1.2 Academic Flexibility	30
	1.3 Curriculum Enrichment	30
	1.4 Feedback System	20
	Total	100

Cr(OLD)	QN	QL
Cr1	8	3

Criteria no (New)	QN	QL
1	4	2

CRITERION 1 – CURRICULAR ASPECTS (100): CHANGES/ NEW

1.1.1. Q1M (20) : The Institution ensures effective curriculum planning and delivery through a well – planned and documented process including Academic calendar and conduct of continuous internal Assessment.

Remark: old QI1.1.1 (curriculum delivery) & QI 1.1.2 (adheres to the academic calendar) are merged

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1.4.1 QnM (20) : Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on the feedback is made available on institutional website (Yes or No).

Remark: old 1.4.1 & 1.4.2 are merged and curriculum feedback is changed to academic performance and ambience

CRITERION 1 – CURRICULAR ASPECTS (100): CHANGES/ NEW:

Removed:

1. **1.1.3 QnM (5):** Teachers of the Institution participate in following activities related to curriculum development and assessment of the affiliating University ....
2. **1.2.1 QnM (10):** Percentage of Programmes in which Choice Based Credit System / elective course has been implemented.

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3. **1.3.2.Qn-** Average percentage of courses that include experiential learning through project work/field work/internship

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

2. Teaching-Learning and Evaluation	2.1 Student Enrolment and Profile	40
	2.2 Student-Teacher Ratio	40
	2.3 Teaching-Learning Process	40
	2.4 Teacher Profile and Quality	40
	2.5 Evaluation Process and Reforms	40
	2.6 Student Performance and Learning Outcomes	90
	2.7 Student satisfaction Survey	60
	Total	**350**

Cr	QN	QL
Cr2	9	7

Criteria no	QN	QL
2	7	3

CRITERIA 2- TEACHING – LEARNING AND EVALUATION (350) :
CHANGES/ NEW :

2.3.1 Q1M (40): Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences using ICT tools.

Remark: Old 2.3.1 & 2.3.2 are merged]

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2.5.1 q1m (40):
Mechanism of internal/external assessment is transparent and the grievance redressal system system is time-bound and efficient.

Remark: old 2.5.1 & 2.5.2 are merged

CRITERIA 2- TEACHING – LEARNING AND EVALUATION (350) :
CHANGES/ NEW :

2.6.1Q1M (45) :

Programme Outcomes (Pos) and Course Outcomes (Cos) for all Programmes offered by the institution are stated and displayed on website and attainment of Pos and Cos are evaluated.

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Remark: old 2.6.1 & 2.6.2 are merged

2.4.2 QnM (25):

Percentage of full time teachers with NET/SET/SLET/Ph.D./D.M./M.Ch./D.N.B Superspeciality / D.Sc/D.Litt. During the last five years

CRITERIA 2- TEACHING – LEARNING AND EVALUATION (350) :
CHANGES/ NEW :

Removed:

1. **2.2.1 Q1M (30):** The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners.

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2. 2.3.3 QnM **(15):** Ration of mentor to students for academic and other related issues.

3. **2.4.3 QnM (20):** Average teaching experience of full time teachers in the same institution (Data for the latest completed academic session)

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

3. Research, Innovations and Extension	3.1 Resource Mobilization for Research	10
	3.2 Innovation Ecosystem	15
	3.3Research Publications and Awards	25
	3.4 Extension Activities	40
	3.5 Collaboration	20
	Total	**110**

Cr	QN	QL
Cr3	12	2

Criteria no	QN	QL
Cr3	6	3

CRITERIA 3- RESEARCH, INNOVATIONS AND EXTENSION (110)
CHANGES/NEW

3.2.1 Q1M (10):

Institution has created and ecosystem for innovations and has initiatives for creation and transfer of knowledge (patents filed, published, incubation center facilities in the HEI to be considered). ... 500 words

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Remark: patents filed, published is newly added

CRITERIA 3- RESEARCH, INNOVATIONS AND EXTENSION (110)
CHANGES/NEW

3.2.1Q1M (10):

Grants received from Government and non-governmental agencies for research projects/ endowments in the institution during the last five years (INR in Lakhs).

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Remark: Old Qn 3.1.3 Depts having grants is merged with Qn 3.1.1 to form QI 3.2.1

3.2.2QnM (5): Number of workshops/seminars/conferences including on Research Methodology, Intellectual Property

CRITERIA 3- RESEARCH, INNOVATIONS AND EXTENSION (110)

CHANGES/ NEW :

3.5.1QnM (20):
The number of MoUs, collaborations/linkages for Faculty exchange, Student exchange, Internship, Field trip, On-the-job training, research and other academic activities during the last five years.

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Remark: Old 3.5.1 & 3.5.2 are merged

CRITERIA 3- RESEARCH, INNOVATIONS AND EXTENSION (110)

CHANGES/ NEW :

Removed:

3.1.2QnM (5): Percentage of teachers recognized as research guides (latest completed academic year).

3.3.1QnM (5): Number of Ph.Ds registered per eligible teacher during the last five years.

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3.4.4 QnM (20): **Average percentage of students participating in extension activities at 3.4**

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

4. Infrastructure andLearning Resources	4.1 Physical Facilities	**30**
	4.2 Library as a Learning Resource	**20**
	4.3 IT Infrastructure	**30**
	4.4 Maintenance of Campus Infrastructure	**20**
	Total	**100**

Cr	QN	QL
Cr4	8	5

Criteria no	QN	QL
Cr4	3	3

CRITERION 4 – INFRASTUCTURE AND LEARNING RESOURCES(100)
CHANGES/ NEW

4.1.1 QlM (20) : Availability of adequate infrastructure and physical facilities viz., classrooms, laboratories, ICT facilities, cultural activities, gymnasium, yoga centre etc. in the institution.

Remark: old 4.1.1 , 4.1.2 QnM Sports/cultural facilities, 4.1.3 **QnM ICT class rooms merged for 4.1.1 QlM**

Edited by Narendra Dawane

CRITERION 4 – INFRASTUCTURE AND LEARNING RESOURCES(100)
CHANGES/ NEW

4.2.1QlM(20): Library is automated using integrated Library Management System (ILMS), subscription to e-resources. Amount spent on purchase of books, journals and per day usage of library.

Remark: Old 4.2.1 (automated library), 4.2.2 QnM Library (subscription for the following e-resources) , QN 4.2.3 (library expenditure)are merged for new 4.2.1 Q1M]

4.3.1QlM (20): Institution frequently updates its IT facilities and provides sufficient bandwidth for internet connection.

Remark: Old Ql 4.3.1 & 4.3.3 QnM Internet Bandwidth is merged for 4.3.1 QlM

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

5. Student Support and Progression	5.1 Student Support	**50**
	5.2 Student Progression	**30**
	5.3 Student Participation and Activities	**50**
	5.4 Alumni Engagement	**10**
	Total	**140**

Cr	QN	QL
Cr5	11	2

Criteria no	QN	QL
Cr5	8	1

CRITERION 5 – STUDENT SUPPORT AND PROGRESSION(140): CHANGES/ NEW

5.1.1QnM (20): Percentage of students benefited by scholarships and freeships provide by the Government and Non-Government agencies during last five years.

Remark: Old 5.1.2 QnM Freeship from institution/ non-government agencies is merged with 5.1.1 QnM and From institution is removed. Only from Non- Government agencies is there.

Ppt by Nare...

5.2.1 QnM(20): Percentage of placement of outgoing students and students progressing to higher education during the last five years.

Remark: Old 5.2.1 QnM Placements & 5.2.2 QnM Progression to Higher Education merged

CRITERION 5 – STUDENT SUPPORT AND PROGRESSION(140): CHANGES/ NEW

Removed:

5.3.2 Q1M (5) : Institution facilitates students' representation and engagement in various administrative, co-curricular and extracurricular activities following duly established...

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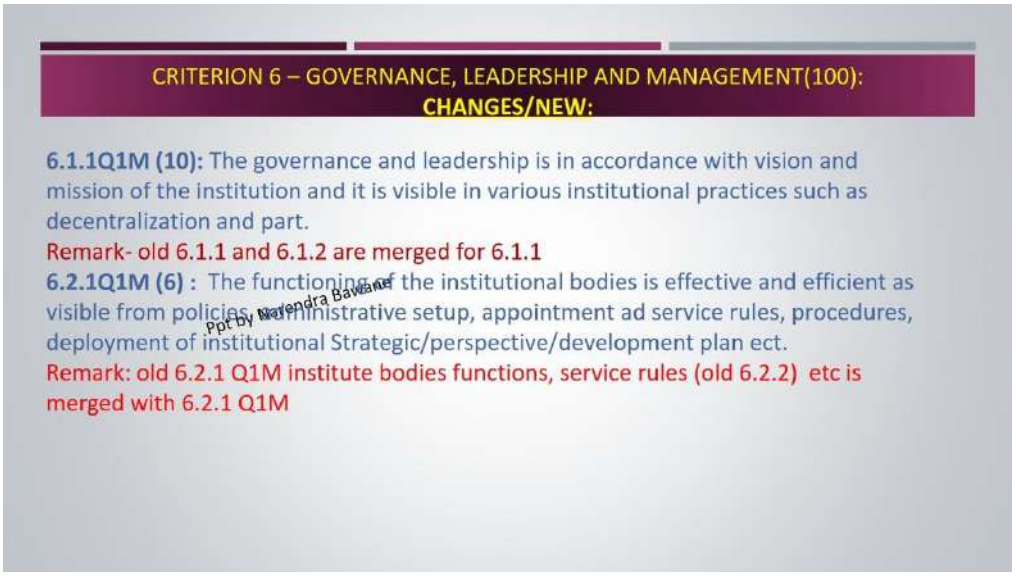
DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

6. Governance, Leadership and Management	6.1 Institutional Vision and Leadership	10
	6.2 Strategy Development and Deployment	10
	6.3 Faculty Empowerment Strategies	35
	6.4 Financial Management and Resource Mobilization	15
	6.5 Internal Quality Assurance System	30
	Total	100

Cr(old)	QN	QL
Cr6	6	10

Criteria no	QN	QL
6	4	5


CRITERION 6 – GOVERNANCE, LEADERSHIP AND MANAGEMENT(100):
CHANGES/NEW:
6.1.1Q1M (10): The governance and leadership is in accordance with vision and mission of the institution and it is visible in various institutional practices such as decentralization and part.
Remark- old 6.1.1 and 6.1.2 are merged for 6.1.1
6.2.1Q1M (6) : The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment ad service rules, procedures, deployment of institutional Strategic/perspective/development plan ect.
Remark: old 6.2.1 Q1M institute bodies functions, service rules (old 6.2.2) etc is merged with 6.2.1 Q1M
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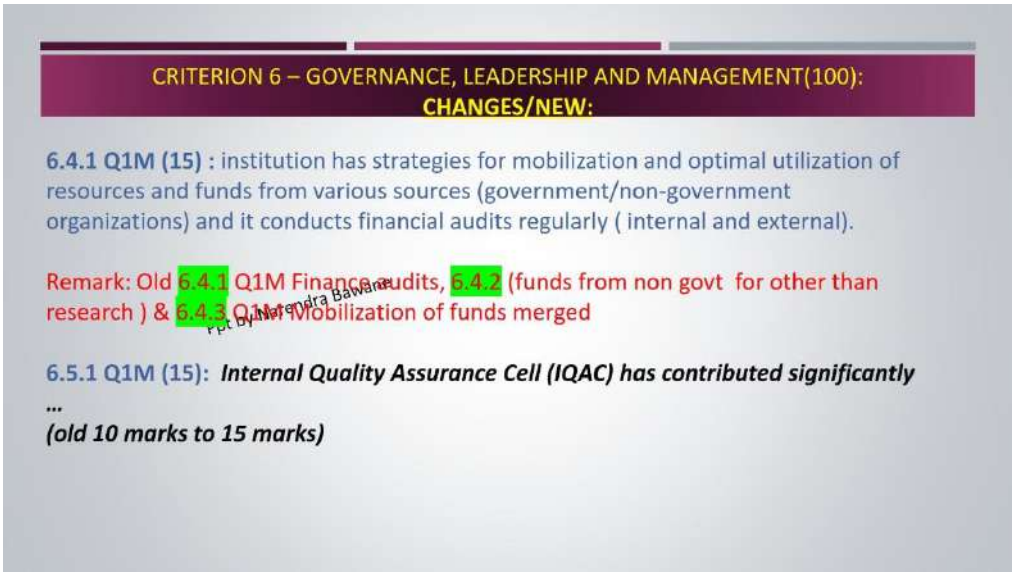
CRITERION 6 – GOVERNANCE, LEADERSHIP AND MANAGEMENT(100):
CHANGES/NEW:
6.3.1Q1M (8) : The institution has effective welfare measures and Performance Appraisal System for teaching and non-teaching staff.
Remark: Old 6.3.1 (welfare) and 6.3.5 Q1M Performance Appraisal System is merged for 6.3.1 Q1M
6.3.3 QnM (15) : Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Professional development/administative training programs during the last five years.
Remark: old 6.3.3 QnM professional development / administrative training programs organized and old 6.3.4 (FDP attended) is merged for new 6.3.3 QnM. Teaching & non teaching training now combined.
Ppt by Narendra Bawane


CRITERION 6 – GOVERNANCE, LEADERSHIP AND MANAGEMENT(100):
CHANGES/NEW:
6.4.1 Q1M (15) : institution has strategies for mobilization and optimal utilization of resources and funds from various sources (government/non-government organizations) and it conducts financial audits regularly (internal and external).
Remark: Old 6.4.1 Q1M Finance audits, 6.4.2 (funds from non govt for other than research) & 6.4.3 Q1M Mobilization of funds merged
6.5.1 Q1M (15): Internal Quality Assurance Cell (IQAC) has contributed significantly ...
(old 10 marks to 15 marks)
Ppt by Narendra Bawane

DISTRIBUTION OF WEIGHTAGES ACROSS KEY INDICATORS (KI'S)

7. Institutional Values and Best Practices	7.1 Institutional Values and Social Responsibilities	50
	7.2 Best Practices	30
	7.3 Institutional Distinctiveness	20
	Total	100
	TOTAL SCORE	1000

Source: NAAC Manual

Cr	QN	QL
Cr7	8	3

Criteria no	QN	QL
7	2	3

CRITERION 7 – INSTITUTIONAL VALUES AND BEST PRACTICES (100):
CHANGES/NEW:

7.1.1 Q1M (10): Measures initiated by the institution for the promotion of gender equity and institutional initiatives to celebrate/ organize national and international commemorative days, events and festivals during the last five years.

Remark: Old 7.1.11QM Festivals events conducted is merged with 7.1.1 QlM to form new Ql 7.1.1

Ppt by Narendra Bawane

CRITERION 7 – INSTITUTIONAL VALUES AND BEST PRACTICES (100):
CHANGES/NEW:

7.1.2.QnM(20): The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures [Old 7.1.2 QnM]
2. Management of the various types of degradable and non-degradable waste [old 7.1.3 Q1M]
3. Water conservation [old 7.1.4QnM]
4. Green campus initiatives [7.1.5 QnM]
5. Disabled-friendly, barrier free environment. [old 7.1.7 QnM]

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Remark; Old 7.1.2 Q1M, 7.1.4 QnM,7.1.5 QnM & 7.1.7QnM are merged

U7.1.4 Q1M (10):

Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and Sensitization of students and employees ...(500 words)- old 7.1.8) 5 marks to 10 marks

SUMMMARY- MAJOR CHANGES IN REVISED MANUAL W.E.F. 1ST JUNE 2022

- Recently updation of manual is in line with the NEP-2020 recommendations
- In **January 2022** metrics related to seven criteria including both **QnM** and **Q1M** have been now reduced to ease the Assessment and Accreditation process of NAAC for Affiliated/Constituent Colleges without compromising the quality aspects in Higher Education.

Type of HEIs	Affiliated/Constituent Colleges
Criteria	7
Key Indicators(Kis)	32
Qualitative Metrics (Q1M)	21
Quantitative Metrics (QuM)	34
Total Metrics (QuM)	55

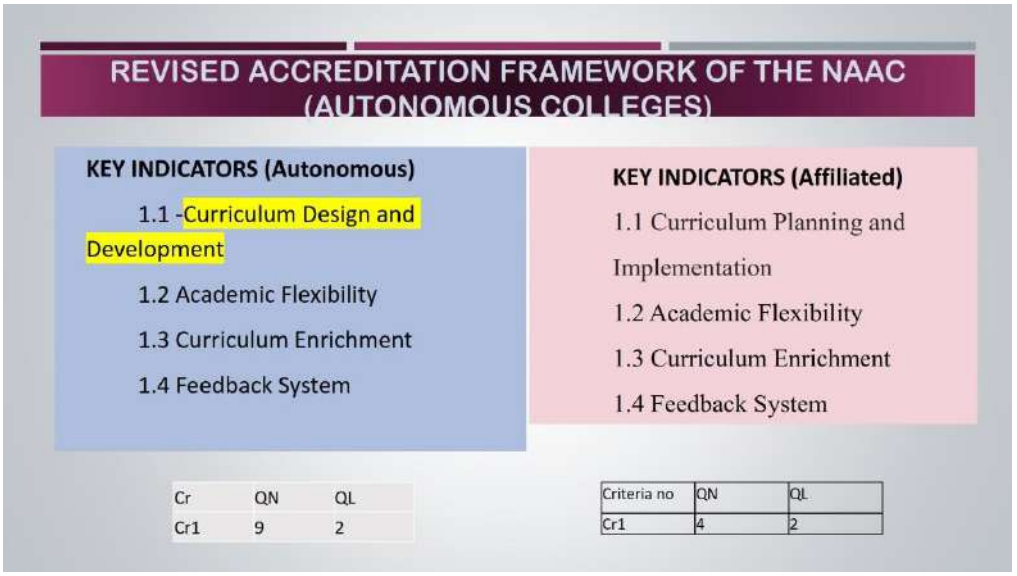
REVISED ACCREDITATION FRAMEWORK OF THE NAAC (AUTONOMOUS COLLEGES)

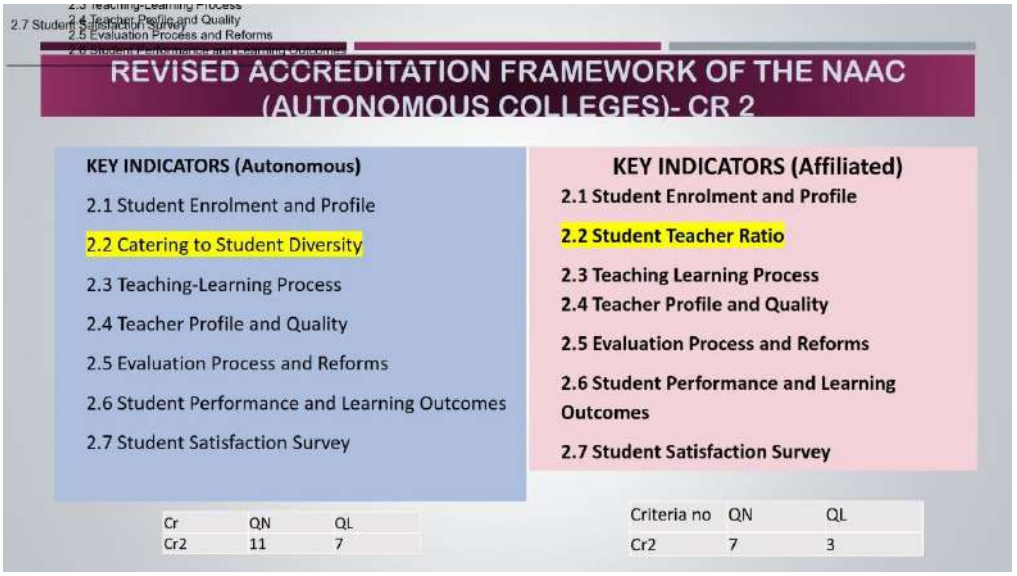
- NEW Institutional Accreditation- Revised Manual for Autonomous Colleges (Updated on 15/04/2021)
- NEW Institutional Accreditation- Hindi Manual for Autonomous Colleges (Updated on 17/08/2021)
- Revised Extended Profile Templates for Autonomous College
- Revised Data Templates for Autonomous College (updated on 27-05-2022)
- SOP for DVV - Revised Manual of Autonomous College (updated on 27-05-2022)

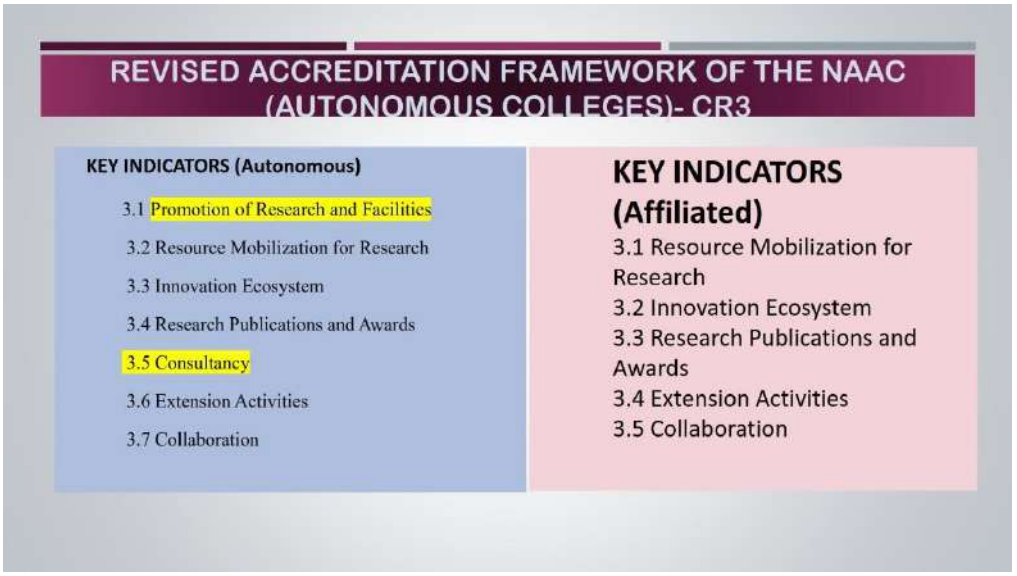
NEW **Revised Manual for Affiliated/Constituent Colleges (will be effective from 1st June 2022)**

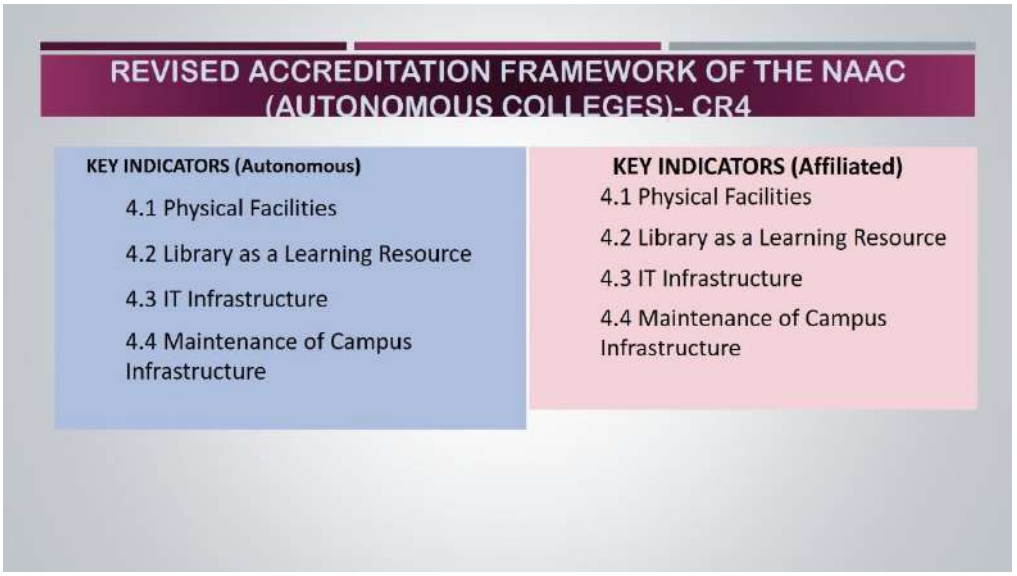
REVISED ACCREDITATION FRAMEWORK OF THE NAAC (AUTONOMOUS COLLEGES)

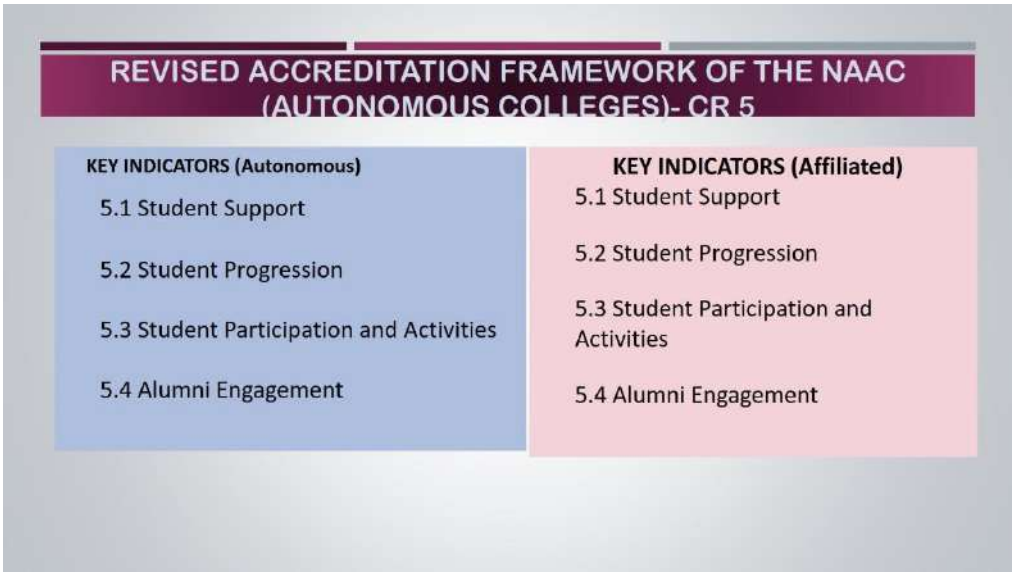
Cr	QN	QL	
Cr1	9	2	
Cr2	11	7	
Cr3	20	3	
Cr4	9	5	
Cr5	11	2	
Cr6	6	9	
Cr7	6	7	
Total	72	35	Total = 107


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)
KEY INDICATORS (Autonomous)
1.1 -Curriculum Design and Development
1.2 Academic Flexibility
1.3 Curriculum Enrichment
1.4 Feedback System
KEY INDICATORS (Affiliated)
1.1 Curriculum Planning and Implementation
1.2 Academic Flexibility
1.3 Curriculum Enrichment
1.4 Feedback System
Cr QN QL
Cr1 9 2
Criteria no QN QL
Cr1 4 2


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)- CR 2
KEY INDICATORS (Autonomous)
2.1 Student Enrolment and Profile
2.2 Catering to Student Diversity
2.3 Teaching-Learning Process
2.4 Teacher Profile and Quality
2.5 Evaluation Process and Reforms
2.6 Student Performance and Learning Outcomes
2.7 Student Satisfaction Survey
KEY INDICATORS (Affiliated)
2.1 Student Enrolment and Profile
2.2 Student Teacher Ratio
2.3 Teaching Learning Process
2.4 Teacher Profile and Quality
2.5 Evaluation Process and Reforms
2.6 Student Performance and Learning Outcomes
2.7 Student Satisfaction Survey
Cr QN QL
Cr2 11 7
Criteria no QN QL
Cr2 7 3


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)- CR3
KEY INDICATORS (Autonomous)
3.1 Promotion of Research and Facilities
3.2 Resource Mobilization for Research
3.3 Innovation Ecosystem
3.4 Research Publications and Awards
3.5 Consultancy
3.6 Extension Activities
3.7 Collaboration
KEY INDICATORS (Affiliated)
3.1 Resource Mobilization for Research
3.2 Innovation Ecosystem
3.3 Research Publications and Awards
3.4 Extension Activities
3.5 Collaboration


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)- CR4
KEY INDICATORS (Autonomous)
4.1 Physical Facilities
4.2 Library as a Learning Resource
4.3 IT Infrastructure
4.4 Maintenance of Campus Infrastructure
KEY INDICATORS (Affiliated)
4.1 Physical Facilities
4.2 Library as a Learning Resource
4.3 IT Infrastructure
4.4 Maintenance of Campus Infrastructure


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)- CR 5
KEY INDICATORS (Autonomous)
5.1 Student Support
5.2 Student Progression
5.3 Student Participation and Activities
5.4 Alumni Engagement
KEY INDICATORS (Affiliated)
5.1 Student Support
5.2 Student Progression
5.3 Student Participation and Activities
5.4 Alumni Engagement


REVISED ACCREDITATION FRAMEWORK OF THE NAAC
(AUTONOMOUS COLLEGES)- CR 6
KEY INDICATORS (Autonomous)
6.1 Institutional Vision and Leadership
6.2 Strategy Development and Deployment
6.3 Faculty Empowerment Strategies
6.4 Financial Management and Resource Mobilization
6.5 Internal Quality Assurance System (IQAS)
KEY INDICATORS (Affiliated)
6.1 Institutional Vision and Leadership
6.2 Strategy Development and Deployment
6.3 Faculty Empowerment Strategies
6.4 Financial Management and Resource Mobilization
6.5 Internal Quality Assurance System (IQAS)

REVISED ACCREDITATION FRAMEWORK OF THE NAAC (AUTONOMOUS COLLEGES)- CR 7

KEY INDICATORS (Autonomous)	KEY INDICATORS (Affiliated)
7.1 Institutional Values and Social Responsibilities	7.1 Institutional Values and Social Responsibilities
7.2 Best Practices	7.2 Best Practices
7.3 Institutional Distinctiveness	7.3 Institutional Distinctiveness

Cr	QN	QL
Cr7	6	7

Criteria no	QN	QL
Cr7	2	4

Aligning NAAC framework with NEP

Comparing the NAAC Current Framework with the Future Framework

S. No.	Parameter	Current Framework	Proposed Framework
1.	Function of NAAC	Monitoring of quality compliance	• Quality enhancement • Quality maintenance • Assessment and Accreditation
2.	Classification of HEI	1. General Universities 2. Autonomous Colleges 3. Affiliated / Constituent Colleges 4. Open Universities 5. Dual Mode Universities 6. Health Science Institutions 7. Super-specialty Health Science Institutions 8. Law Universities 9. Law UG Colleges 10. Law PG Colleges 11. Sanskrit Universities 12. Sanskrit Dual Mode Universities 13. Sanskrit Colleges 14. Yoga Institutions 15. Vocational Education Universities	• Non-autonomous HEIs • Autonomous HEIs
3.	Accreditation Type	Graded accreditation of HEIs	Binary accreditation of HEIs and graded accreditation of academic programs/constituent units
4.	Assessment nature	Gap Analysis	Progressive: Continued improvement
5.	The focus of assessment & accreditation	Systems and practices that will facilitate achieving learning outcomes	Learning Outcomes
6.	Criteria for assessment & accreditation	1. Curricular Aspects 2. Teaching-Learning and Evaluation 3. Research, Innovations, and Extension 4. Infrastructure and Learning Resources 5. Student Support and Progression 6. Governance, Leadership, and Management; 7. Institutional Values and Best Practices.	Function & Outcome-based 1. General educatedness 2. Skills/abilities for specialized education 3. Contribution to research/innovation
7.	Data for assessment	HEI supplied	Real-time technology-enabled data collection

Source: RE-IMAGINING ASSESSMENT AND ACCREDITATION IN HIGHER EDUCATION IN INDIA- NAAC Whitepaper Draft 44 - May 31, 2022

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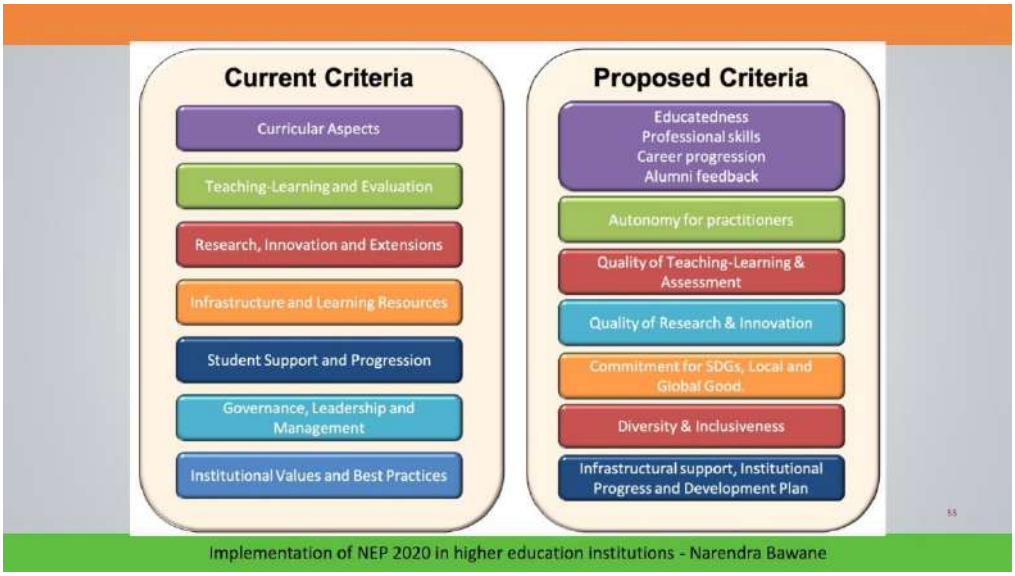
Current Criteria
Curricular Aspects
Teaching-Learning and Evaluation
Research, Innovation and Extensions
Infrastructure and Learning Resources
Student Support and Progression
Governance, Leadership and Management
Institutional Values and Best Practices
Proposed Criteria
Educatedness
Professional skills
Career progression
Alumni feedback
Autonomy for practitioners
Quality of Teaching-Learning & Assessment
Quality of Research & Innovation
Commitment for SDGs, Local and Global Good
Diversity & Inclusiveness
Infrastructural support, Institutional Progress and Development Plan
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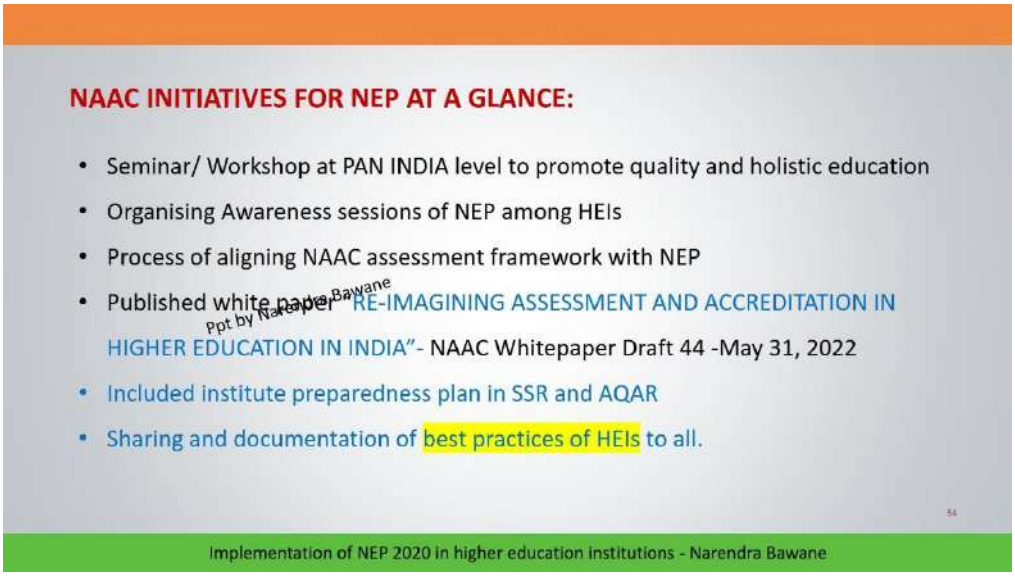
NAAC INITIATIVES FOR NEP AT A GLANCE:
Seminar/ Workshop at PAN INDIA level to promote quality and holistic education
Organising Awareness sessions of NEP among HEIs
Process of aligning NAAC assessment framework with NEP
Published white paper "RE-IMAGINING ASSESSMENT AND ACCREDITATION IN HIGHER EDUCATION IN INDIA"- NAAC Whitepaper Draft 44 -May 31, 2022
Included institute preparedness plan in SSR and AQAR
Sharing and documentation of best practices of HEIs to all.
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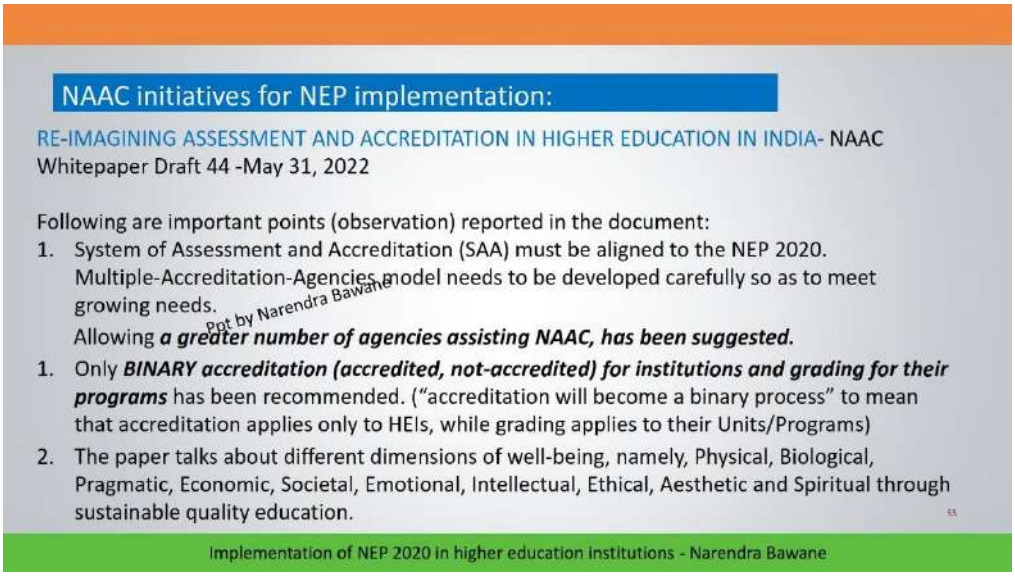
NAAC initiatives for NEP implementation:
RE-IMAGINING ASSESSMENT AND ACCREDITATION IN HIGHER EDUCATION IN INDIA- NAAC Whitepaper Draft 44 -May 31, 2022
Following are important points (observation) reported in the document:
1. System of Assessment and Accreditation (SAA) must be aligned to the NEP 2020. Multiple-Accreditation-Agencies model needs to be developed carefully so as to meet growing needs.
Allowing a greater number of agencies assisting NAAC, has been suggested.
1. Only BINARY accreditation (accredited, not-accredited) for institutions and grading for their programs has been recommended. ("accreditation will become a binary process" to mean that accreditation applies only to HEIs, while grading applies to their Units/Programs)
2. The paper talks about different dimensions of well-being, namely, Physical, Biological, Pragmatic, Economic, Societal, Emotional, Intellectual, Ethical, Aesthetic and Spiritual through sustainable quality education.
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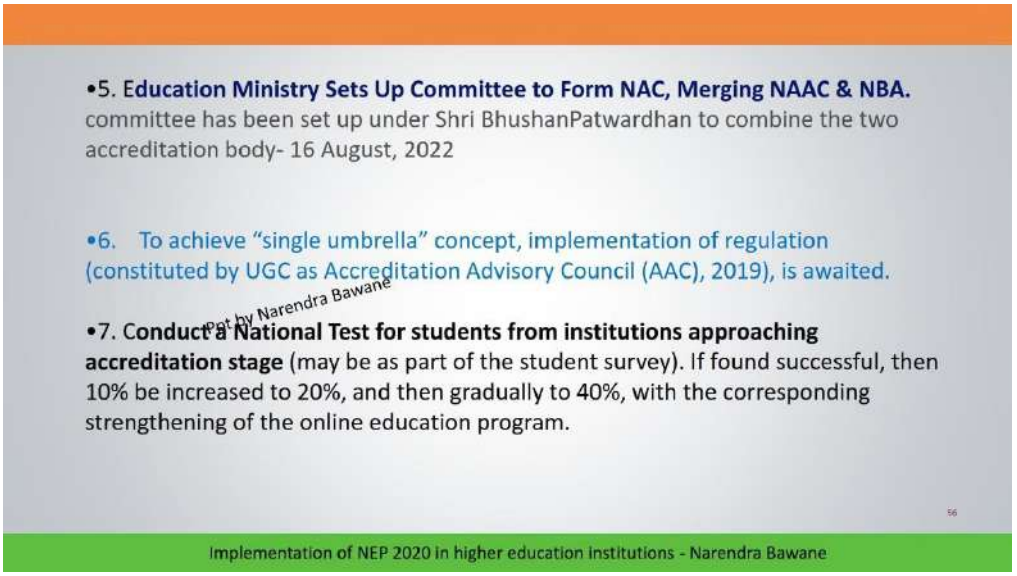
•5. Education Ministry Sets Up Committee to Form NAC, Merging NAAC & NBA.
committee has been set up under Shri BhushanPatwardhan to combine the two accreditation body- 16 August, 2022
•6. To achieve "single umbrella" concept, implementation of regulation (constituted by UGC as Accreditation Advisory Council (AAC), 2019), is awaited.
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•7. Conduct a National Test for students from institutions approaching accreditation stage (may be as part of the student survey). If found successful, then 10% be increased to 20%, and then gradually to 40%, with the corresponding strengthening of the online education program.
56
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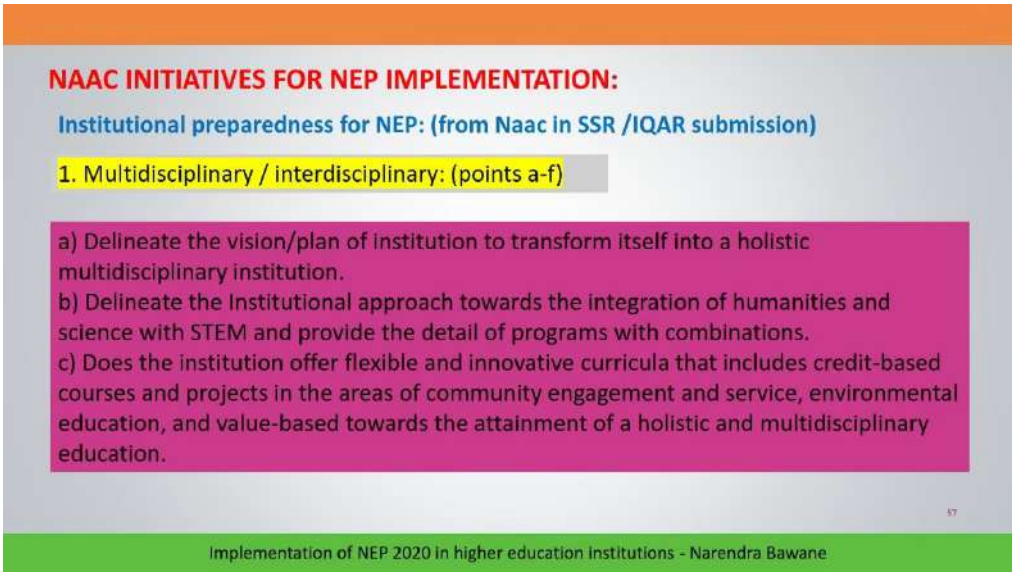
NAAC INITIATIVES FOR NEP IMPLEMENTATION:
Institutional preparedness for NEP: (from Naac in SSR /IQAR submission)
1. Multidisciplinary / interdisciplinary: (points a-f)
a) Delineate the vision/plan of institution to transform itself into a holistic multidisciplinary institution.
b) Delineate the Institutional approach towards the integration of humanities and science with STEM and provide the detail of programs with combinations.
c) Does the institution offer flexible and innovative curricula that includes credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based towards the attainment of a holistic and multidisciplinary education.
57
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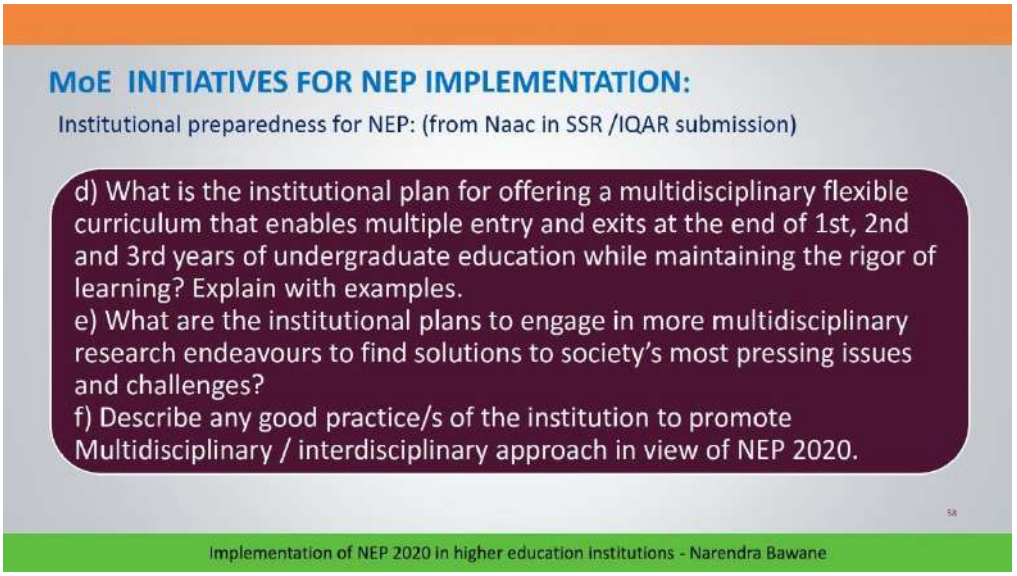
MoE INITIATIVES FOR NEP IMPLEMENTATION:
Institutional preparedness for NEP: (from Naac in SSR /IQAR submission)
d) What is the institutional plan for offering a multidisciplinary flexible curriculum that enables multiple entry and exits at the end of 1st, 2nd and 3rd years of undergraduate education while maintaining the rigor of learning? Explain with examples.
e) What are the institutional plans to engage in more multidisciplinary research endeavours to find solutions to society's most pressing issues and challenges?
f) Describe any good practice/s of the institution to promote Multidisciplinary / interdisciplinary approach in view of NEP 2020.
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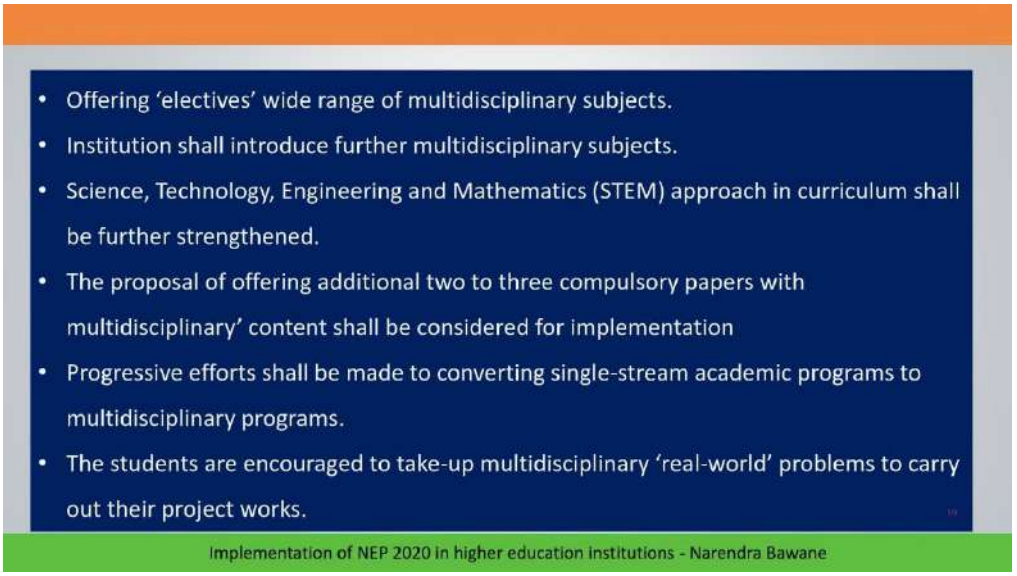
Offering 'electives' wide range of multidisciplinary subjects.
Institution shall introduce further multidisciplinary subjects.
Science, Technology, Engineering and Mathematics (STEM) approach in curriculum shall be further strengthened.
The proposal of offering additional two to three compulsory papers with multidisciplinary' content shall be considered for implementation
Progressive efforts shall be made to converting single-stream academic programs to multidisciplinary programs.
The students are encouraged to take-up multidisciplinary 'real-world' problems to carry out their project works.
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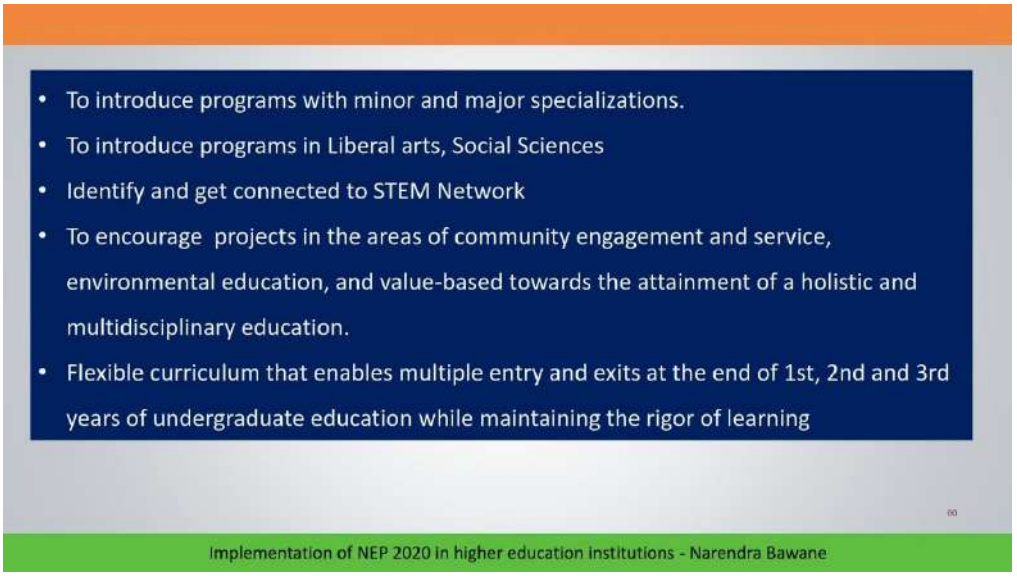
To introduce programs with minor and major specializations.
To introduce programs in Liberal arts, Social Sciences
Identify and get connected to STEM Network
To encourage projects in the areas of community engagement and service, environmental education, and value-based towards the attainment of a holistic and multidisciplinary education.
Flexible curriculum that enables multiple entry and exits at the end of 1st, 2nd and 3rd years of undergraduate education while maintaining the rigor of learning
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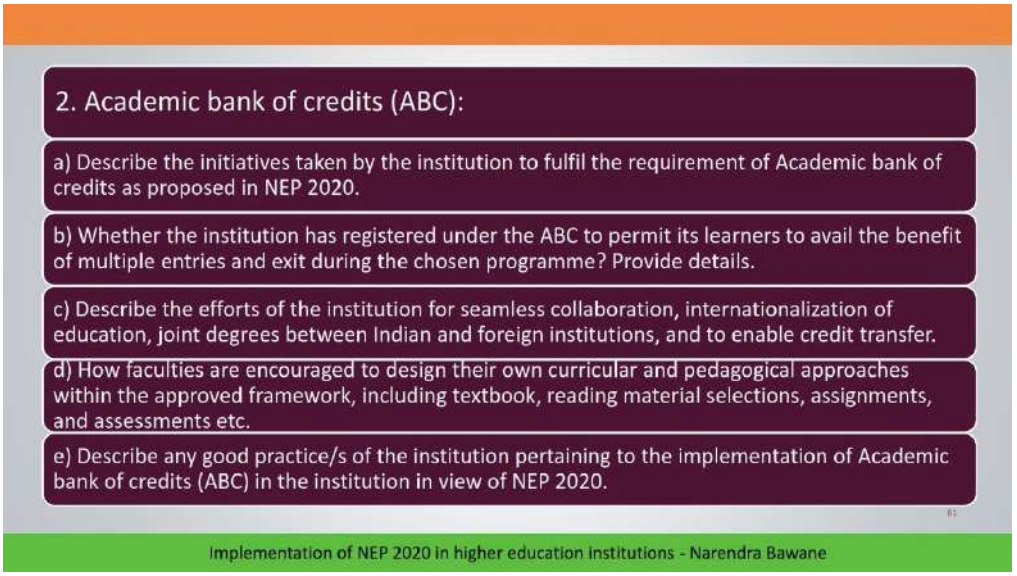
2. Academic bank of credits (ABC):
a) Describe the initiatives taken by the institution to fulfil the requirement of Academic bank of credits as proposed in NEP 2020.
b) Whether the institution has registered under the ABC to permit its learners to avail the benefit of multiple entries and exit during the chosen programme? Provide details.
c) Describe the efforts of the institution for seamless collaboration, internationalization of education, joint degrees between Indian and foreign institutions, and to enable credit transfer.
d) How faculties are encouraged to design their own curricular and pedagogical approaches within the approved framework, including textbook, reading material selections, assignments, and assessments etc.
e) Describe any good practice/s of the institution pertaining to the implementation of Academic bank of credits (ABC) in the institution in view of NEP 2020.
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- An 'Academic Bank of Credit' (ABC) that stores credit gained by the student 'digitally' shall be initiated in consultation with the 'statutory bodies'.
- Eligibility - min Grade A from the National Assessment and Accreditation Council (NAAC) or the top 100 institutions in the National Institutional Ranking Framework (NIRF) or institutions with a minimum score of 675 from the National Board of Accreditation (NBA) for at least three programmes shall be eligible for registration in the ABC.
- Institution shall **adhere to the guidelines** of University Grants Commission - Establishment and Operation of Academic Bank of Credits in Higher Education Regulations, 2021.

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- The Institution shall recognize the following in consultation with the statutory bodies
- Courses undergone by the students through the online modes
- Credits obtained by students by undergoing Skill-courses from Registered Higher Education Institutions offering vocational Degree or Diploma or Post Graduate Diploma or Certificate programmes.
- To register in NAD (National Academic Depository and upload all student details
- Identify and tie up with institute of national importance and eminence
- Internationalization of education, joint degrees between Indian and foreign institutions, and to enable credit transfer.

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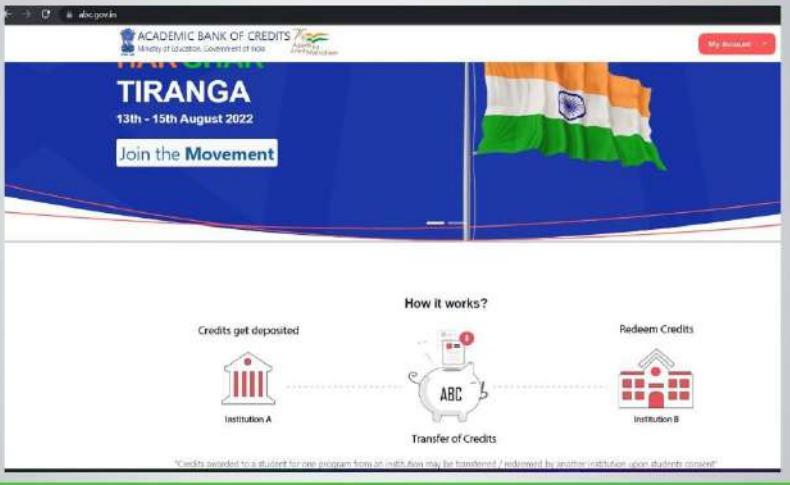

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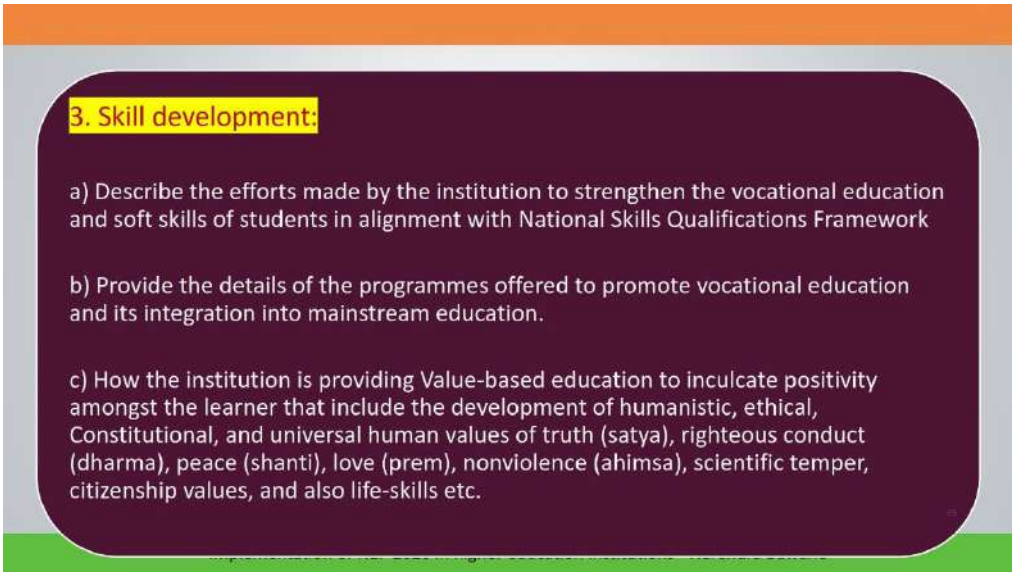
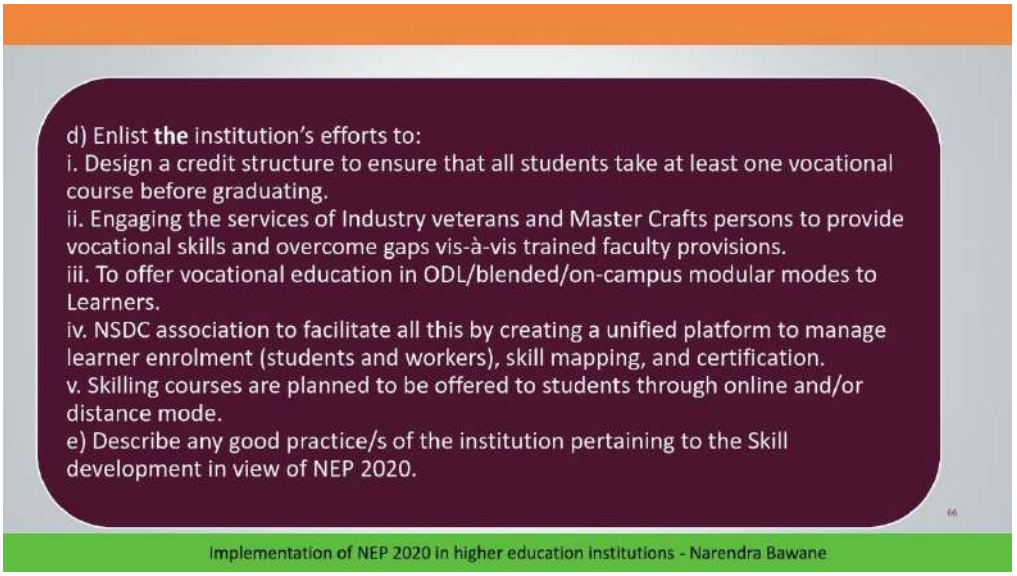

3. Skill development:
a) Describe the efforts made by the institution to strengthen the vocational education and soft skills of students in alignment with National Skills Qualifications Framework
b) Provide the details of the programmes offered to promote vocational education and its integration into mainstream education.
c) How the institution is providing Value-based education to inculcate positivity amongst the learner that include the development of humanistic, ethical, Constitutional, and universal human values of truth (satya), righteous conduct (dharma), peace (shanti), love (prem), nonviolence (ahimsa), scientific temper, citizenship values, and also life-skills etc.


d) Enlist the institution's efforts to:
i. Design a credit structure to ensure that all students take at least one vocational course before graduating.
ii. Engaging the services of Industry veterans and Master Crafts persons to provide vocational skills and overcome gaps vis-à-vis trained faculty provisions.
iii. To offer vocational education in ODL/blended/on-campus modular modes to Learners.
iv. NSDC association to facilitate all this by creating a unified platform to manage learner enrolment (students and workers), skill mapping, and certification.
v. Skilling courses are planned to be offered to students through online and/or distance mode.
e) Describe any good practice/s of the institution pertaining to the Skill development in view of NEP 2020.
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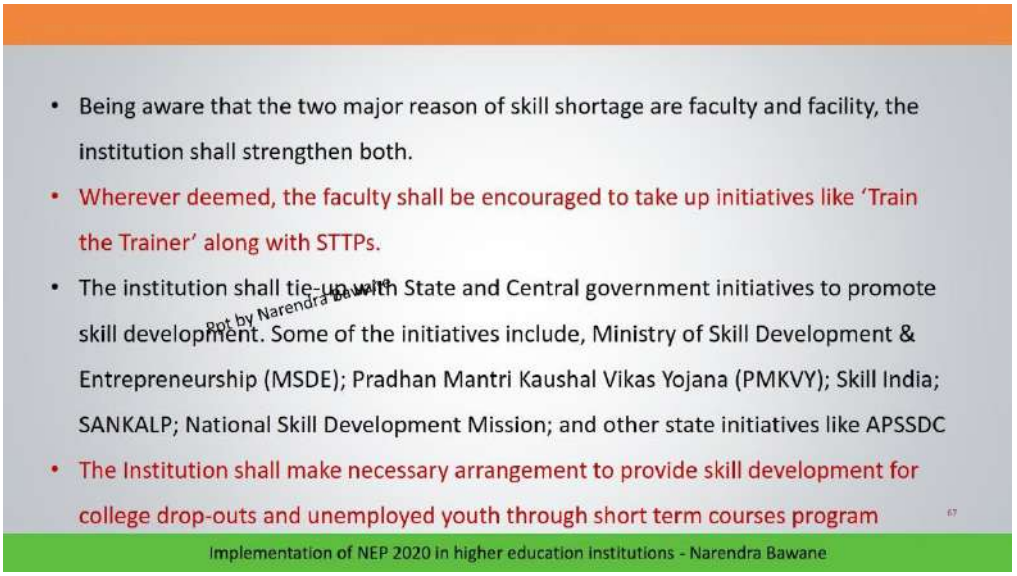
Being aware that the two major reason of skill shortage are faculty and facility, the institution shall strengthen both.
Wherever deemed, the faculty shall be encouraged to take up initiatives like 'Train the Trainer' along with STTPs.
The institution shall tie-up with State and Central government initiatives to promote skill development. Some of the initiatives include, Ministry of Skill Development & Entrepreneurship (MSDE); Pradhan Mantri Kaushal Vikas Yojana (PMKVY); Skill India; SANKALP; National Skill Development Mission; and other state initiatives like APSSDC
The Institution shall make necessary arrangement to provide skill development for college drop-outs and unemployed youth through short term courses program
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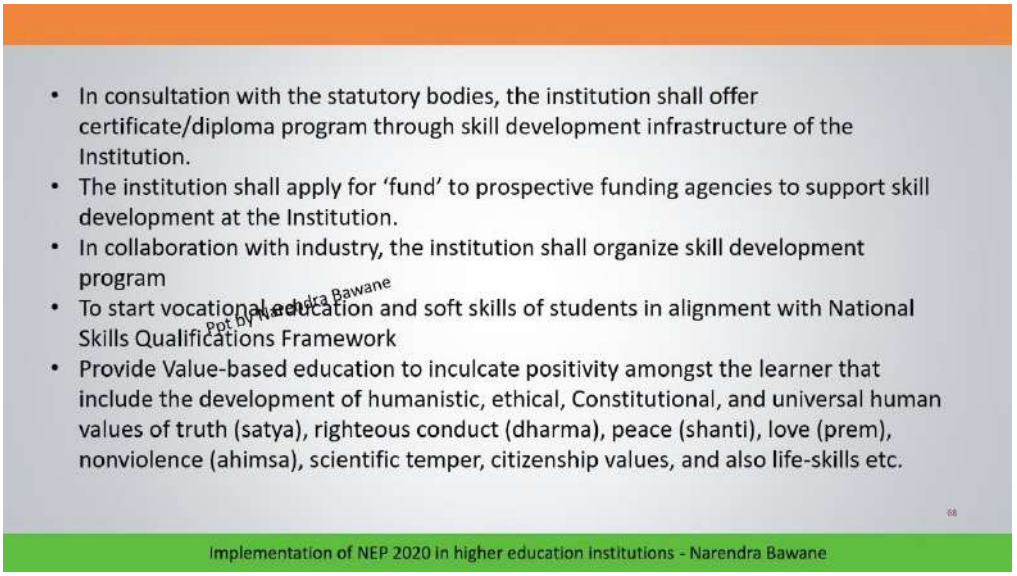
In consultation with the statutory bodies, the institution shall offer certificate/diploma program through skill development infrastructure of the Institution.
The institution shall apply for 'fund' to prospective funding agencies to support skill development at the Institution.
In collaboration with industry, the institution shall organize skill development program
To start vocational education and soft skills of students in alignment with National Skills Qualifications Framework
Provide Value-based education to inculcate positivity amongst the learner that include the development of humanistic, ethical, Constitutional, and universal human values of truth (satya), righteous conduct (dharma), peace (shanti), love (prem), nonviolence (ahimsa), scientific temper, citizenship values, and also life-skills etc.
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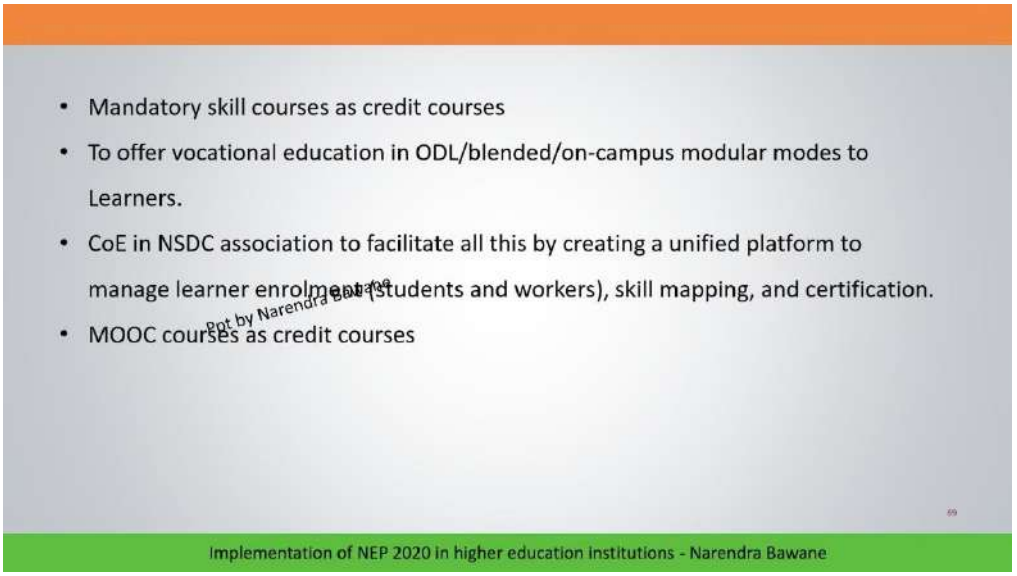
Mandatory skill courses as credit courses
To offer vocational education in ODL/blended/on-campus modular modes to Learners.
CoE in NSDC association to facilitate all this by creating a unified platform to manage learner enrolment (students and workers), skill mapping, and certification.
MOOC courses as credit courses
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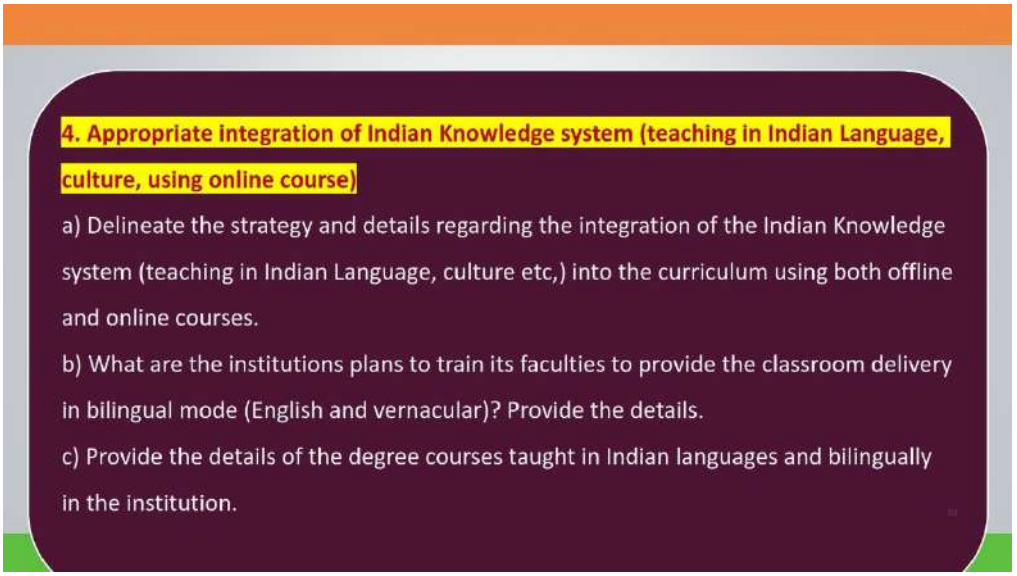
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course)
a) Delineate the strategy and details regarding the integration of the Indian Knowledge system (teaching in Indian Language, culture etc,) into the curriculum using both offline and online courses.
b) What are the institutions plans to train its faculties to provide the classroom delivery in bilingual mode (English and vernacular)? Provide the details.
c) Provide the details of the degree courses taught in Indian languages and bilingually in the institution.

4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course)

d) Describe the efforts of the institution to preserve and promote the following:

i. Indian languages (Sanskrit, Pali, Prakrit and classical, tribal and endangered etc.)

ii. Indian ancient traditional knowledge

iii. Indian Arts

iv. Indian Culture and traditions.

e) Describe any good practice/s of the institution pertaining to the appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course) in view of NEP 2020.

- Some part of teaching-learning in the Indian languages.
- The teaching-learning in local language shall be considered as an opportunity to curtail 'dropouts' from early stages of the program duration.
- Use of different local languages will promote 'Unity in diversity'
- The ability to express the views, ideas, thoughts, opinions, etc., by the student shall be addressed with a mix of English and local languages.
- Provide a broad-based education that solve local and global problems
- AICTE has permitted technical education in regional languages to programs that are NBA accredited.
- AICTE is in the process of translating courses available on SWAYAM platform into eight Indian/Regional languages and also encouraging faculty to write/translate quality text books in technical education in regional languages.

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- **Courses on Indian Language, culture etc as part of the curriculum**
- **Classroom delivery in bilingual mode (English and vernacular)**
- **Electives on subjects like Sanskrit, Pali, Prakrit and classical, tribal and endangered etc**
- **Course on Indian ancient traditional knowledge like n. Indian Arts, Indian Culture and traditions.**

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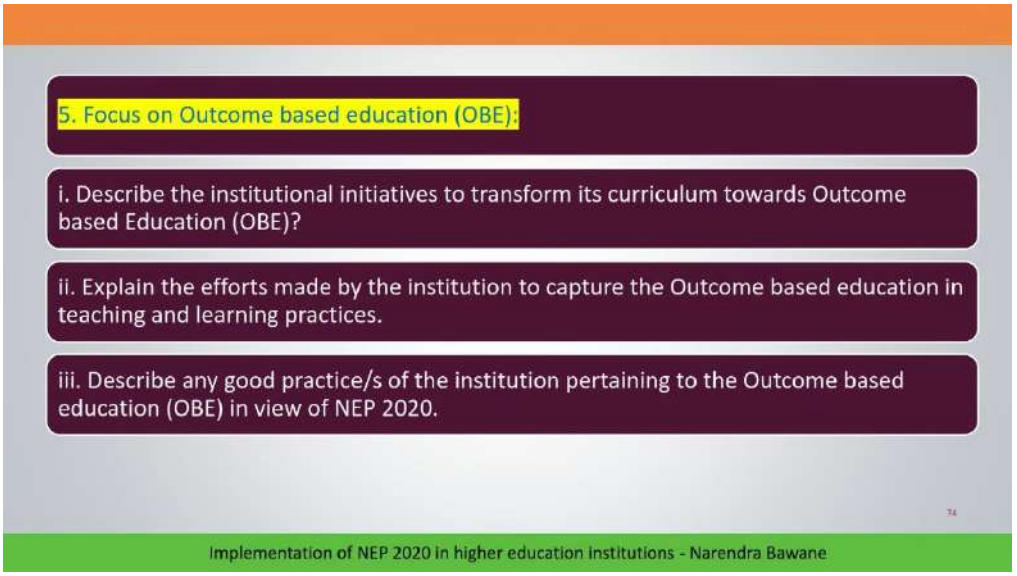
5. Focus on Outcome based education (OBE):
i. Describe the institutional initiatives to transform its curriculum towards Outcome based Education (OBE)?
ii. Explain the efforts made by the institution to capture the Outcome based education in teaching and learning practices.
iii. Describe any good practice/s of the institution pertaining to the Outcome based education (OBE) in view of NEP 2020.
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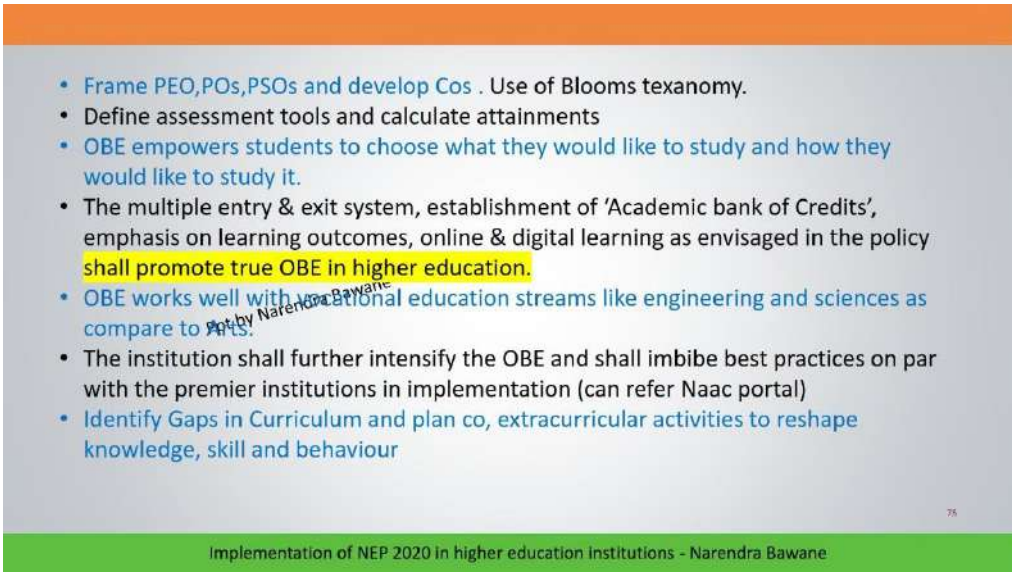
Frame PEO,POs,PSOs and develop Cos . Use of Blooms texanomy.
Define assessment tools and calculate attainments
OBE empowers students to choose what they would like to study and how they would like to study it.
The multiple entry & exit system, establishment of 'Academic bank of Credits', emphasis on learning outcomes, online & digital learning as envisaged in the policy shall promote true OBE in higher education.
OBE works well with vocational education streams like engineering and sciences as compare to Arts.
The institution shall further intensify the OBE and shall imbibe best practices on par with the premier institutions in implementation (can refer Naac portal)
Identify Gaps in Curriculum and plan co, extracurricular activities to reshape knowledge, skill and behaviour
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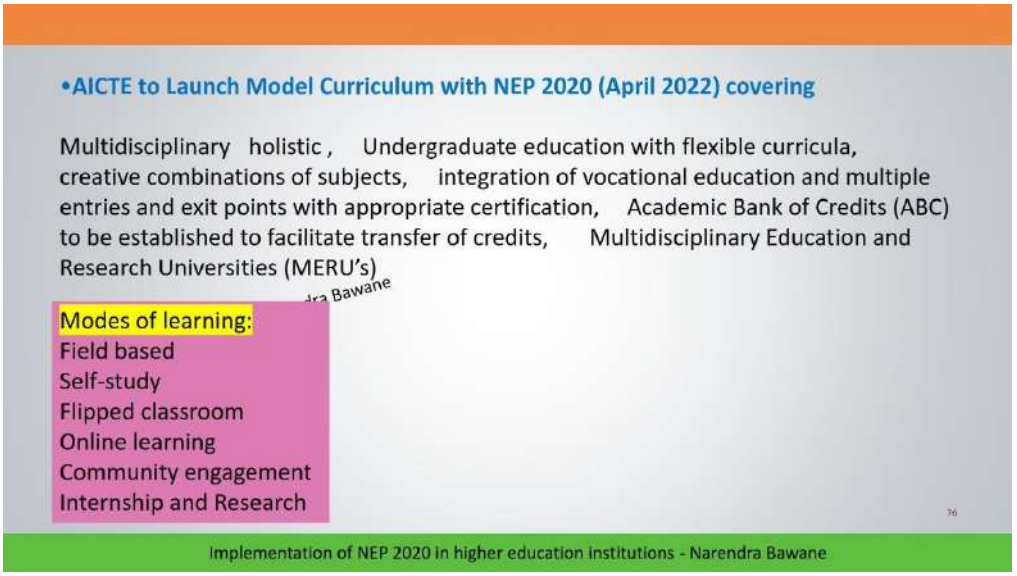
•AICTE to Launch Model Curriculum with NEP 2020 (April 2022) covering
Multidisciplinary holistic , Undergraduate education with flexible curricula, creative combinations of subjects, integration of vocational education and multiple entries and exit points with appropriate certification, Academic Bank of Credits (ABC) to be established to facilitate transfer of credits, Multidisciplinary Education and Research Universities (MERU's)
Modes of learning:
Field based
Self-study
Flipped classroom
Online learning
Community engagement
Internship and Research
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6. Distance education/online education:

a) Delineate the possibilities of offering vocational courses through ODL mode in the institution.

b) Describe about the development and use of technological tools for teaching learning activities. Provide the details about the institutional efforts towards the blended learning.

c) Describe any good practice/s of the institution pertaining to the Distance education/online education in view of NEP 2020.

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NEAT- National Educational Alliance for Technology- NEAT aims to give student's Improved personalized and customized learning environment. It will also provide many flexibility of learning and gaining knowledge to students.- AICTE

- Study Webs of Active Learning for Young Aspiring Minds (SWAYAM), Digital Infrastructure for Knowledge Sharing (DIKSHA), will be long-drawn out to provide teachers with a structured, user friendly, rich set of assistive online tools for monitoring the progress of student learning.

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- Sensing the need for the distance education and online education, the institution shall float modules that can be offered in distance mode/online mode.
- Learning management systems shall be made mandatory for all the faculty to promote online education.
- Required digital / IT infrastructure shall be updated to support digital learning.
- Use of Virtual Labs are encouraged.
- A digital repository of content including the creation of coursework, Learning Games & Simulations, Augmented Reality and Virtual Reality will be developed for the benefit of the students.
- Enhance quality and get accreditation at A+/A++ score to start online education.

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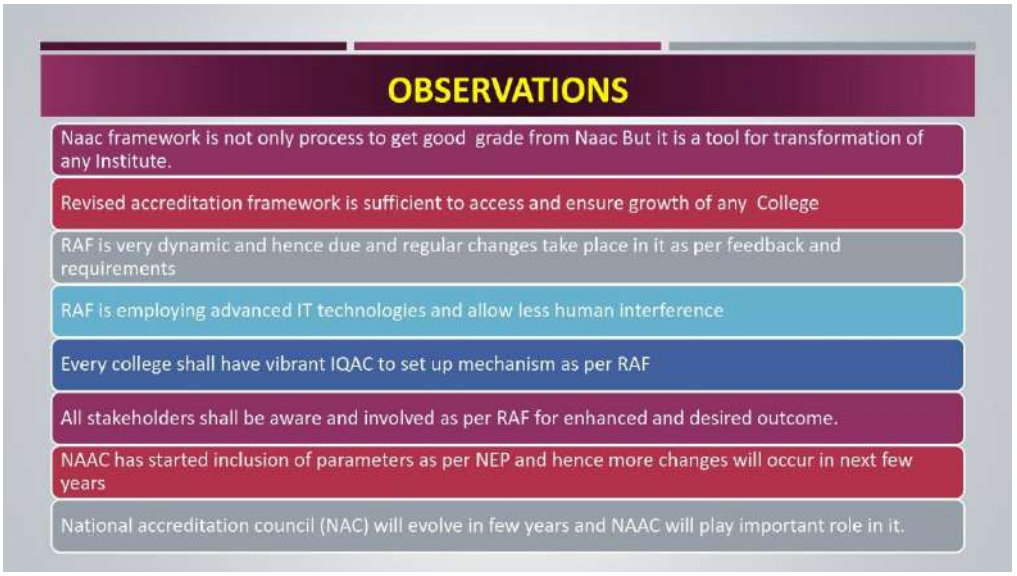
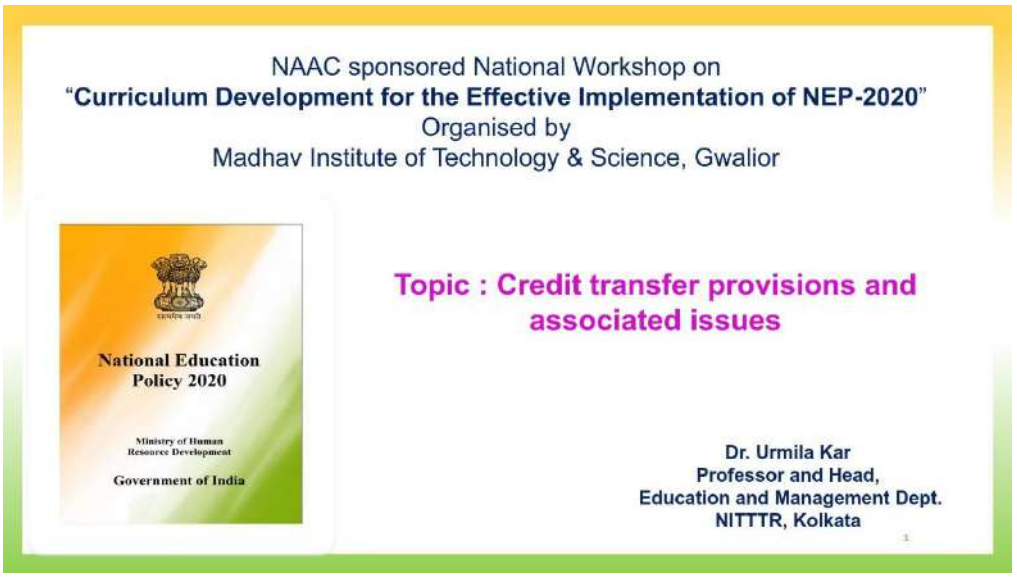
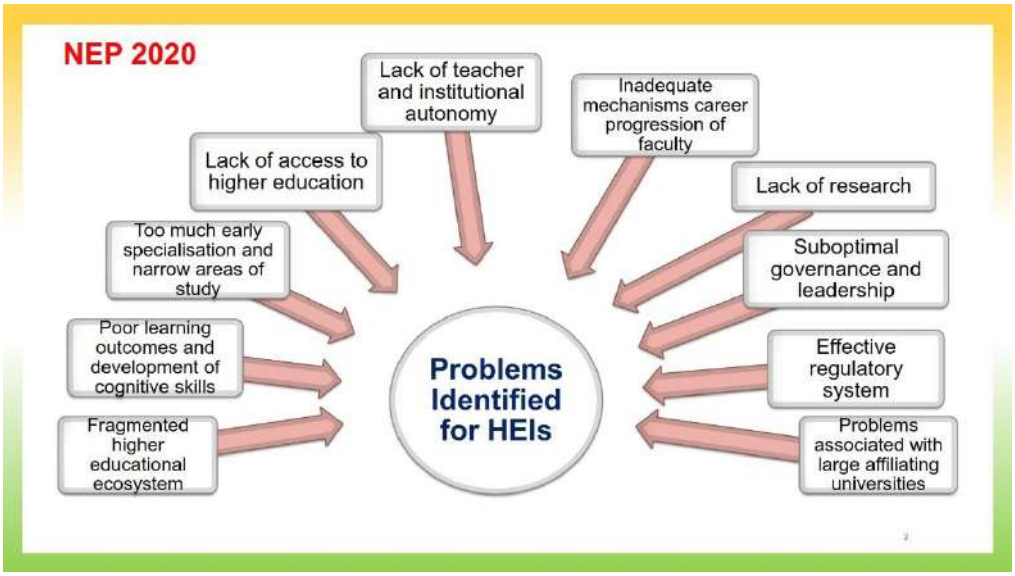
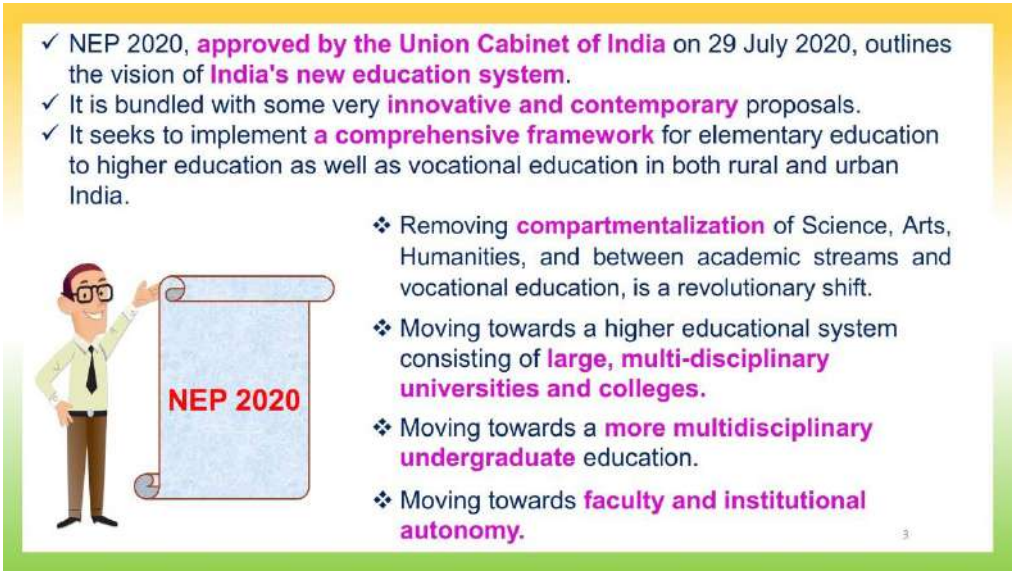
Implementation of NEP 2020 in higher education institutions - Narendra Bawane

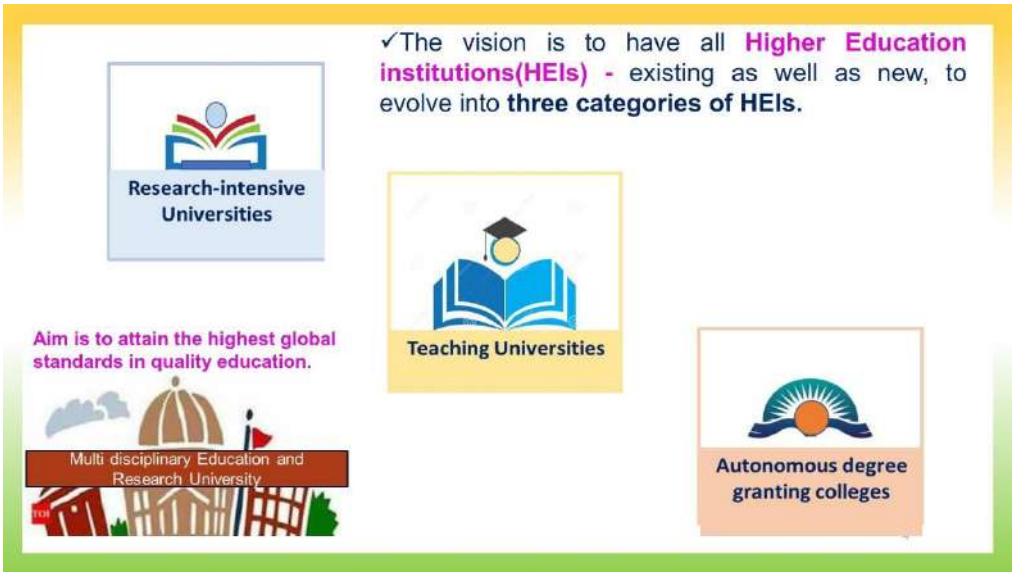


Prof. Urmila Kar
Professor, Education and Management, NITTTR,
Kolkata

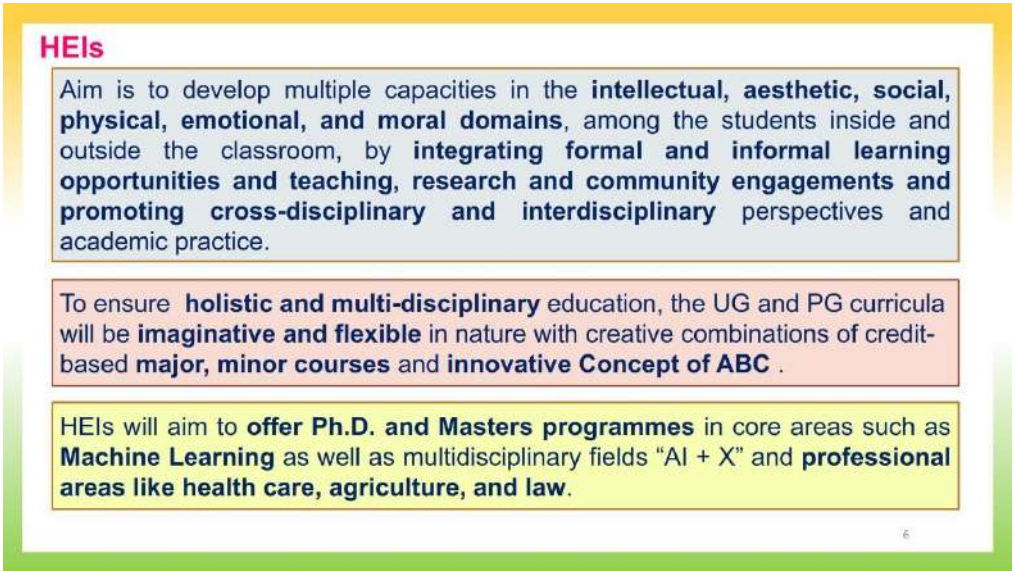


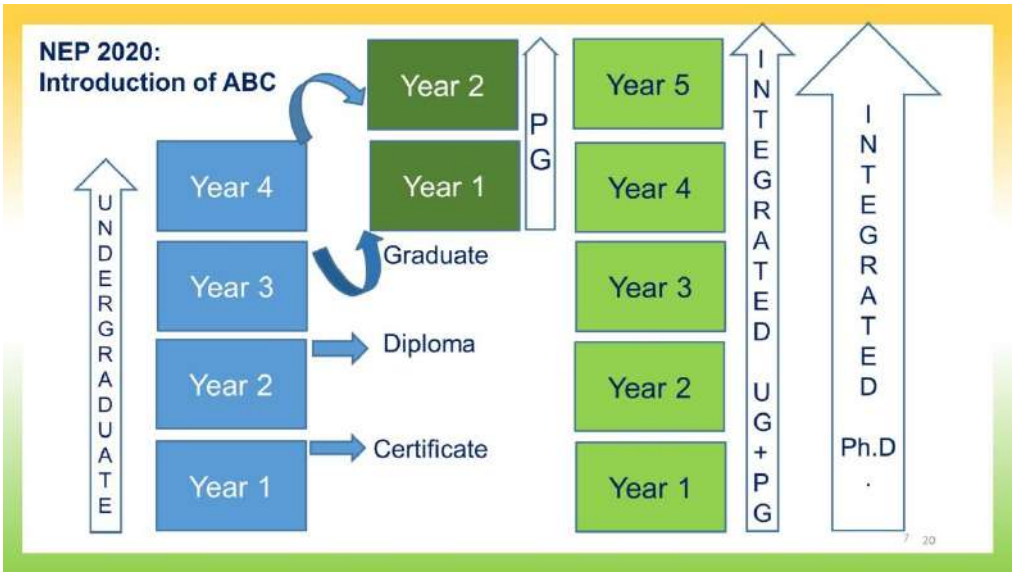

NEP 2020
Lack of teacher and institutional autonomy
Inadequate mechanisms career progression of faculty
Lack of access to higher education
Lack of research
Too much early specialisation and narrow areas of study
Suboptimal governance and leadership
Poor learning outcomes and development of cognitive skills
Effective regulatory system
Fragmented higher educational ecosystem
Problems associated with large affiliating universities
Problems Identified for HEIs


✓ NEP 2020, approved by the Union Cabinet of India on 29 July 2020, outlines the vision of India's new education system.
✓ It is bundled with some very innovative and contemporary proposals.
✓ It seeks to implement a comprehensive framework for elementary education to higher education as well as vocational education in both rural and urban India.
NEP 2020
❖ Removing compartmentalization of Science, Arts, Humanities, and between academic streams and vocational education, is a revolutionary shift.
❖ Moving towards a higher educational system consisting of large, multi-disciplinary universities and colleges.
❖ Moving towards a more multidisciplinary undergraduate education.
❖ Moving towards faculty and institutional autonomy.


✓The vision is to have all Higher Education institutions(HEIs) - existing as well as new, to evolve into three categories of HEIs.
Research-intensive Universities
Teaching Universities
Autonomous degree granting colleges
Aim is to attain the highest global standards in quality education.
Multi disciplinary Education and Research University


NEP 2020
Developing Strategic Plan for NEW VISION
Offering Multidisciplinary and Holistic Education
Offering Skill Based Education
Imparting Education in Regional Language
Promoting Digital Education and Research
Ensuring Access, Equity, Inclusion and increase of GER
Promoting Indian Language, Arts & Culture
Taking part in Internationalisation of Higher Education
HEI
Plan must contain the ways and means of achieving teaching and research excellence through academic collaboration between institutions within India and abroad.


HEIs
Aim is to develop multiple capacities in the intellectual, aesthetic, social, physical, emotional, and moral domains, among the students inside and outside the classroom, by integrating formal and informal learning opportunities and teaching, research and community engagements and promoting cross-disciplinary and interdisciplinary perspectives and academic practice.
To ensure holistic and multi-disciplinary education, the UG and PG curricula will be imaginative and flexible in nature with creative combinations of credit-based major, minor courses and innovative Concept of ABC .
HEIs will aim to offer Ph.D. and Masters programmes in core areas such as Machine Learning as well as multidisciplinary fields "AI + X" and professional areas like health care, agriculture, and law.


NEP 2020:
Introduction of ABC
Year 4
Year 3
Year 2
Year 1
Graduate
Diploma
Certificate
UNDERGRADUATE
Year 2
Year 1
PG
Year 5
Year 4
Year 3
Year 2
Year 1
INTEGRATED UG+PG
INTEGRATED Ph.D.

For entry into level 5, the eligibility is a school leaving certificate after the completion of Class 12.

Levels	Qualification	Credit requirement suggested
5	UG Certificate (1 year / 2 semesters)	36-40 credits
6	UG Diploma (2 years / 4 semesters)	72-80 credits
7	UG Degree (3 years / 6 semesters)	108 -120 credits
8	UG Degree with Hons./Research(4 year / 8 semesters)	144 -160 credits (must have some criteria to be fulfilled to join this level)
8	PG Diploma (join after 3 years UG and exit after 1st year of PG)	36-40 credits
9	PG Degree (1 year / 2 semesters but joining with UG Degree with Hons./Research)	36-40 credits
9	PG Degree (2 years / 4 semesters but joining with 3 years UG Degree only)	72-80 credits
10	Doctoral Degree	Prescribed credits for course work and Thesis with published work as per norm of HEI.

The credits will be stored in an Academic Bank Account - **Academic Bank of Credits (ABC)** . Once this account is opened, all academic credits will be deposited into it. These credits will be required to award degrees, diplomas or certificates on completion of an academic course. The bank will perform functions like **credit accumulation; credit transfers; credit redemption and opening, closure and validation of accounts.**

These credits can be stored digitally using DigiLocker, for a fixed maximum period.

ABC is a media to choose one's own academic path to attain a degree/diploma /post diploma. It works on the principle of **Multiple Entry Multiple Exit (MEME)** as well as any time learning, anywhere learning and any level learning.

This will also facilitate students who want to consolidate their academic records for employment or educational purposes.

Guidelines for establishment and operation of Academic Bank of Credits in Higher Education → The University Grants Commission regulation 2021

These guidelines will govern the entry and exit into all universities and autonomous colleges.

→ Innovative Concept of **National Academic Credit Bank**(NAC-Bank)

- To provide deposit accounts to all the students who are studying in any recognized Higher Education Institute (HEI).
- To seamlessly integrate skills and experiences into a credit based formal system by providing a credit recognition mechanism.

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- ✓ If a student switches from one programme to another within the recognised universities / colleges under UGC, the credits in the academic bank can be redeemed.
- ✓ Credit will be awarded to students who have shown that they have successfully completed a module or a unit for qualification. To attain this, they need to meet the specific set of learning outcomes for the module/unit or qualification.
- ✓ As student's progress through a program of study, they can accumulate the credit value of the modules or units they have completed successfully.
- ✓ Institutions also can make arrangements that can allow students to transfer the credits they have been awarded. **The way students can transfer credit would be determined by the institution's assessment regulations.**
- ✓ National schemes like NPTEL, SWAYAM and SWAYAM PRABHA can also be considered for earning of credits.

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Academic Bank of Credits - Objectives

- To promote student centricity in higher education
- To enable students to select the best courses/combination of courses to suit their interest
- To enable students to select the best departments or institutions or their combination to suit their interest
- To allow students to tailor their degrees or make specific modifications / specialisations
- To facilitate lifelong learning amongst all i.e. formal and informal students both from fulltime and part time modes

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Degree-granting mechanism and credit carrying system varies from state to state and also from university to university. Students who move from one part to another part of the country, **will their credits be accepted** ?

Do we need **standardisation of crediting system** and promote **uniformity in the degree-granting mechanism** ?

Do we need to **reduce the pedagogical gap** that exists presently, within the higher education institutions ?

Is this asking for **restructuring the curriculum**, **upgrade Learning-Teaching process** and integrate HEIs to generate a robust system that can handle millions of students who may join the varsity system in the coming years?

Will it make our institutions **more global**, help to move towards the **internationalisation** of our higher education system ?

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ABC applicable for all institute or any ABC enrolment eligibility

- ✓ Universities and autonomous colleges accredited by either the National Assessment and Accreditation Council (NAAC) with minimum 'A' grade,
- ✓ or by the National Board of Accreditation (NBA) for at least three programme(s) with a minimum score of 675 individually are eligible.
- ✓ If the number of programme(s) being run by the institution is less than three, 675 or more marks should be secured in each of the programmes.
- ✓ An alternative is that they should be among the top 100 National Institutional Ranking Framework (NIRF).

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Will then Academic Bank of Credit create a **hierarchy between institutions** ? The top few hundred institutions will only be in this scheme and the already remote institutions will be pushed to become more marginalised.

It is upto the institution to join the ABC, if suppose some premier institutions do not participate, will the **objectives of ABC be achieved** ?

NOTE

National Academic Depository (NAD) is the backbone of ABC. **Academic Institutions must mandatorily register themselves** under ABC via NAD as final outcomes of credit redemption and issuance of certificates, compilation of award records, all will be administered by academic institutions via the NAD Platform.

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HEIs need to begin Digital Transformation through DigiLocker NAD and Publish their students' academic awards, for which institute has to **Register, prepare and upload data, select a template and then publish.**

Academic Bank of Credit Website (abc.gov.in)

Students need to **Register using DigiLocker website (digilocker.gov.in)** or mobile app with mobile number or Aadhaar, Select their Board /University /Institution, Enter required details such as Roll No. and Year of Passing etc. and then can pull academic records.

20 HEIs have already been registered **on Academic Bank of Credits via NAD.**

How it works?

"Credits awarded to a student for one program from an institution may be transferred / redeemed by another institution upon students consent" – visit **https://abc.gov.in**

The ABC platform will provide students with the opportunity to register for a **unique ABC ID**, an **interactive dashboard** to see their **credit accumulation**, and options to begin a choice-based credit transfer mechanism.

In addition, the student self-registration module will enable accurate identification of candidates who want to check and transfer their credits depending on their needs.

Issues and Challenges in implementing ABC

1. **Duration of Courses:**

Can the duration of courses be less than the duration prescribed/scheduled?

2. **Basis for defining credit**: Regarding course timings, course pre-requisite continuous assessment, attendance and other related factors now decided by the institution and that is applicable for regular full time programmes. **Can it be same or some conceptual change is needed?**

3. **Programme to be offered:** Both UG and PG programmes can be offered but **are all HEIs prepared for that**?

4. **Inclusion of Professional Courses:** Professional courses need essential infrastructure / specific laboratories which may not be available at present. **What should be plan for that**?

5. Validity of the Credits : Credits can be acquired over long duration but what should be the **period of validity** for any of the credits earned by students?

6. Fee structure: In India, students normally pay the fee in yearly or semester basis but effective implementation of ABC will demand fees that to be charged based on credit. **Should we plan to adapt this ?**

7. Any undergraduate or postgraduate student can create an account in the ABC portal to store information about completed courses and grades. Can a student be formally **enrolled in one university** and choose **some courses of other universities** - will that be **counted towards the his/her degree**?

8. **Availability of seats :** How students will be selected / **enroll through ABC scheme** ?

9. Is the assessment of learning in MOOCs in SWAYAM /NPTEL and that in accredited HEIs comparable?

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10. Students who obtain credits (for some courses) outside of the parent institute are not required to enroll in the corresponding in-house courses but teaching posts are calculated based on student enrollment. **what happens when a large fraction of students do not enroll in the courses we offer?**

11. In India, the quality of education varies greatly from one institute to the other and so this can lead to **unmanageable academic and administrative issues.**

12. The Academic Bank of Credit is a move towards the internationalisation of our higher education system but initially we will not include foreign institutions / universities in the scheme as in such a case **regulating various aspects can be a challenge.**

The distance between the dream and reality is what we call ACTION

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Suggestion

- **To create a special group/body to facilitate implementation of ABC throughout the country**
- **A survey or meeting be carried out with the stakeholders before it is launched to validate the ideas and also seek critical inputs, if any**
- **A series of workshop/training program should be conducted across all zones/regions of the country to educate top academic officials about this scheme and its implementation aspects**
- **Based on the lessons learned, review the scheme in totality after two years to make structural changes, if any**

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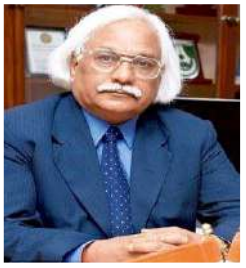
Prof. P.B. Sharma

Vice-Chancellor, Amity University, Gurgaon



AMITY UNIVERSITY HARYANA

Curriculum Design and Implementation – for the New Age of Innovation and Future Readiness

Prof. P.B. Sharma
PhD(Birmingham), FWAPS, FIE, FAeroS
Vice Chancellor
Amity University Haryana
Past President
Association of Indian Universities, AIU
Founder Vice Chancellor DTU and RGPV

AMITY UNIVERSITY HARYANA

When I started teaching in 1969 at SATI Vidisha, our focus for Curriculum Design and Delivery was:

- How to create excitement and interest in engineering in the first year and sustain it till final year?
- How to assimilate the state of art in engineering and technology? Was a difficult task as the access to knowledge and know how was not so easy.
- How to develop an understanding of the concepts and systems of engineering design ?
- Create Analytical ability and Problem-solving skills using tutorials.
- Major Project and Industry visit was surely exciting.
- Campus placements were non-existent.
- Social responsibility was not a phenomenon in colleges and universities at that time as it was assumed that the world of academia should be away from the virus of society and politics.

Today, in 2022 our Concerns and Focus Areas are:

- How to align Engineering and Technology Education to Industry needs? Industry Readiness has become very important.
- How to harness Innovative and Creative genius of students? Foster innovations and creative R&D.
- How to nurture Global Citizenship, Environmental and Social Responsibility?
- Create tomorrow's leaders in Science and Technology Innovation.
- Foster Interdisciplinary Environment for overall competency and collaborative working.
- Strong Industry Integration, Internationalization and Collaborative education and research has emerged as an important area of focus- Dual Degrees, Twinning Programs would become more visible in days to come .
- Flexibility and Autonomy of Learning have emerged as important aspect of teaching learning processes.
- Technology Integration in Education and Extension Services has become a dire need.

And to this we must add:

- Emerging Technologies like Info- Nano- Bio and Life Technologies including new age High-Tech, Agri-Tech, Food-Tech and Life-Tech (Body, Mind and Soul Tech, Herbal Technology and Science of life and Science of Nature.
- New Materials and Smart Manufacturing systems
- Industry 4.0 systems of Robotics and Automation, Integrated Industry systems, AI, ML, IoT, Blockchain, Cloud Computing and Storage Technologies, Big Data Analytics, Informatics, and Cyber Security.
- Strong Connect to Professional Societies and Network Communities of Research and Education to create Synergy of Brains to attain great goals and solve Mega Challenges.

And to we need to include:

- Nurturing Ethics and Professional Morality in man and woman of knowledge.
- Innovation Incubation and Start Ups.
- Focus on Relevance, Quality and Excellence.
- Global Competitiveness through National and Global Rankings, NIRF, QS and Times Higher Education etc.
- Skills for Peaceful co-existence and a blissful life.
- Promoting Peace and Harmony all around.

Our Graduates Must be Tech-Savvy Global Engineers of High Integrity and Professional Morals

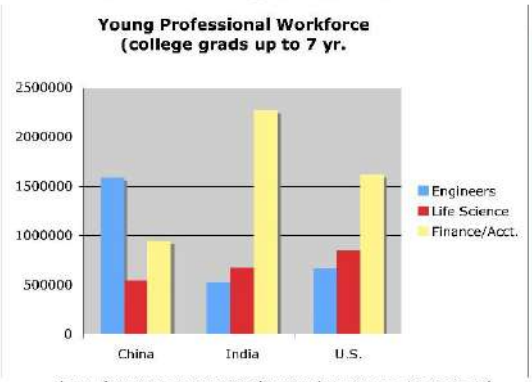
- Technically Adept
- Broadly Knowledgeable
- Innovative and Enterprising
- Tech Savvy to self learning
- Multilingual
- Culturally Aware and Appreciative of Cultural Diversity
- Able to Adopt to Changing Technologies and markets
- Professionally Flexible and Mobile
- **Professionally Highly Competent and Persons of Unclenching Integrity.**

Because This is the age of Digital Transformation and Technology Innovation Infinite

Context and Goals for Technological Education in the New Age

- A New Century ushering a new global connect.
- Digital Transformation sweeping all across.
- Require New Innovative and Enterprising Minds.
- New Models of Education Design and Delivery needed.
- Accelerate New Knowledge Creation.
- Global Networking for education and Knowledge creation.
- Easy Access to Knowledge Resources – Investment in Connectivity and Networking.
- Global Pressures of Environmental Concerns and Competitiveness.
- Engineering Grand Challenges and Compliance to SDGs
- Internationalization at Home for Curriculum design and learning environment.

With New Players
Where the Expertise is

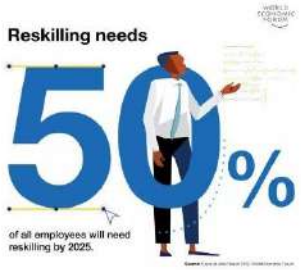


Source: Competitiveness Index 2007, Council on Competitiveness, Washington, DC

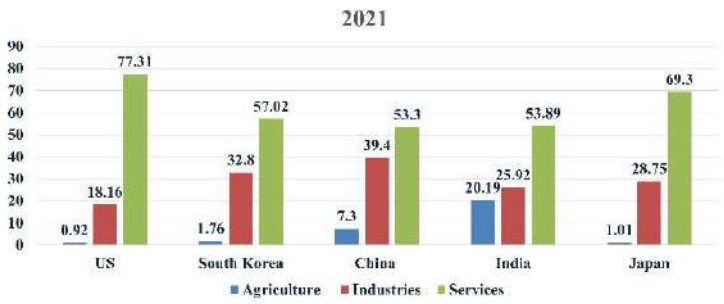
WHO STANDS WHERE

2022	Country	2021
1	Denmark	3
2	Switzerland	1
3	Singapore	5
4	Sweden	2
5	Hong Kong	7
6	Netherlands	4
7	Taiwan, China	8
8	Finland	11
9	Norway	6
10	US	10
37	India	43

Future Skills and Jobs
For Young Professionals



% of Employment by Sector



With Hyper Connectivity Location No Longer Matters.

- "The World is Flat" -- Tom Friedman
- In 1989 the Berlin Wall came down, and Microsoft's Windows went up.
- $1.5 trillion worth of optical fiber connects the world.
- Globalization has "accidentally made Beijing, Bangalore, and Boston next door neighbors."
- Many jobs are now just a "mouse click" away from anywhere.
- Learning from anywhere, Blended Learning, Flexible Working Hours and Work from Home is becoming a New Normal

What is important in Engineering and Technology Education

- Making universities and engineering colleges an exciting and attractive proposition for nurturing talent and shaping young innovative and creative professionals of the New Age.
- Flexible Curriculum Promoting Interdisciplinary Perceptions, Conceptual Clarity and Problem-Solving Skills with analytical bias yet promoting application orientation is needed.
- Curriculum Delivery Promoting creative engagement in learning and innovation through exercises, minor projects and self learning modules.
- Outcome based Curriculum Design and Delivery systems utilizing today's digital technology environment.
- Curriculum to promote learning beyond classroom.
- Curriculum Nurturing talent and character together.

New Structures for Learning and Innovation needed

- The power of Ideas and Innovation Incubators
- Enterprise Development Hubs
- Patent Facilitating Cells
- Proximity of small companies and corporate labs to universities
- Venture capital networks
- iLabs and Online Learning Portals
- Collaborative Learning and Connected Class Rooms
- Team Teaching and Learning from Each other has become a reality.

Industry Integration is a Must

- Invite Industry to share their needs and current and future technology challenges.
- Involve Industry Experts in auditing curriculum.
- Organise Industry Expert Lectures during curriculum delivery.
- Appoint Professors of Practice/ Adjunct Professors from Industry.
- Involve Industry Adjunct Professors in Joint Supervision of Minor and Major Projects and Case Studies.

R&D Organizations in Curriculum Design and Delivery

- Education and Research Should go together to reduce time gap between Research lab and Classroom.
- Curriculum should provide a window for Futuristic Technologies and Scientific Advancement.
- Involvement of Research Leaders in Curriculum Design provides a deeper insight into making curriculum future ready.
- Integrate R&D Experts in Teaching and Research Supervision.
- Bidding for R&D Projects jointly with leading R&D Organizations, promotes quality and relevance of research and education.

Great Opportunities for Young India are Emerging in the New Cyber Age of Knowledge and Innovation- But we have a long way to go-even on economic growth near 17% population of China accounts for 15.4% of World GDP while India with nearly 17% of world population today accounts for 3.27%.

An image from an article on Global Innovation Index 2021

Engineering Grand Challenges should be our Inspiration to make Curriculum aligned to National Missions and Global Challenges

- Make Solar Energy Economical
- Provide Energy from Fusion
- Develop Carbon Sequestration Methods
- Manage the Nitrogen Cycle
- Provide Access to Clean Water
- Engineer Natural Medicines
- Advance Health Informatics
- Secure Cyberspace
- Prevent Nuclear Terror
- Restore and Improve Urban Infrastructure for enhanced ecological ballance
- Reverse Engineer the Brain
- Enhance Virtual to Augmented Reality
- Advance Personalized Learning

Engineering Grand Challenges See the NAE website.

- Energy Environment Global Warming Sustainability
- Reducing Vulnerability to Human and Natural Threats
- Improve Medicine and Healthcare Delivery
- Expand and Enhance Human Capability And Joy

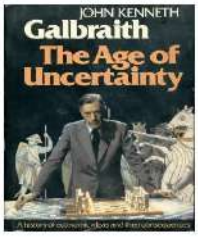
"My message, especially to young people is to have courage to think differently, courage to invent, to travel the unexpected path, courage to discover the impossible and to conquer the problems and succeed. These are great qualities that you must work towards."

Bharat Ratna Dr A.P.J. Abdul Kalam
Former President of India

The World in which We Live Today

- **A Connected World-** The World is One, One World One Family. Our Forefathers long Ago have also proclaimed *Vasudhaiv Kutumbakam*, The Whole World is One Family.
- **A Globalized World-** Thanks to Globalization of Economy in 1991 that today we are a connected world, a globalized economy and a world gravitating with enormous Power of Knowledge and Innovation.
- But then we are still far away from a World Free from Inequality, Social divide, Diseases and world of Peace and Harmony that we cherish as humans.
- Hyper Connectivity and Smart Technologies have a big role to play to create a bright future.

The World in which We Live Today ?



- **The Age of uncertainty** has descended with Covid-19 Pandemic that continues to threaten the world even today.
- For the first time the whole world community faced a challenge that affected their wellbeing and even survival.
- The realization that the **"World is One"** and as a world community we have to face common challenges unitedly and with the spirit of collaboration and cooperation as a world family.

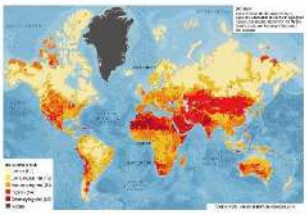
The World in which We Live Today ?

- Education unlike other professions was least under pressure in the pre-covid-19 times as compared to the world of business, trade, commerce and industry which were under severe pressure of disruption caused by technology innovations and the power of the connectivity.
- The Covid Pandemic forced the education at all levels to embrace technology and IT platforms for managing the unprecedented disruption. It also helped to remove the fear of technology integration and its extensive use in education delivery the fear that loomed large in mindset of academia for the years ever since internet was discovered.

The World in which We Live Today ?

- A World of Great Threat to Climate Change, Global Warming and Environmental Pollution.
- As per WHO data -Almost the entire global population (99%) breathes air that exceeds WHO air quality limits and threatens their health. A record number of over 6000 cities in 117 countries are now monitoring air quality, but the people living in them are still breathing unhealthy levels of fine particulate matter, PM and nitrogen dioxide, NOx, with people in low and middle-income countries (like India) suffering the highest exposures.
- Air Quality Index (AQI) in Delhi and NCR goes as high as 999 microgram per cubic meter for $PM_{2.5}$ and PM_{10} while the safe limit is less then 20 microgram per cubic meter.

The World In which We Live Today- Water Insecurity?



- Water is the source as well as an assurance sustenance of life.
- Water is life & No life without water.
- We have badly spoiled our water bodies including the holy rivers in India.
- These were the rivers of Nectar when I was born in 1948.
- 75 years of India's Independence is a sad story of neglect of water, the most precious gift of God.
- Modern lifestyle, unscientific use of water in agriculture and discharge of untreated industrial wastewater and untreated sewage are the real culprits. Even today 70% untreated sewage is discharge directly into the rivers and water bodies in India. How long we can afford?

Smart technologies shall have a big role to play to assure water security.

The World In which We Live Today- The World of Happiness ?

Top 5 Happiest countries in 2022

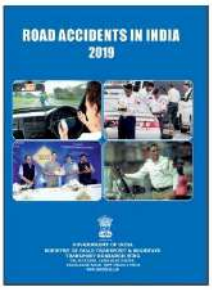
Rank	Country
1	Finland
2	Denmark
3	Iceland
4	Switzerland
5	The Netherlands

India is ranked at **136th position** in the **United Nations' World Happiness Report** for the year 2022 out of 146 countries. In 2021, India's rank was **139.**

Happiness is directly related to quality of life and is also directly impacted by the economic inequality, environmental pollution, quality of education and health services, internal security and of course the efficacy of governance. We in India have a lot to do to rise to top 10 happiest countries in the world.

Smart technologies shall have a big role to play.

The World In which We Live Today- Road Safety and Civic Sense?

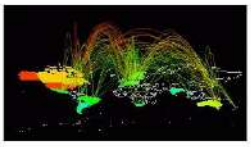


- The record of road safety is also highly alarming.
- Every year 1.35 million people die in road accidents in the world.
- Of these 1,51,113 persons died in road accidents in India in 2019 as per Ministry of Transport data. This amounts to on an average 1 person dying every 4 minutes in road accidents in India.
- India, ranks 1st in the number of road accident deaths across the 199 countries reported in the World Road Statistics, 2018 followed by China and US. As per the WHO Global Report on Road Safety 2018, India accounts for almost 11% of the accident-related deaths in the World.
- Road raze, over speeding, careless driving, driving while using mobile, overtaking from left, driving fast in slow lane are common affairs in India today.

The young India must pledge to behave differently and be the change in this respect.

Smart and intelligent traffic systems and smart vehicles have a big role to play.

The World In which We Live Today- The Exciting Cyber Age



- 840 millions (60% of population) is using mobiles and smart phones in India.
- This is 27% higher than 2017 (357 millions)
- Mobiles alone account for 44% of internet traffic in 2022
- This is truly a cyber age where use of mobile has empowered people of all walks of life including the young India below the age group of 25 that comprises of 660 million in India.
- Together with this came a great opportunity of Digital India that includes digital education, digital marketing, digital banking, digital health services, digital entertainment and a host of other digital services.

The World In which We Live Today- The Cyber Age

- But here also, the Social Media (Facebook, WhatsApp, Twitter, LinkedIn, Instagram etc.) are a big phenomena in country like India. India has in fact, emerged as a big market for these social media companies, not so much in the developed countries.
- The young India need to protect itself from the wrongs and evils of social media and yet utilize the power of hyper connectivity for creating India of our dream.
- The new India requires young India to create "Advantage India" as it's the age of innovation and the power of hyper connectivity.

Creating a New World – The Opportunity is Truly Great

- This is a time of opportunity. The opportunity is great. We can make up for much of the losses and wrong doings of the last 75 years and that too in the next 5-10 years provided we act fast with sincerity and conviction.
- If New York, London, Chicago, Birmingham, Beijing can clean their Air, we can do it in India too, provided we flag the problem and tackle it on a war footing. Technologies are there and the strategies do not require inventing the pathways. A determined public will, and government resolve to act is what is required.

Creating a New World – The Opportunity is Truly Great

- It requires major breakthroughs in science and smart technologies, but also university and corporate leadership that has a missionary zeal and a passion for charting and creating a bright future.
- We need speed leadership qualities in those in positions of responsibility as in the new cyber age action is more important than just thoughts and dreams.
- The Industries and businesses also must realize that business as usual will not work any further as we are in cyber age and thus truthfulness, transparency and care and concern for people and environment cannot be given a go by while building great business and corporates.
- Smart technologies are great enablers for impacting human behavior and scientific temperament for optimal decision and responsible actions.

The Opportunity is Great in Cyber Age

- Though the world is facing mega challenges of rapid recovery of world economy, unemployment, energy and water security, hunger, poverty and above all global warming and climate crisis. But the opportunities to tackle all these and future local and global challenges are also great.
- The New Cyber Age provides us enormous tools to study, simulate, predict and forecast the impact and future circumstances.
- The AI, IoT and Machine Learning enable us to assimilate and analyze the satellite, ground based and remote sensing data with much less effort, high accuracy and also enables us to take fast and yet most optimal decisions.
- The innovations and technology development in microchips and microprocessors, parallel and quantum computing, cloud storage technologies are all significantly improving our capability to tackle the great challenges knocking at our doorsteps.

The Opportunity is Great in Cyber Age for Hi Tech Agri Tech & Food Tech

- The use of hyperconnectivity in the cyberage is poised to cause Hi-Tech Agritech Revolution that shall create food in abondance, conserve water in agriculture, create millions of Agritech Startups and also provide a boost to the Food Tech Industries both in the urban as well as rural areas.
- But then it requires a shift in our developmental goals to take on board Sustainability and Green Future as the Major Objective of development that assures both inclusive and equitable distribution of income and the national wealth.
- After COVID-19 we have understood the importance of life and also importance of food.
- Food is not only to satisfy hunger or fill the belly, but a means of good health and immunity from deadly diseases. Our spices are natural medicines.

The Opportunity is Great in Cyber Age for Hi Tech Agri Tech & Food Tech

- The current development models are based on western pattern of development that promotes growth with urbanization and economic inequality.
- If no brakes are applied, India will have a massive exodus of its population from rural to urban and creating great economic divide and also the rise of urban slums.
- The young inspired minds rolling out of IITs, NITs and great many reputed universities and colleges in India must adopt the mantra-

"Go Rural with Hi-Tech mind and Scientific solutions to create smart and sustainable villages, fostering Hi Tech Rural Enterprises and Rural Startups in plenty".

We need a renewed focus on Higher Education including Science and Technology Education in this New Age

- The Science and Education is the foundation for building the new India of our dream and also The New World.
- We need to also understand that education is not only for career prospects but to create great capabilities to be part of the solution to current and future problems, assuring great career and also serving the humanity with dedication commitment.
- Capabilities, Competence and Character are three important Cs that the education need to nurture in us.

New Age Science and Technology Education

- We need to create future ready professionals from our technological universities and institutions who would be knowledgeable, skilled, innovative and capable of working in a highly technology savvy work environment.
- Many of them would translate ideas into innovation and startups and become new age entrepreneurs.
- The new age science and technology education is required to inspire both the learners and the teachers to go beyond the frontiers of knowledge and the horizons of technology.

New Age Science and Technology Education

- A paradigm shift is needed in Research and Development
- Research for Society and Nation's Development needed.
- Solution Research keeping End in Mind required.
- Patenting and IPR protection is the dire need.
- China, US and Japan are the top 3 in IPR
- Our PM Shri Modiji was absolutely right when he called upon our scientists at Indian Science Congress in 2019 that R&D should now on be "Research for Development".
- **We need a renewed focus on Solution Research, Product Innovation and Patenting & Commercialization in our universities.**

Meeting the Challenge of New Knowledge Age.....

- Academic and Research Integrity not negotiable
- Organizational Values, Organizational Culture, Work Ethics and Professional Morality suddenly became highly important.
- Service to Community and Contribution to National Missions.
- Capability to provide solutions to the pressing problems both Local and Global challenges is the new charter for Solution Research in colleges and Universities.
- **Green Engineering, Green Technologies and High Tech Agri Tech shall dominate the future of sustainable growth.**
- Protecting interest of Man and Nature, and sustained focus on Sustainability has become absolutely essential.

Outcome focused Research and Innovations

"Quality and Relevance shall drive Ranking and Recognitions"

- Higher Education and Research shall continue to dominate creation of new technologies and in fact the new world of our dream where prosperity and happiness go together and not the prosperity and tears as at present.
- We need to therefore recognize that human behaviour, conduct and character of people and their practice of human values of Aatmiyata, Compassion, Caring Concern for each other, Caring Concern for the Environment shall require a major shift towards righteous conduct that demands truthfulness, honesty at all levels and personal and professional integrity.
- The Ranking and Recognitions shall increasingly focus on responsiveness of the people in the organization and their integrity in personal and work life.

BEST PRACTICES AT IITD, DTU, RGPV & AMITY UNIVERSITY HARYANA

- Vibrant Culture of Research and Innovation from UG levels upwards
- Strong Industry Integration
- Global connect- Consortia Research Collaborations
- World Class Research Infrastructure
- Research Driven Faculty
- Culture of Innovation right from UG level upward.
- Directorates of Research & Innovation and Outcome
- Interdisciplinary Research Clusters
- Accelerated Patenting and Focus on High Quality Research Publications

4. Research Highlights of AUH

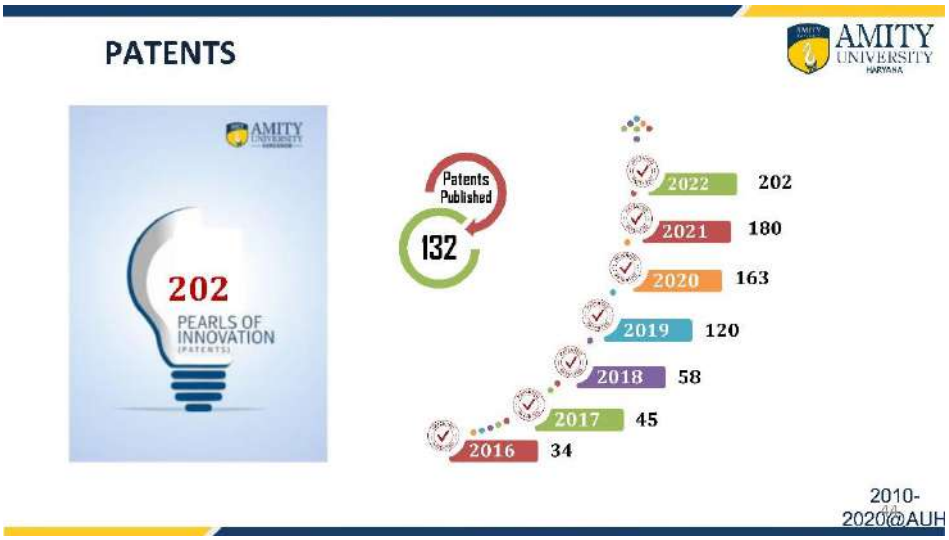
S. No.	Particulars	No.
1.	Funded R&D Projects Sanctioned	86 (47.1 Crores) 10 R&D Projects added this year
2.	Patents Filed	202
3.	Patents Published & Awarded	Published 132 Copyrights -10, Trademark-1
4	Books/Chapters	518
5.	Conference Proceedings	1081
6.	Research Papers Published	4045
7.	Cumulative IF	7769

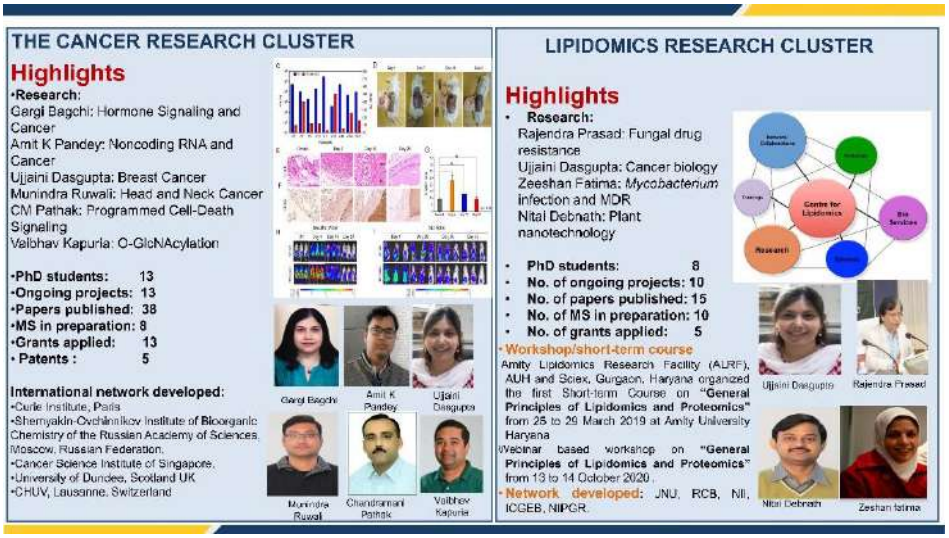
Total Scopus Citations - 10409

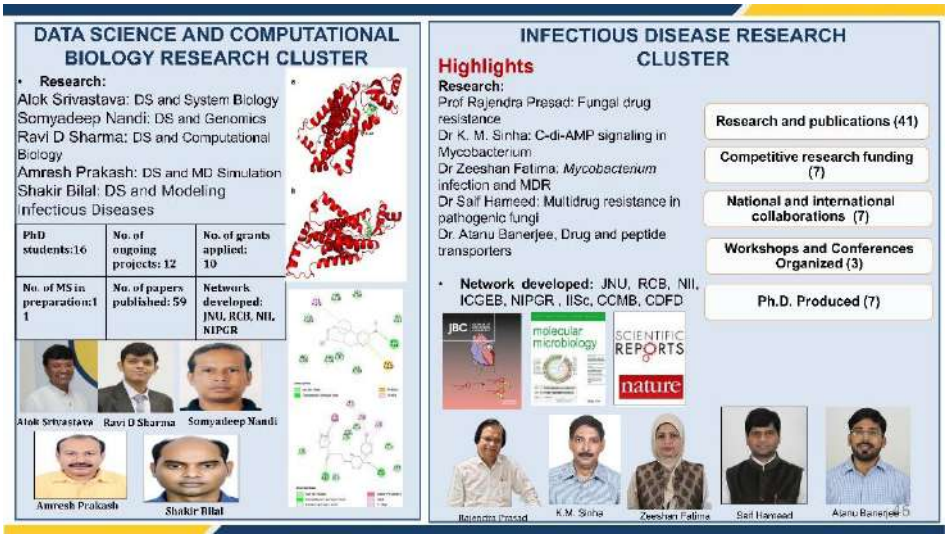
h index - 40

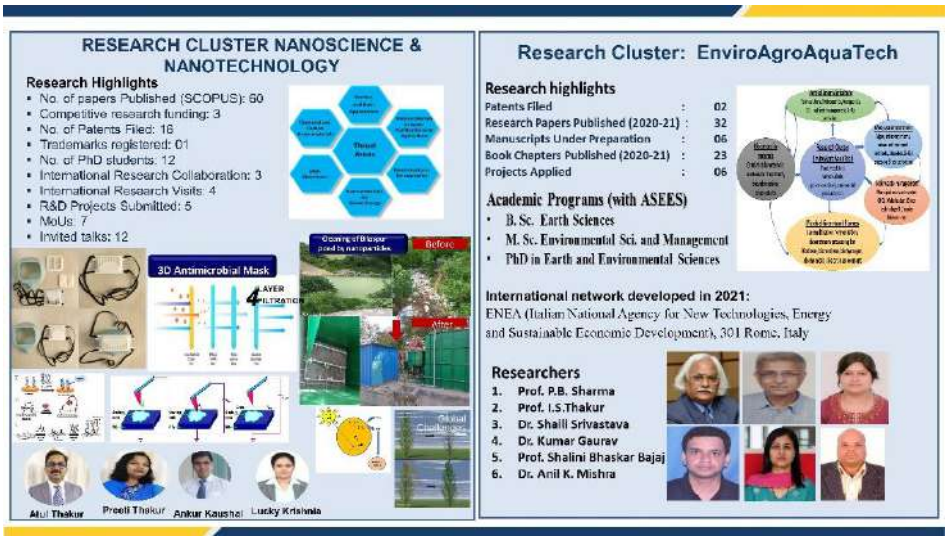
i10 index - 269

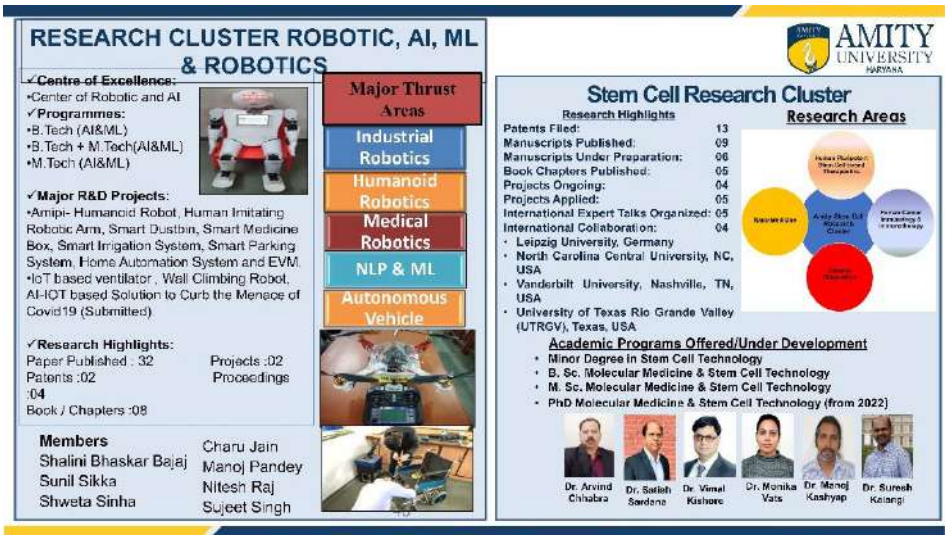
41


PATENTS
AMITY UNIVERSITY HARYANA
202
PEARLS OF INNOVATION
(PATENTS)
Patents Published
132
2022 202
2021 180
2020 163
2019 120
2018 58
2017 45
2016 34
2010-2020@AUH


THE CANCER RESEARCH CLUSTER
Highlights
•Research:
Gargi Bagchi: Hormone Signaling and Cancer
Amit K Pandey: Noncoding RNA and Cancer
Ujjaini Dasgupta: Breast Cancer
Munindra Ruwali: Head and Neck Cancer
CM Pathak: Programmed Cell-Death Signaling
Vaibhav Kapurla: O-GlcNAcylation
•PhD students: 13
•Ongoing projects: 13
•Papers published: 38
•MS in preparation: 8
•Grants applied: 13
• Patents : 5
International network developed:
•Curie Institute, Paris
•Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry of the Russian Academy of Sciences, Moscow, Russian Federation.
•Cancer Science Institute of Singapore.
•University of Dundee, Scotland UK
•CHUV, Lausanne, Switzerland
Gargi Bagchi
Amit K Pandey
Ujjaini Dasgupta
Munindra Ruwali
Chandramani Pathak
Vaibhav Kapurla
LIPIDOMICS RESEARCH CLUSTER
Highlights
• Research:
Rajendra Prasad: Fungal drug resistance
Ujjaini Dasgupta: Cancer biology
Zeeshan Fatima: Mycobacterium infection and MDR
Nital Debnath: Plant nanotechnology
• PhD students: 8
• No. of ongoing projects: 10
• No. of papers published: 15
• No. of MS in preparation: 10
• No. of grants applied: 5
•Workshop/short-term course
Amity Lipidomics Research Facility (ALRF), AUH and Sciex, Gurgaon, Haryana organized the first Short-term Course on "General Principles of Lipidomics and Proteomics" from 25 to 29 March 2019 at Amity University Haryana
Webinar based workshop on "General Principles of Lipidomics and Proteomics" from 13 to 14 October 2020.
•Network developed: JNU, RCB, NII, ICGEB, NIPGR.
Centre for Lipidomics
Research
Ujjaini Dasgupta
Rajendra Prasad
Nital Debnath
Zeshan fatima


DATA SCIENCE AND COMPUTATIONAL BIOLOGY RESEARCH CLUSTER
• Research:
Alok Srivastava: DS and System Biology
Somyadeep Nandi: DS and Genomics
Ravi D Sharma: DS and Computational Biology
Amrash Prakash: DS and MD Simulation
Shakir Bilal: DS and Modeling Infectious Diseases
PhD students:16
No. of ongoing projects: 12
No. of grants applied: 10
No. of MS in preparation:11
No. of papers published: 59
Network developed: JNU, RCB, NII, NIPGR
Alok Srivastava
Ravi D Sharma
Somyadeep Nandi
Amresh Prakash
Shakir Bilal
INFECTIOUS DISEASE RESEARCH CLUSTER
Highlights
Research:
Prof Rajendra Prasad: Fungal drug resistance
Dr K. M. Sinha: C-di-AMP signaling in Mycobacterium
Dr Zeeshan Fatima: Mycobacterium infection and MDR
Dr Saif Hameed: Multidrug resistance in pathogenic fungi
Dr. Atanu Banerjee, Drug and peptide transporters
• Network developed: JNU, RCB, NII, ICGEB, NIPGR, IISc, CCMB, CDFD
Research and publications (41)
Competitive research funding (7)
National and international collaborations (7)
Workshops and Conferences Organized (3)
Ph.D. Produced (7)
JBC
molecular microbiology
SCIENTIFIC REPORTS
nature
Rajendra Prasad
K.M. Sinha
Zeeshan Fatima
Saif Hameed
Atanu Banerjee


RESEARCH CLUSTER NANOSCIENCE & NANOTECHNOLOGY
Research Highlights
No. of papers Published (SCOPUS): 60
Competitive research funding: 3
No. of Patents Filed: 16
Trademarks registered: 01
No. of PhD students: 12
International Research Collaboration: 3
International Research Visits: 4
R&D Projects Submitted: 5
MoUs: 7
Invited talks: 12
3D Antimicrobial Mask
Before
After
Atul Thakur
Preeti Thakur
Ankur Kaushal
Lucky Krishnia
Research Cluster: EnviroAgroAquaTech
Research highlights
Patents Filed : 02
Research Papers Published (2020-21) : 32
Manuscripts Under Preparation : 06
Book Chapters Published (2020-21) : 23
Projects Applied : 06
Academic Programs (with ASEES)
B. Sc. Earth Sciences
M. Sc. Environmental Sci. and Management
PhD in Earth and Environmental Sciences
International network developed in 2021:
ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), 301 Rome, Italy
Researchers
1. Prof. P.B. Sharma
2. Prof. I.S.Thakur
3. Dr. Shalli Srivastava
4. Dr. Kumar Gaurav
5. Prof. Shalini Bhaskar Bajaj
6. Dr. Anil K. Mishra


RESEARCH CLUSTER ROBOTIC, AI, ML & ROBOTICS
Centre of Excellence:
Center of Robotic and AI
Programmes:
B.Tech (AI&ML)
B.Tech + M.Tech(AI&ML)
M.Tech (AI&ML)
Major R&D Projects:
Amipi- Humanoid Robot, Human Imitating Robotic Arm, Smart Dustbin, Smart Medicine Box, Smart Irrigation System, Smart Parking System, Home Automation System and EVM.
IoT based ventilator , Wall Climbing Robot, AI-IOT based Solution to Curb the Menace of Covid19 (Submitted)
Research Highlights:
Paper Published : 32
Projects :02
Patents :02
Proceedings :04
Book / Chapters :08
Major Thrust Areas
Industrial Robotics
Humanoid Robotics
Medical Robotics
NLP & ML
Autonomous Vehicle
Members
Shalini Bhaskar Bajaj
Sunil Sikka
Shweta Sinha
Charu Jain
Manoj Pandey
Nitesh Raj
Sujeet Singh
AMITY UNIVERSITY HARYANA
Stem Cell Research Cluster
Research Highlights
Patents Filed: 13
Manuscripts Published: 09
Manuscripts Under Preparation: 06
Book Chapters Published: 05
Projects Ongoing: 04
Projects Applied: 05
International Expert Talks Organized: 05
International Collaboration: 04
Leipzig University, Germany
North Carolina Central University, NC, USA
Vanderbilt University, Nashville, TN, USA
University of Texas Rio Grande Valley (UTRGV), Texas, USA
Research Areas
Academic Programs Offered/Under Development
Minor Degree in Stem Cell Technology
B. Sc. Molecular Medicine & Stem Cell Technology
M. Sc. Molecular Medicine & Stem Cell Technology
PhD Molecular Medicine & Stem Cell Technology (from 2022)
Dr. Arvind Chhabra
Dr. Satish Sardana
Dr. Vimal Kishore
Dr. Monika Vats
Dr. Manoj Kashyap
Dr. Suresh Kalangi


RESEARCH CLUSTER DRUG DISCOVERY & HERBAL DRUG
P. B. Sharma
Satish Sardan
Vivek Baliyan
Arun Kumar
Saurabh Bhatia
Arun Kumar Sharma, et al. "Hydrogel nanotubes with ice helices as exotic nanostructures for diabetic wound healing", Material Horizons, IF : 12.5
Sharma AK, Thamkachalam PV, Bhatia S. The signaling interplay of GSK-3β in myocardial disorders. Drug Discov Today. 2020 Apr;25(4):633-641, IF: 6.5
22 Publications
23 Patents
01 Projects
02 Books
03 Book chapters
Latex research
Maltodextrin and Gum Arabic Microencapsulated Freeze Dried latex
Latex research
To improve shelf life of freeze dried alkali treated latex
Essential oil research
A nasal stick for lungs detoxification against air pollutants
RESEARCH CLUSTER: ENVIRONMENTAL & HUMAN HEALTH
Research Highlights
Research Papers Published: 117
Manuscripts Under Preparation: 16
Book Chapters Published: 08
Patents Filed: 06
Projects Ongoing: 10
Projects Applied: 06
Research Areas
Environmental Pollution Monitoring and Diagnosis, PM & Precursor Gases
Environment & Human Health Interface
Green Initiatives
NASA-AERONET Aerosol Mapping, UFPM
Aerosol-Cloud-Precipitation-Climate Interactions
Academic Programs Offered/Under Development
2-year M. Tech (Atmospheric Technology and Climate Management, ATCM)
Minor Degree in Environmental Science & Health
B. Sc. Atmospheric and Climate Sciences
M. Sc. Environmental Science and Management,
PhD in Environment and Human Health
FCS Devara
PB Sharma
Arvind Chhabra
Abul A Khan
Amrit Kumar
Shubhansh Tiwari

GLOBAL WARMING & CLIMATE CHANGE RESEARCH CLUSTER

P. B. Sharma | PCS Devara | A Amir Khan | Amrit Kumar | S Tiwari

Objectives

- Height-time cross-sections and source identification of fine-dust, cloud condensation nuclei, and rain/fog water chemistry
- Role of Bioaerosols in Environmental and Human Health
- Human exposure and health risk analyses due to dust pollutants and extreme weather situations.
- Drone exploration of 3D Atmospheric Turbulence and Pollutant Concentration
- Extreme Inclement and Wave Climate

Joint Research Projects

- Research Project titled "Impact of Particulate Pollution on Clouds and Precipitation: A Regional-Scale Assessment" – Submitted to MoES in collaboration with CSIR-NEERI, Nagpur.
- Research Project titled "Drone Exploration of 3D Atmospheric Turbulence and Pollutant Concentration" – Being submitted to DST in collaboration with CSIR-NEERI, Nagpur.
- Research Project titled" Role of Bioaerosols in Environmental and Human Health" – Being submitted to DST in collaboration with CSIR-NEERI, Nagpur.
- Research Project titled" Energetics and Wave Climate" –Being prepared in collaboration with CSIR-NEERI, Zonal Branch, New Delhi.
- Research Project titled "Development of Emission Inventory for Pollution Forecast" – Being prepared in collaboration with CSIR-NEERI, Zonal Branch, New Delhi.

SPACE SCIENCE & TECHNOLOGY RESEARCH CLUSTER
(Earth and Space Exploration Program (ESEP), Amity Mars Project)

Objectives

- To establish an Amity High ALtitude Laboratory (AHALL) for Exploration of Earth and Atmosphere over the Ladakh region
- Exploring surface and subsurface water dynamics in the Ladakh and its inter-comparison with the Martian terrain
- To map the spatio-temporal variations in criteria pollutants (PM_1, $PM_{2.5}$, PM_{10}), BC, VOC, columnar aerosol optical depth, ozone and water vapor, Cloud structures and their comparison with satellite data

Ladakh Expedition: First Field Campaign

- Dr. Abul Amir Khan participated in the Earth and Space Exploration Program (ESEP) from 19 to 25 July 2021 organized by Amity University Mumbai and Cosmic Adventure Pvt Ltd. at Union Territory of Ladakh, India. He also mentored 20 students from different organizations and conducted sampling of Stream water, Lake water (Tso-kar lake), Ground water and Puga Spring (Hot spring water) from Tso-kar and Puga valley in high altitude (>4500 m AMSL) Ladakh region.

Research Highlights

- A funded research project " Study of Vertical Distributions of Aerosols and Clouds from Indigenously Developed Ground-Based Passive Remote Sensor" has been prepared and is ready for submission to ISRO-RESPOND for funding.

Research Hights
Manuscripts Under Preparation: 2
Projects Ongoing: 1
Projects in pipeline: 2

PB Sharma | PCS Devara | A Amir Khan | S Pandey | Sarath Raj,

Concluding Remarks

AMITY UNIVERSITY HARYANA

- Must not forget that Education and Research is not for Career Goals but to transform you and the Nation in to a Happy and Prosperous abode of a law-abiding citizenship.
- Hence along with Capabilities we need to Nurture Character and Human Values in Higher Education.
- R&D has to necessarily integrate the dimension of character of honesty and truthfulness and righteous conduct that a civilized human society demands from enlightened and enterprising minds.
- Let you be the ambassadors of the new age, Create a Smart and Prosperous Future and inculcate Integrity and Sustainability as your core values.
- Let New Age Education, Research and Innovation help in building India of our dream on the strength of smart technologies.

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AMITY UNIVERSITY HARYANA

"The Purpose of Science cannot be any different than the Purpose of Life."

Science and Technology cannot merely be a means to create new corporates and new businesses or innovations to devastate and disrupt. We need to solve the current and future problems and create a blissful future.

Prof. P.B. Sharma

OUTCOMES OF THE WORKSHOP

1. Curriculum is not a document. It is a process to transform student A to graduate X, student B to graduate Y and so on.
2. Curriculum should not be taught, it should be experienced
3. Curriculum design must be linked to society, SDG and such issues crucial for human beings. A joint effort by local bodies, industries etc. is needed.
4. The aim of education should not focus on students earning a large package but on making an individual who has global attributes, such that a graduate can do a job, he can be a leader, an entrepreneur or a teacher.
5. Appropriate curriculum, interesting/enjoyable such that the student feels a connect
6. The curriculum should be relvent to the needs of present society and must train students to solve real life problems using activity based learning.
7. Develop pedagogy in such a manner that good students as well as average students can learn.
8. There can be about 50-55% core courses and remaining through DE/OC/New areas etc.
9. Participants learned about the various attributes of National Education Policy – 2022.
10. There is a need to design assessment tools which promote learning, and impart all the above qualities in a learner.
11. Learning is enhanced when there is diversity among learners.
12. Self-teacher-peer assessment can be implemented.
13. A link can be created between summative and formative assessment. Formative assessments can be designed in such a way that they contribute to the summative task, such that one single summative assessment doesnot carry too much weight in the final grade.
14. The curriculum and pedagogy must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with the nation, and a conscious awareness of role to played and responsibilities to shoulder in a changing world.
15. The key overall thrust of curriculum and pedagogy reform should be to move the education system towards real understanding and towards learning how to learn – to move and away from the culture of rote learning, coaching culture and ‘learning just to earn a living’.
16. Hence there is a need to reduce curriculum content to enhance essential learning and critical thinking.

FOLLOW UP ACTION THE INSTITUTION PROPOSES TO UNDERTAKE

- The feedback report of the delegates suggests that the seminar should be conducted in future for two days. In addition they demanded more time for discussion in such future events.
- The delegates demanded the PPTs of the resource person and they were distributed as per their demand.
- Some delegates suggested the institution to organize more such seminars.
- Most of the delegates requested the institution to form the group of IQAC co-ordinators for sharing of the information.
- Keeping the research quality and inventions up to date and in good shape.
- Taking on board all of the recommendations made by the Resource Persons and putting those recommendations into practise within the institution to achieve quality enhancement.

APPENDIX I: NEWS

शिक्षाविदों ने एनईपी पर किया डिस्कशन

पत्रिका plus रिपोर्टर

ग्वालियर. माधव इंस्टीट्यूट ऑफ टेक्नोलॉजी एंड साइंस में राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषदकी ओर से प्रायोजित दो दिवसीय राष्ट्रीय ऑनलाइन वर्कशॉप का शुभारंभ शनिवार को डीन एकेडमिक्स डॉ. मंजरी पंडित ने किया। संघ लोक सेवा आयोग के पूर्व चेयरमैन प्रो डीपी अग्रवाल ने एनईपी 2020 की प्रमुख अवधारणाओं के साथ पाठ्यचर्या योजना के बारे में विस्तार से विश्लेषण किया। साथ ही 12 प्रदेशों से प्रतिभागियों के प्रश्नों के उत्तर दिए। इस अवसर पर डायरेक्टर डॉ. आरके पंडित, प्रो. उर्मिला पाटिल, डॉ डीवाई पाटिल, प्रो उर्मिला पाटिल ने भी व्याख्यान दिया।

MITS: 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इंप्लीमेंटेशन ऑफ एनइपी 2020' वर्कशॉप

ग्वालियर। माधव इंस्टिट्यूट ऑफ टेक्नोलॉजी एंड साइंस में राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद (एनएएसी) द्वारा प्रायोजित दो दिवसीय राष्ट्रीय ऑनलाइन वर्कशॉप का शुभारम्भ किया गयो इस राष्ट्रीय वर्कशॉप का शीर्षक 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इम्प्लीमेंटेशन ऑफ एन इ पी 2020' है एक वर्कशॉप की शुरूआत सरस्वती वन्दना के साथ हुई इनॉगरल सेशन का संचालन संस्था के डीन एकेडेमिक्स डॉ. मंजरी पंडित ने किया। संस्था के निदेशक डॉ. आर के पंडित जी ने श्रीफल एवं मोमेंटो देकर प्रो. डीपी अग्रवाल का स्वागत किया। प्रो अग्रवाल संघ लोक सेवा आयोग के पूर्व चेयरमैन एवं एमआईटीएस ग्वालियर के बीओजी मेंबर है इसके बाद डॉ. मंजरी पंडित ने प्रो. केके अग्रवाल (एनबीए के पूर्व चेयरमैन)को मुख्य सत्र के लिए सादर आमंत्रित किया। प्रो. केके अग्रवाल ने एन इ पी 2020 के सन्दर्भ में विस्तार से चर्चा की। प्रो. केके अग्रवाल एमआईटीएस ग्वालियर को इसके सफल कार्यान्वयन के बधाई भी दी इस सेशन के बाद प्रो. डी पी अग्रवाल ने एनइपी 2020 की प्रमुख अवधारणाओं के साथ पाठ्यचर्या योजना के बारें में विस्तार से विश्लेषण किया।

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भोपाल, रविवार 04 सितंबर 2022

एमआईटीएस : 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इंप्लीमेंटेशन ऑफ एनइपी 2020' वर्कशॉप

ग्वालियर। माधव इंस्टिट्यूट ऑफ टेक्नोलॉजी एंड साइंस में राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद (एनएएसी) द्वारा प्रायोजित दो दिवसीय राष्ट्रीय ऑनलाइन वर्कशॉप का शुभारम्भ किया गयो इस राष्ट्रीय वर्कशॉप का शीर्षक 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इम्प्लीमेंटेशन ऑफ एन इ पी 2020' है एक वर्कशॉप की शुरूआत सरस्वती वन्दना के साथ हुई इनॉगरल सेशन का संचालन संस्था के डीन एकेडेमिक्स डॉ. मंजरी पंडित ने किया। संस्था के निदेशक डॉ. आर के पंडित जी ने श्रीफल एवं मोमेंटो देकर प्रो. डीपी अग्रवाल का स्वागत किया। प्रो अग्रवाल संघ लोक सेवा आयोग के पूर्व चेयरमैन एवं एमआईटीएस ग्वालियर के बीओजी मेंबर है इसके बाद डॉ. मंजरी पंडित ने प्रो. केके अग्रवाल (एनबीए के पूर्व चेयरमैन)को मुख्य सत्र के लिए सादर आमंत्रित किया। प्रो. केके अग्रवाल ने एन इ पी 2020 के सन्दर्भ में विस्तार से चर्चा की। प्रो. केके अग्रवाल एमआईटीएस ग्वालियर को इसके सफल कार्यान्वयन के बधाई भी दी इस सेशन के बाद प्रो. डी पी अग्रवाल ने एनइपी 2020 की प्रमुख अवधारणाओं के साथ पाठ्यचर्या योजना के बारें में विस्तार से विश्लेषण किया। इसके साथ ही प्रो. डी पी अग्रवाल ने १२ विभिन्न प्रदेशो से प्रतिभागियों के बहुत सी प्रश्नों का उत्तर दिया। इस सेशन के बाद प्रोफेसर उर्मिला पाटिल डीन अकादमिक और आईक्यूएसी प्रमुख, डॉ डी वाई पाटिल प्रौद्योगिकी संस्थान, पिंपरी, पुणे ने अपनी विशेषज्ञ वार्ता प्रस्तुत की प्रोफेसर उर्मिला पाटिल की विशेषज्ञ वार्ता का विषय एनईपी-2020 परिप्रेक्ष्य के साथ मूल्यांकन और मूल्यांकन थो संस्था की डीन एकेडेमिक्स डॉ. मंजरी पंडित ने अपनी विशेषज्ञ वार्ता में एनईपी-2020 पर फोकस के साथ पाठ्यचर्या विकासः एमआईटीएस ग्वालियर केस स्टडी पर चर्चा डॉ. पंडित ने एमआईटीएस ग्वालियर में एनईपी-2020 का एमआईटीएस ग्वालियर का सफल क्रियान्वयन के बारें में विस्तार के साथ अपने विचार सभी के साथ साझा किये। पहले दिन के अंतिम सेशन में प्रो. आर. पी. खंबायत, प्रोफेसर, राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण और अनुसंधान संस्थान, भोपाल ने अपने बहुमूल्य विचार प्रस्तुत किये इस राष्ट्रीय कार्यशाला का समापन समन्वयक डॉ. प्रतेश जायसवाल एवं आयोजन सचिव डॉ. अखिलेश तिवारी ने किया एवं संचालन श्री प्रभाकर शर्मा (उप रजिस्ट्रार) ने सफलता पूर्वक किया।

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दैनिक कर्मठ राजनीति

भोपाल, सोमवार 05 सितंबर 2022

MITS : 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इंप्लीमेंटेशन ऑफ एनइपी 2020' वर्कशॉप का समापन हुआ

ग्वालियर। 4 सितंबर 2022 को दो दिवसीय राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद (एन. ए. ए.सी.) द्वारा प्रायोजित दो दिवसीय राष्ट्रीय ऑनलाइन वर्कशॉप का समापन हुआ। इस राष्ट्रीय वर्कशॉप का शीर्षक 'करिकुलम डेवलपमेंट फॉर द इफेक्टिव इम्प्लीमेंटेशन ऑफ एन इ पी 2020 है। इस वर्कशॉप के अंतिम दिन के पहले सेशन में निखिल पालीवाल ने संस्था की डीन एकेडेमिक्स डॉ मंजरी पंडित को विशेषज्ञ वार्ता के लिए आमंत्रित किया। प्रोफेसर डॉ मंजरी पंडित की विशेषज्ञ वार्ता का विषय एनईपी-2020 का कार्यान्वयन: एमआईटीएस ग्वालियर अनुभव था। प्रोफेसर डॉ मंजरी पंडित जी ने 12 से ज्यादा प्रदेशों से इस वर्कशॉप से जुड़े कई प्रतिभागियों के जिज्ञासाओं का समाधान किया। इस इंटरैक्टिव सेशन के बाद डॉ. नरेन्द्र ग. बावने, प्रिंसिपल, जे आई टी , राष्ट्रसंत तुकडोजी महाराज नागपुर यूनिवर्सिटी, नागपुर (एन. ए. ए.सी.) का संशोधित प्रत्यायन ढांचा पर अपनी विशेषज्ञ वार्ता प्रस्तुत की प्रो. उर्मिला कर, प्रोफेसर, शिक्षा और प्रबंधन, एन आई टी टी आर, कोलकाता ने अपने सेशन में क्रेडिट ट्रांसफर प्रावधान और संबंधित मुद्दे से विस्तार से विचार प्रस्तुत किये। चतुर्थ सत्र में प्रो. पी.बी. शर्मा, कुलपति, एमिटी विश्वविद्यालय, गुड़गांव जी को श्री प्रभाकर शर्मा ने विशेषज्ञ वार्ता के लिए आमंत्रित किया। इस राष्ट्रीय कार्यशाला का समापन समन्वयक डॉ. मंजरी पंडित एवं डॉ. प्रतेश जायसवाल ने किया। इस राष्ट्रीय वर्कशॉप का आयोजन सचिव डॉ. अखिलेश तिवारी ने किया एवं संचालन श्री प्रभाकर शर्मा (उप रजिस्ट्रार) एवं निखिल पालीवाल ने सफलता पूर्वक किया। डायरेक्टर डॉ. आर के पंडित जी ने अंत में सभी प्रतिभागी को सम्बोधित किया।

APPENDIX II: GLIMPSES

Session 1: Inaugural Session and Keynote Address by Prof. K.K. Aggarwal, Chairman, NBA, Former Vice Chancellor, GGS Indraprastha University, Delhi


Dr. R.K.Pandit
Prof. D. P.


Prof. D. P. Agrawal


NAAC Sponsored
TWO DAYS
NATIONAL WORKSHOP
on
September 2022)


Zoom Meeting
Recording
Prof K K Aggarwal
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Stop Video
Participants
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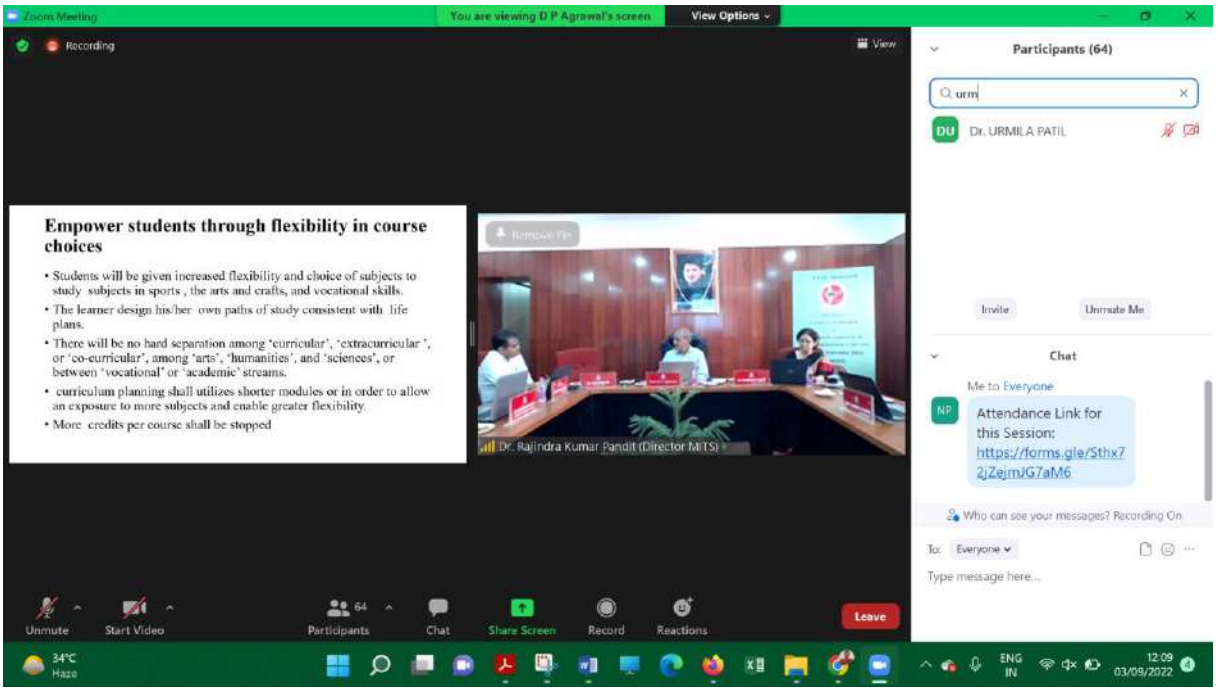
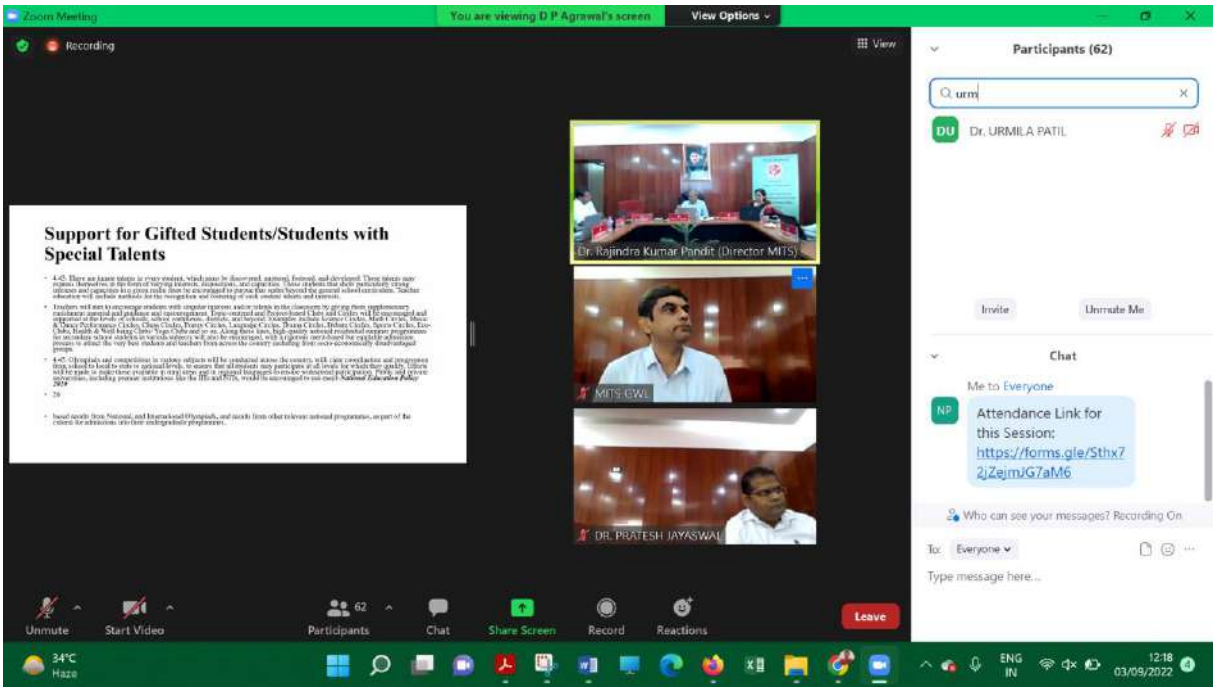
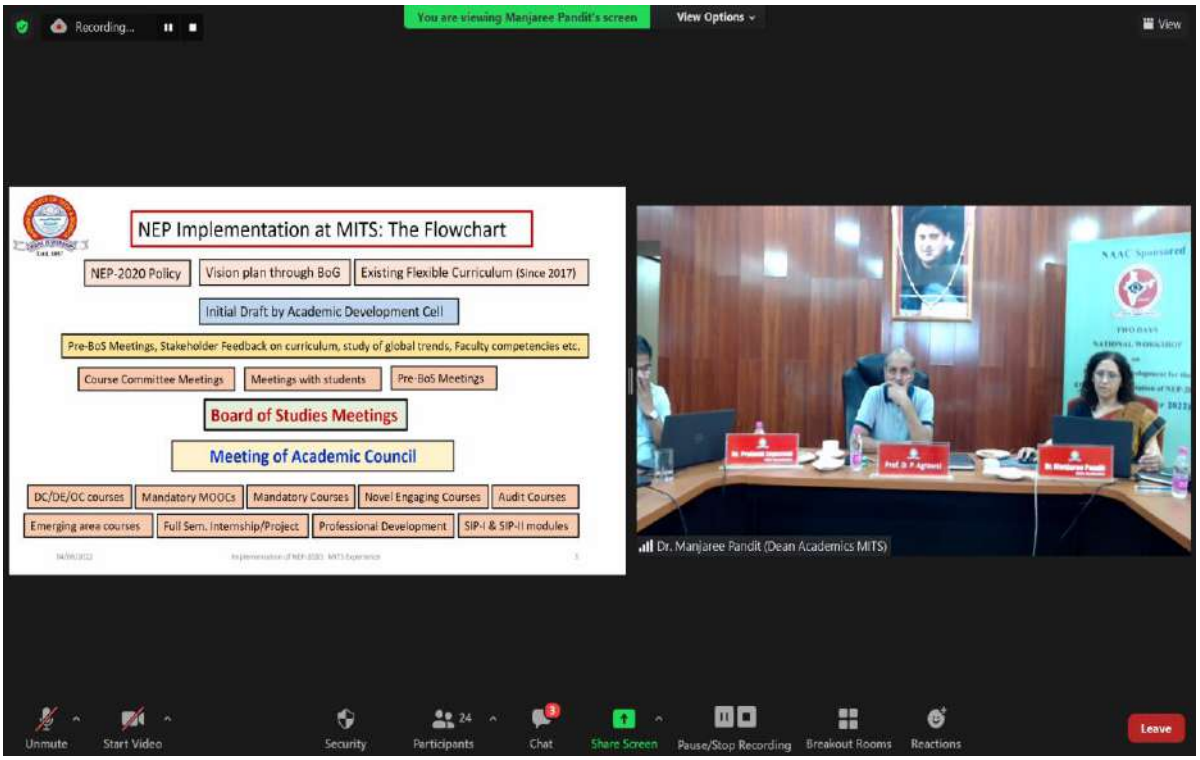
Record
Reactions
Leave

Session 2: By Prof. D.P. Agrawal, Former Chairperson, Union Public Service Commission, New Delhi





Session 3 by Prof. Urmila Patil, Dean Academics and IQAC Head, Dr. D. Y. Patil Institute Of Technology, Pimpri, Pune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View Options
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NEP Implementation at MITS: The Flowchart
NEP-2020 Policy
Vision plan through BoG
Existing Flexible Curriculum (Since 2017)
Initial Draft by Academic Development Cell
Pre-BoS Meetings, Stakeholder Feedback on curriculum, study of global trends, Faculty competencies etc.
Course Committee Meetings
Meetings with students
Pre-BoS Meetings
Board of Studies Meetings
Meeting of Academic Council
DC/DE/OC courses
Mandatory MOOCs
Mandatory Courses
Novel Engaging Courses
Audit Courses
Emerging area courses
Full Sem. Internship/Project
Professional Development
SIP-I & SIP-II modules
Dr. Manjaree Pandit (Dean Academics MITS)
Unmute
Start Video
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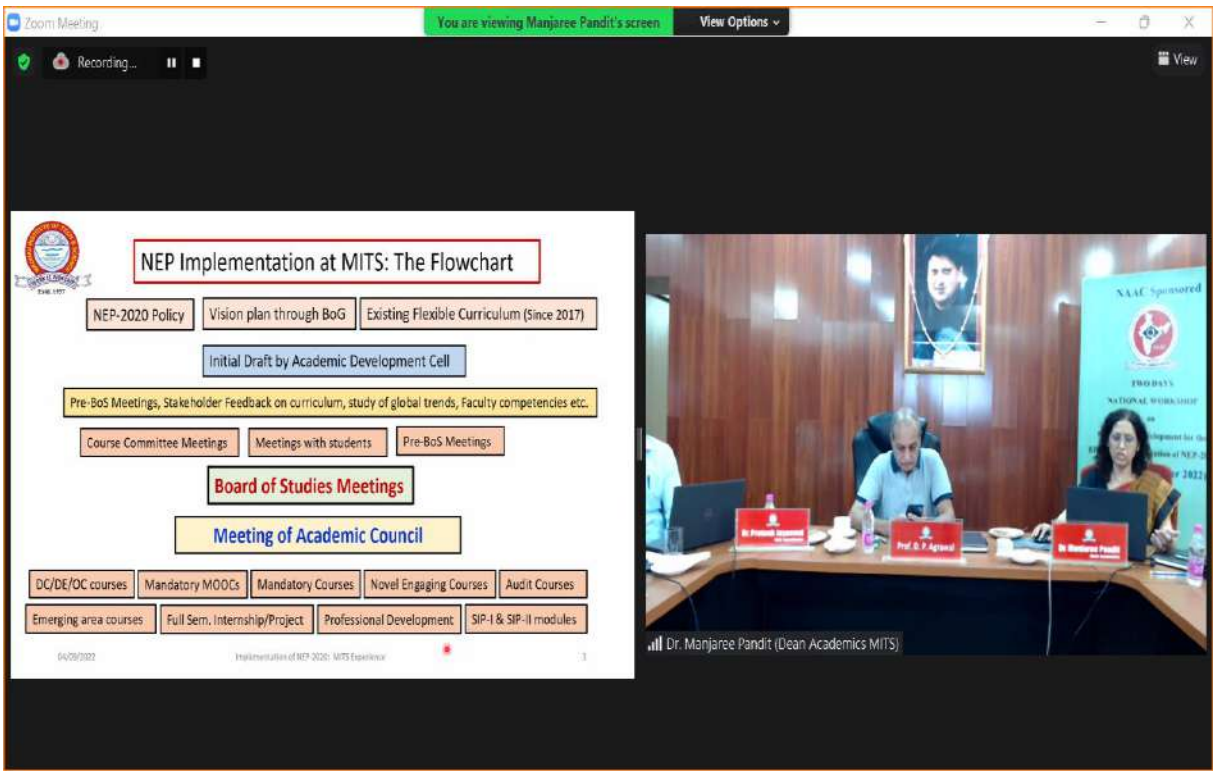
Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
Leave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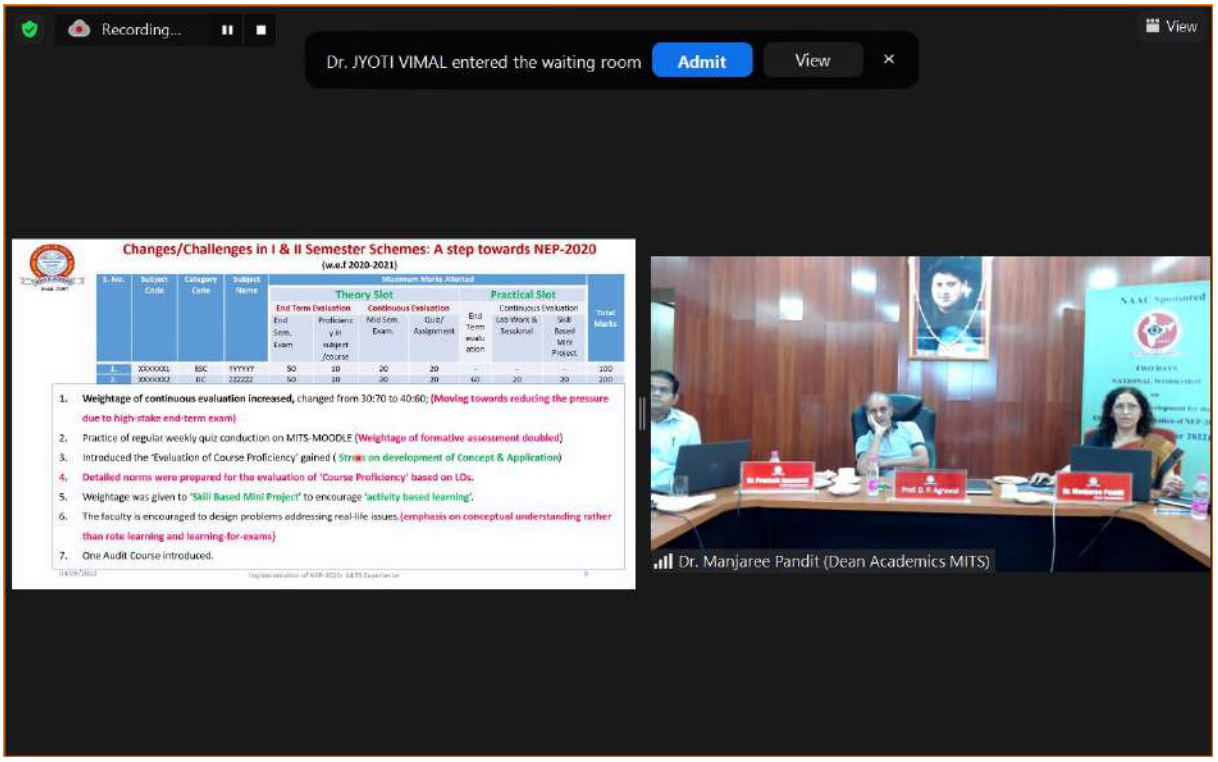
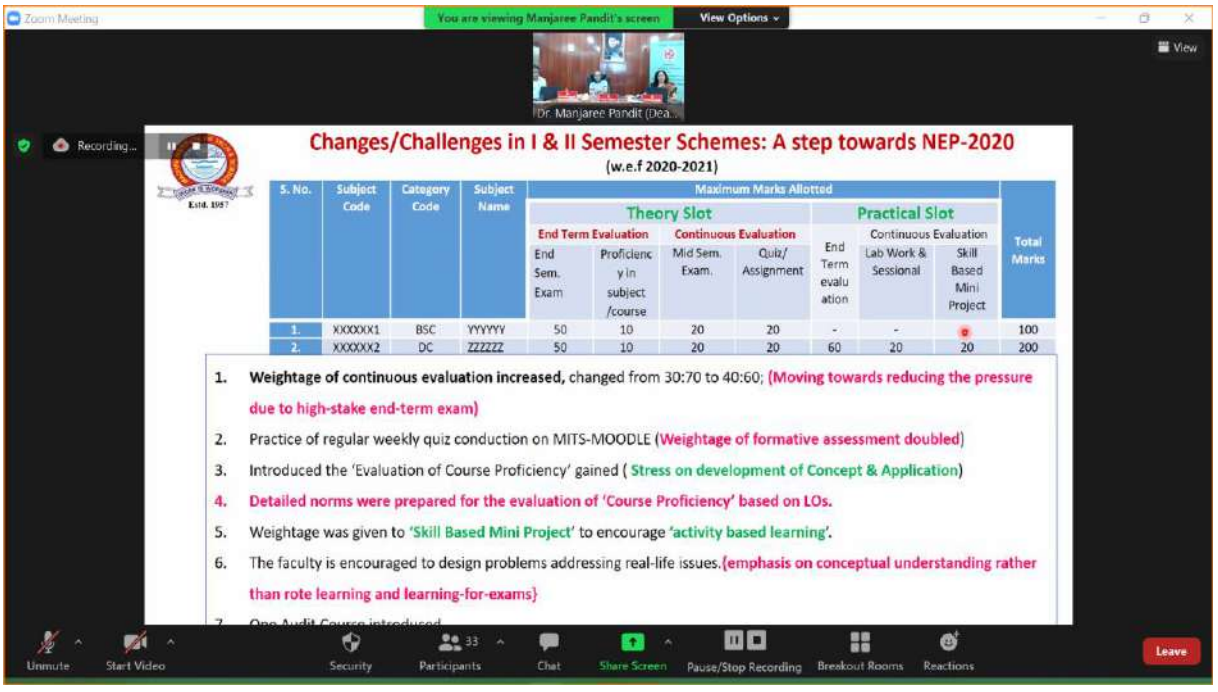
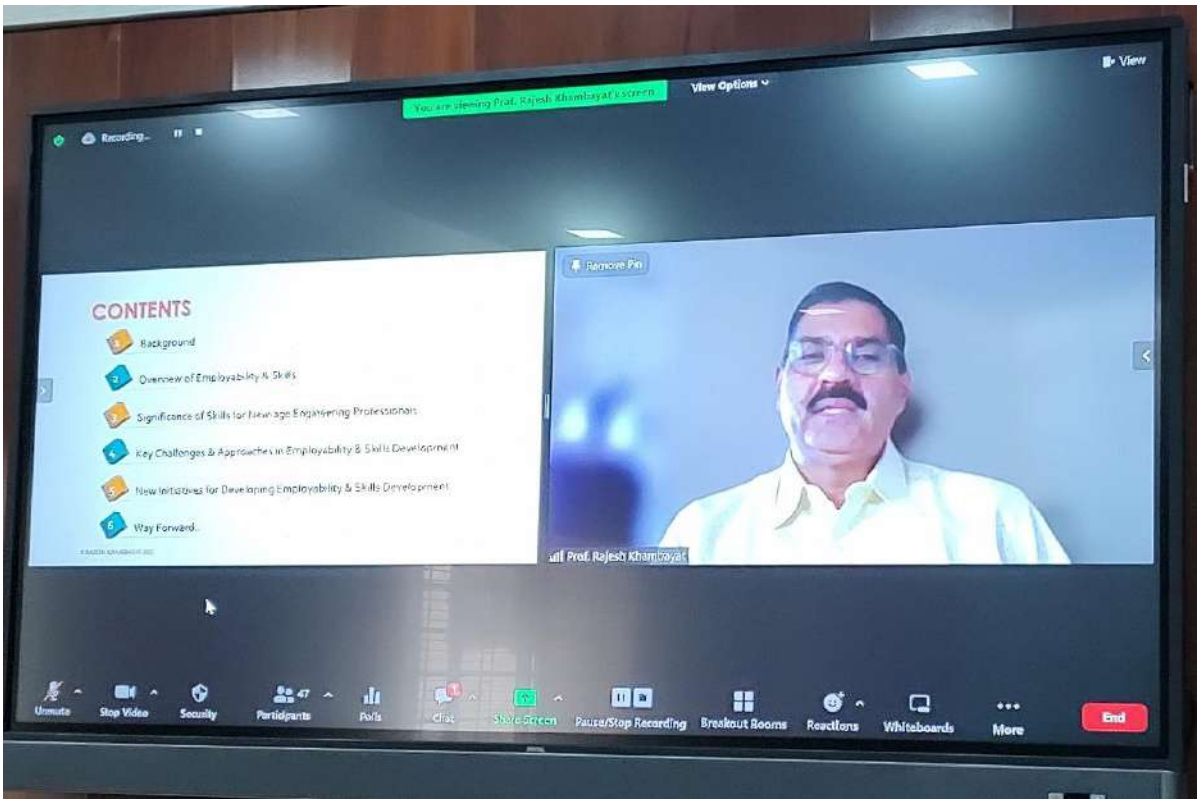
Audit Courses
Emerging area courses
Full Sem. Internship/Project
Professional Development
SIP-I & SIP-II modules
Dr. Manjaree Pandit (Dean Academics MITS)

Session 4: Dr. Manjaree Pandit Professor and Dean Academics, MITS, Gwalior

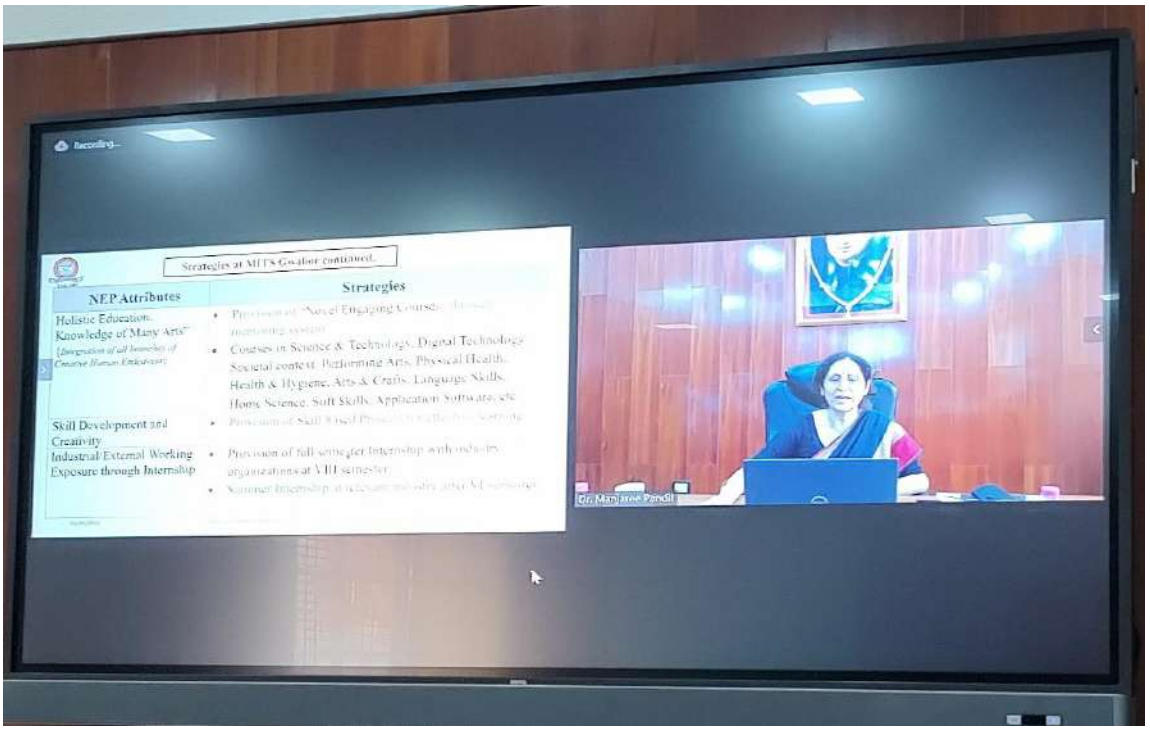




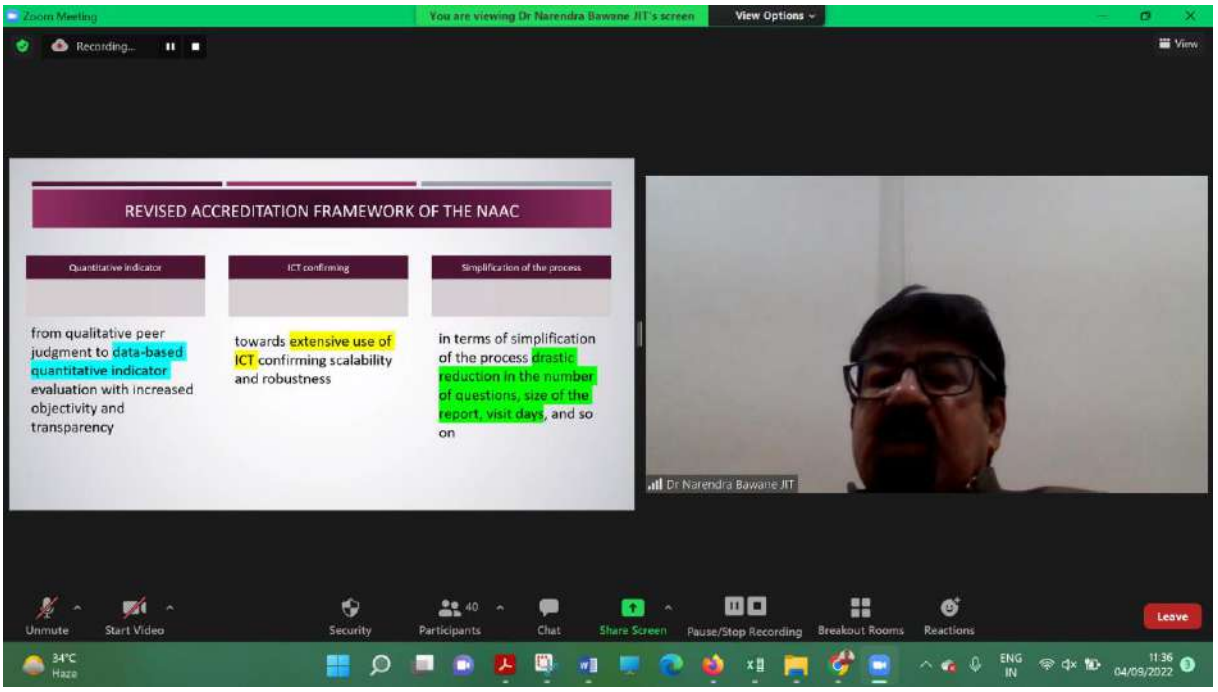
Session 5: Prof. R. P. Khambayat, Professor, NITTTR, Bhopal

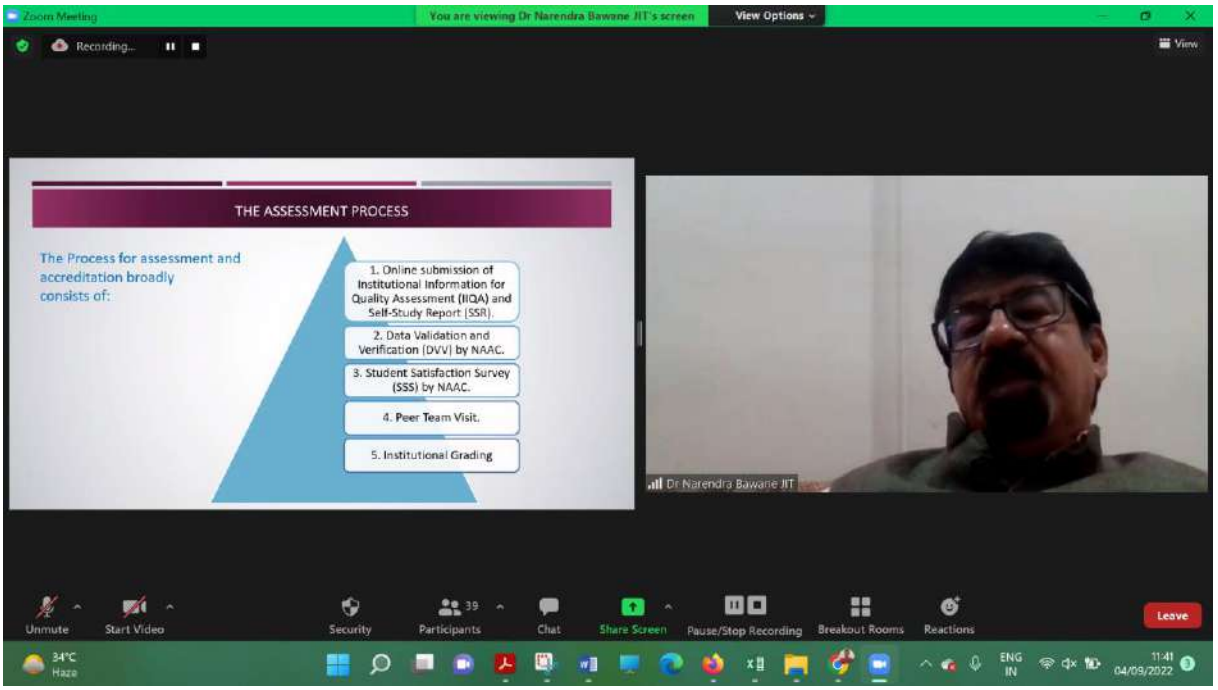


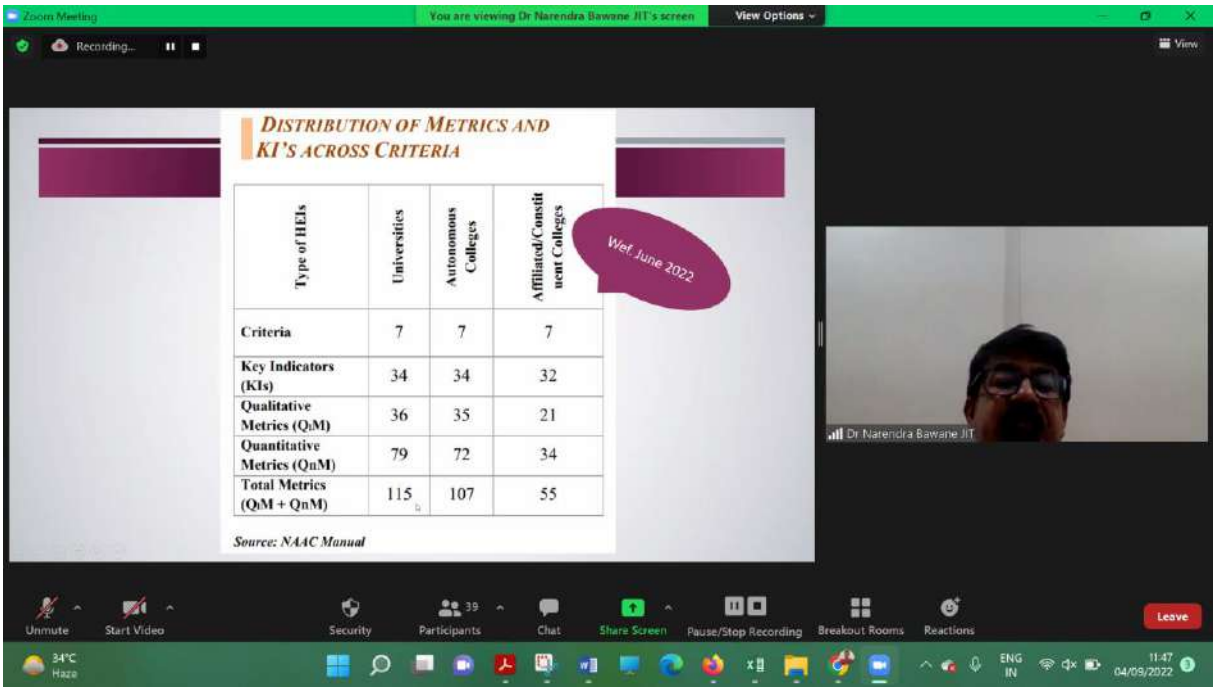
Session 6: Dr. Manjaree Pandit Professor and Dean Academics, MITS, Gwalior



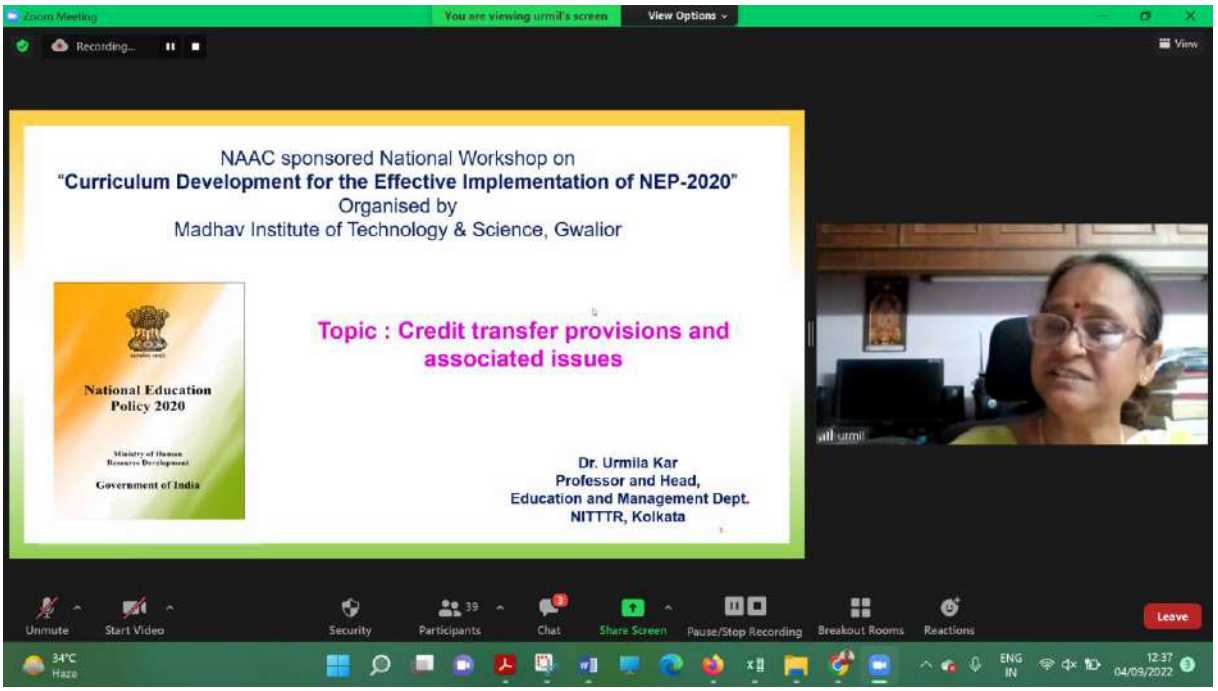
Session 7: Dr. Narendra G. Bawane Principal, JIT, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

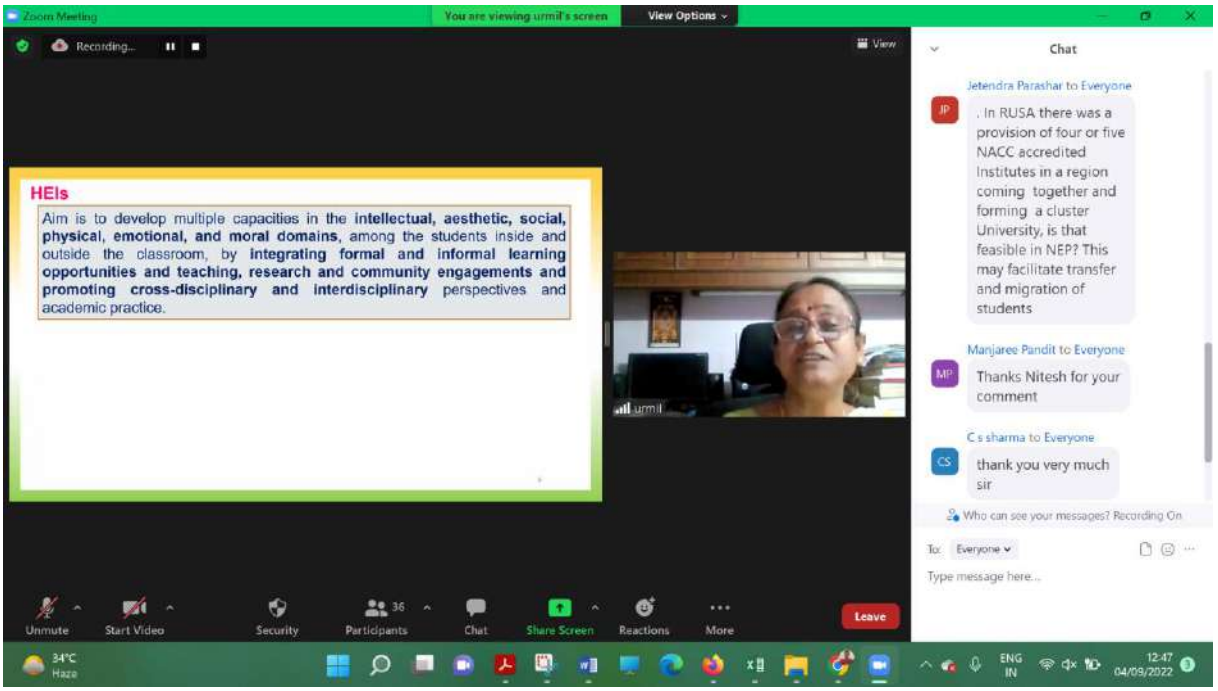






Session 8: Prof. Urmila Kar Professor, Education and Management, NITTTR, Kolkata




Zoom Meeting
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Aim is to develop multiple capacities in the intellectual, aesthetic, social, physical, emotional, and moral domains, among the students inside and outside the classroom, by integrating formal and informal learning opportunities and teaching, research and community engagements and promoting cross-disciplinary and interdisciplinary perspectives and academic practice.
urmil
Chat
Jetendra Parashar to Everyone
. In RUSA there was a provision of four or five NACC accredited Institutes in a region coming together and forming a cluster University, is that feasible in NEP? This may facilitate transfer and migration of students
Manjaree Pandit to Everyone
Thanks Nitesh for your comment
C s sharma to Everyone
thank you very much sir
Who can see your messages? Recording On
To: Everyone
Type message here...
Unmute
Start Video
Security
Participants
Chat
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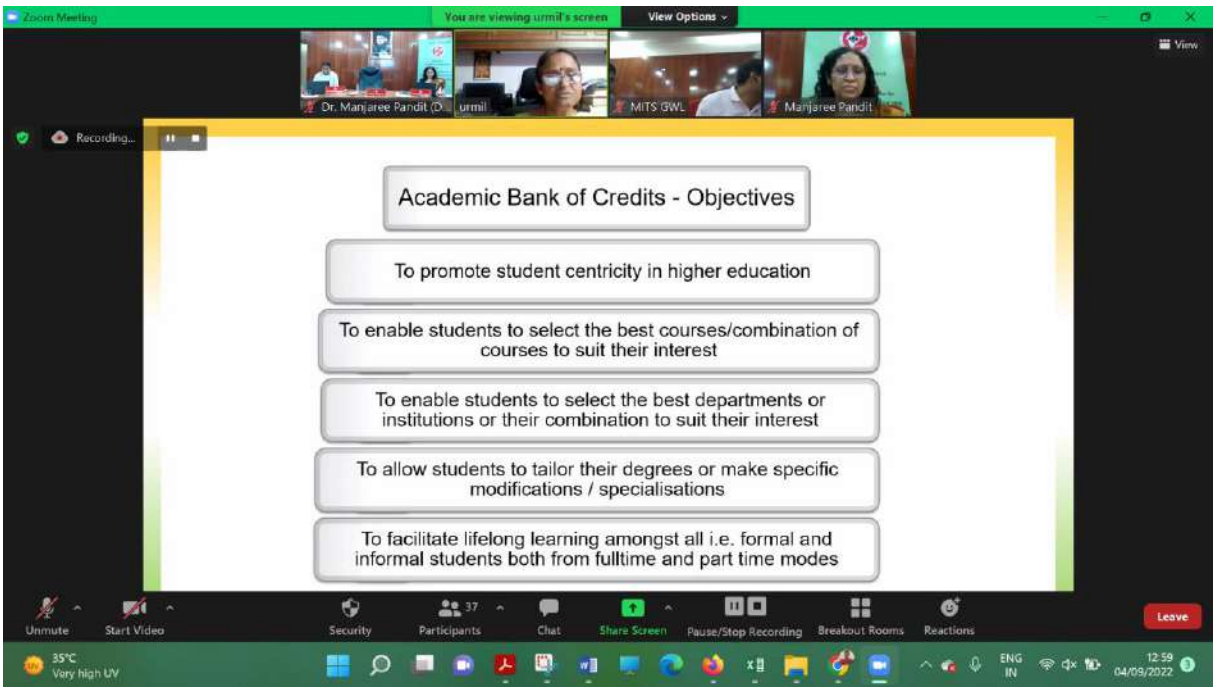
More
Leave


Zoom Meeting
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Dr. Manjaree Pandit (D...
urmil
MITS GWL
Manjaree Pandit
Recording...
Academic Bank of Credits - Objectives
To promote student centricity in higher education
To enable students to select the best courses/combination of courses to suit their interest
To enable students to select the best departments or institutions or their combination to suit their interest
To allow students to tailor their degrees or make specific modifications / specialisations
To facilitate lifelong learning amongst all i.e. formal and informal students both from fulltime and part time modes
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Chat
Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
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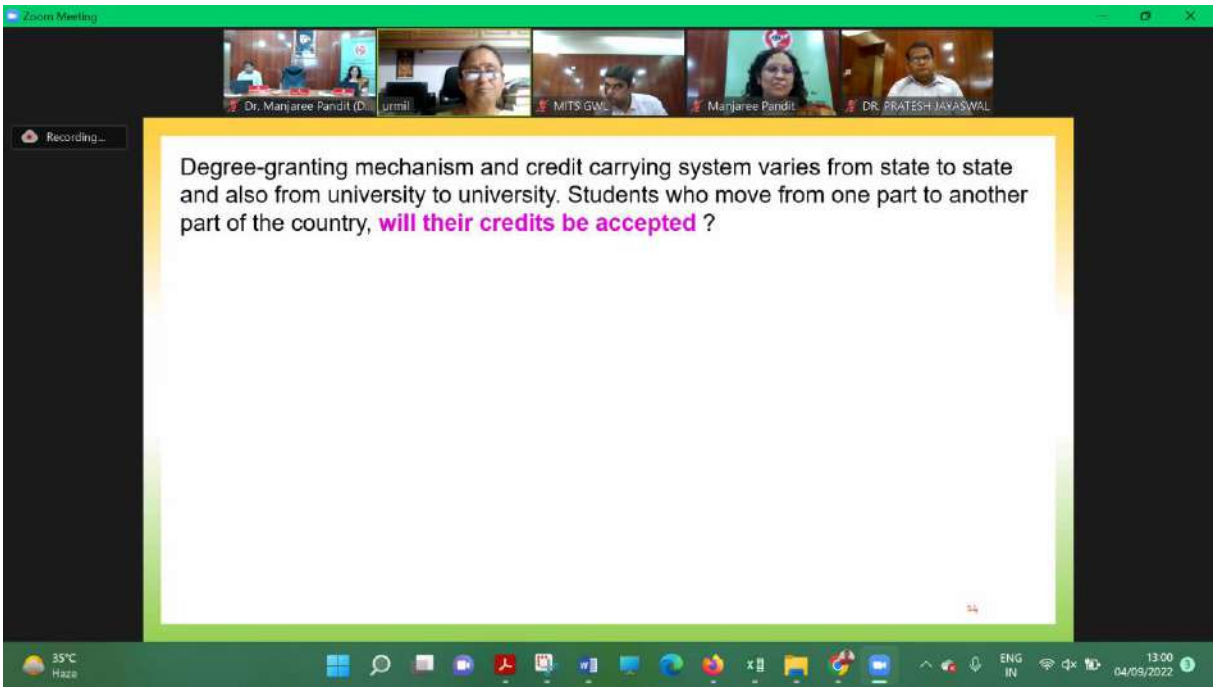
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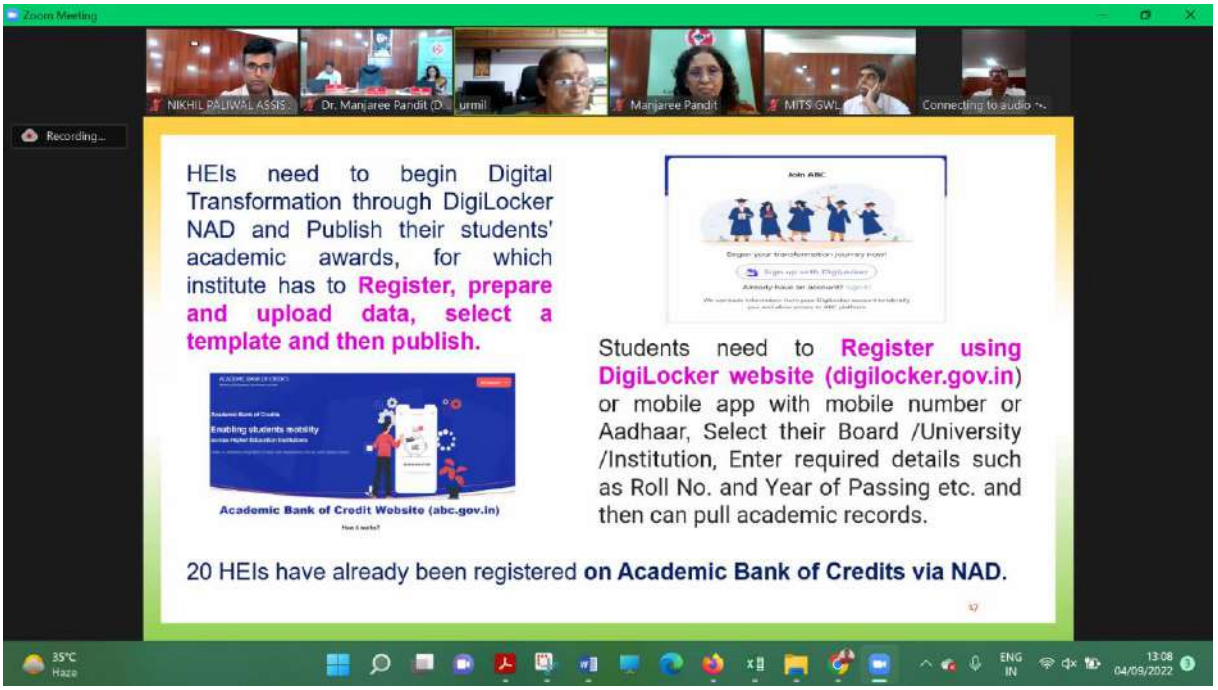
Degree-granting mechanism and credit carrying system varies from state to state and also from university to university. Students who move from one part to another part of the country, will their credits be accepted ?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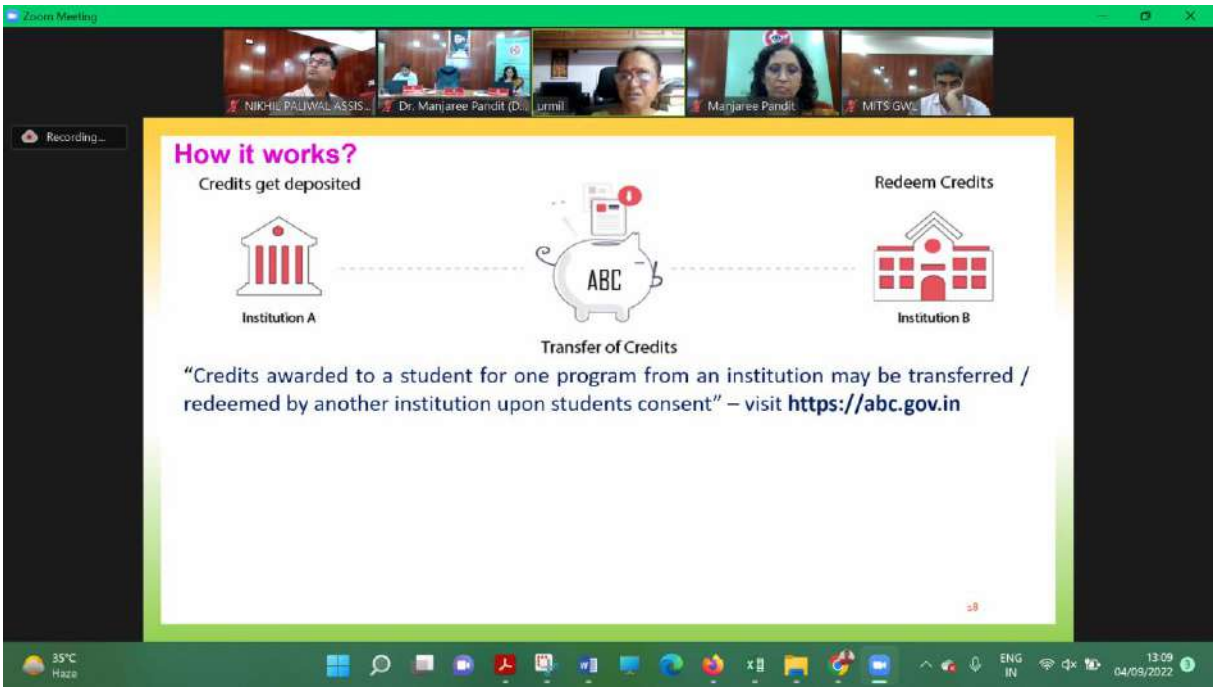
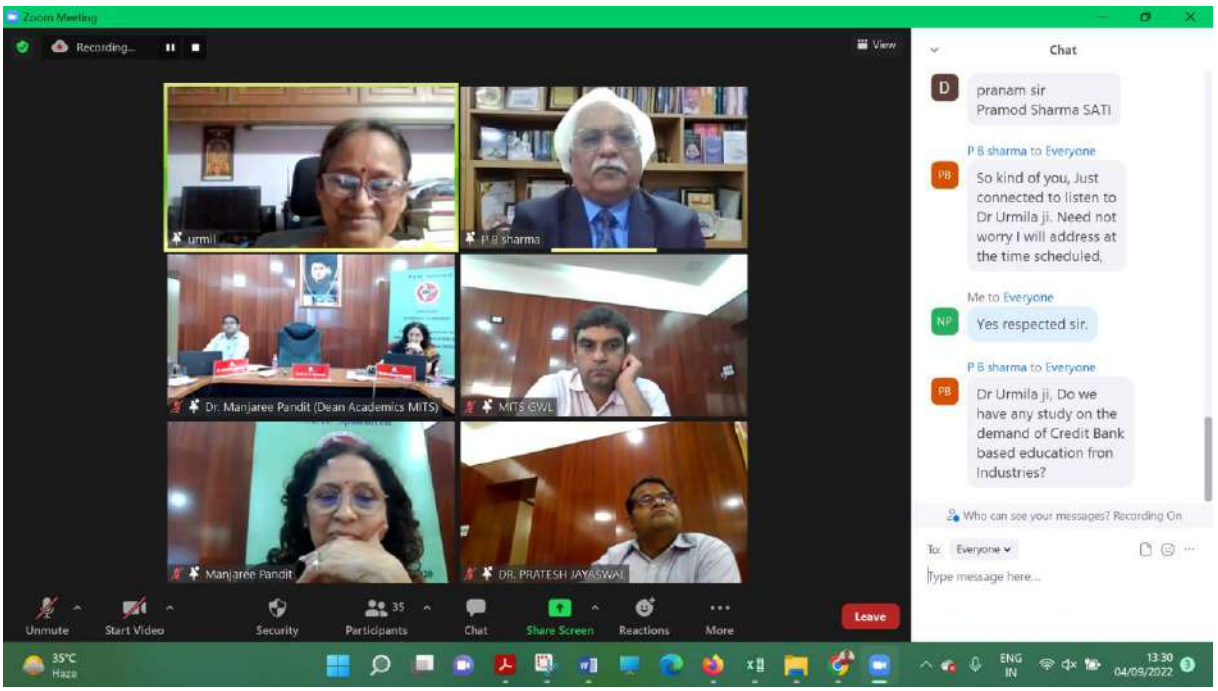
Recording...
HEIs need to begin Digital Transformation through DigiLocker NAD and Publish their students' academic awards, for which institute has to Register, prepare and upload data, select a template and then publish.
Academic Bank of Credit Website (abc.gov.in)
Students need to Register using DigiLocker website (digilocker.gov.in) or mobile app with mobile number or Aadhaar, Select their Board /University /Institution, Enter required details such as Roll No. and Year of Passing etc. and then can pull academic records.
20 HEIs have already been registered on Academic Bank of Credits via NAD.


Zoom Meeting
Recording...
How it works?
Credits get deposited
Redeem Credits
Institution A
ABC
Institution B
Transfer of Credits
"Credits awarded to a student for one program from an institution may be transferred / redeemed by another institution upon students consent" – visit https://abc.gov.in


Zoom Meeting
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pranam sir
Pramod Sharma SATI
P B sharma to Everyone
So kind of you, Just connected to listen to Dr Urmila ji. Need not worry I will address at the time scheduled.
Me to Everyone
Yes respected sir.
P B sharma to Everyone
Dr Urmila ji, Do we have any study on the demand of Credit Bank based education fron Industries?
Dr. Manjaree Pandit (Dean Academics MITS)
MITS GWL
Manjaree Pandit
DR. PRATESH JAYASWAL
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Share Screen
Reactions
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Session 9: Prof. P.B. Sharma Vice-Chancellor, Amity University, Gurgaon


Zoom Meeting
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P B sharma
Dr. Manjaree Pandit
Manjaree Pandit
Recording...
New Structures for Learning and Innovation needed
AMITY UNIVERSITY
The power of Ideas and Innovation Incubators
Enterprise Development Hubs
Patent Facilitating Cells
Proximity of small companies and corporate labs to universities
Venture capital networks
iLabs and Online Learning Portals
Collaborative Learning and Connected Class Rooms
Team Teaching and Learning from Each other has become a reality.
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Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
Leave


Zoom Meeting
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Recording...
Industry Integration is a Must
AMITY UNIVERSITY
Invite Industry to share their needs and current and future technology challenges.
Involve Industry Experts in auditing curriculum.
Organise Industry Expert Lectures during curriculum delivery.
Appoint Professors of Practice/ Adjunct Professors from Industry.
Involve Industry Adjunct Professors in Joint Supervision of Minor and Major Projects and Case Studies.
Dr. Manjaree Pandit (Dean Academi...
Manjaree Pandit
P B sharma
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Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
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Zoom Meeting
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AMITY UNIVERSITY HARYANA
Our Alumni could be of great value in Curriculum Innovation and also in Curriculum Delivery
• Alumni are intimately connected with the World of Work and have a great feel of our Institutionalized education ecosystem.
• Their Feedback and their insight will be of great value in regular curriculum updates and also radical reforms in curriculum design.
• Their exposure and their success stories could prove highly inspiring to our students.
• Even current students often have great suggestions for curriculum update. The brightest among them could be engaged as Teaching Assistants, a practice that is non existent in our universities and colleges in India. Though it is one of the Best Prices abroad.
Dr. Manjaree Pandit (Dean Academi...
Manjaree Pandit
P B sharma
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Breakout Rooms
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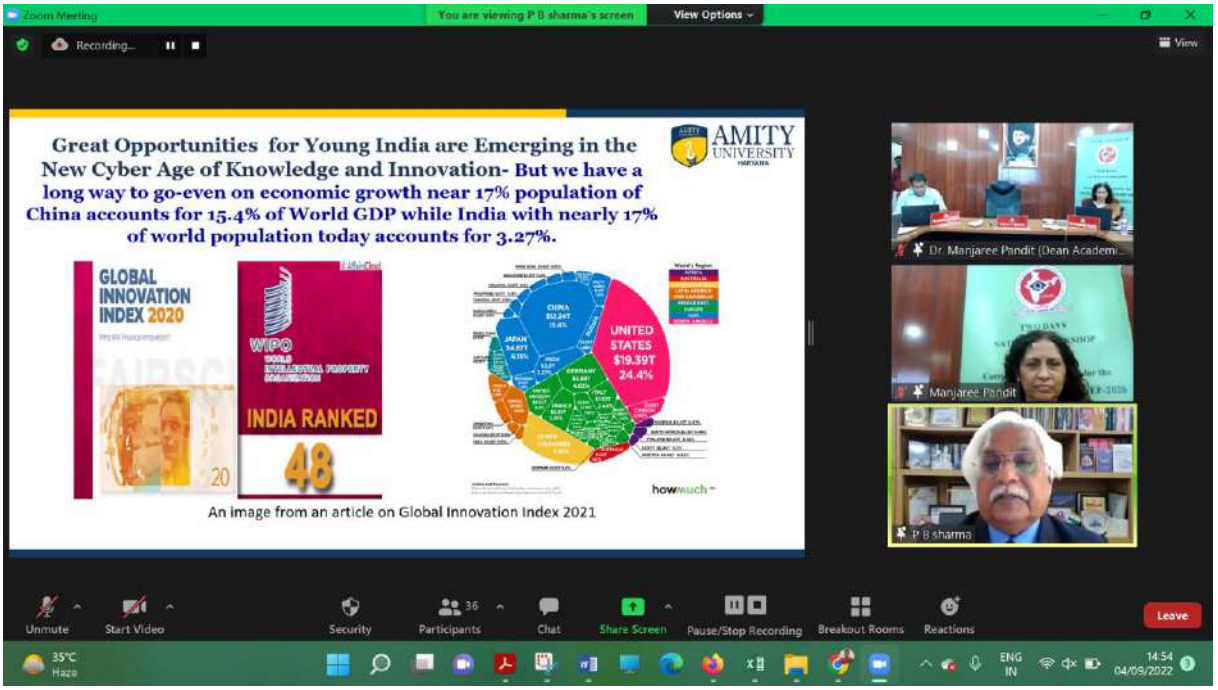
04/09/2022


Zoom Meeting
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Recording...
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AMITY UNIVERSITY HARYANA
Great Opportunities for Young India are Emerging in the New Cyber Age of Knowledge and Innovation- But we have a long way to go-even on economic growth near 17% population of China accounts for 15.4% of World GDP while India with nearly 17% of world population today accounts for 3.27%.
GLOBAL INNOVATION INDEX 2020
WIPO
INDIA RANKED
48
UNITED STATES $19.39T 24.4%
howmuch
An image from an article on Global Innovation Index 2021
Dr. Manjaree Pandit (Dean Academi...
Manjaree Pandit
P B sharma
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04/09/2022


Zoom Meeting
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Recording...
The World In which We Live Today-
Water Insecurity?
AMITY UNIVERSITY
HARYANA
Water is the source as well as an assurance sustenance of life.
Water is life & No life without water.
We have badly spoiled our water bodies including the holy rivers in India.
These were the rivers of Nectar when I was born in 1948.
75 years of India's Independence is a sad story of neglect of water, the most precious gift of God.
Modern lifestyle, unscientific use of water in agriculture and discharge of untreated industrial wastewater and untreated sewage are the real culprits. Even today 70% untreated sewage is discharge directly into the rivers and water bodies in India. How long we can afford?
Smart technologies shall have a big role to play to assure water security.
Dr. Manjaree Pandit (Dean Academi...
Manjaree Pandit
P B sharma
Unmute
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Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
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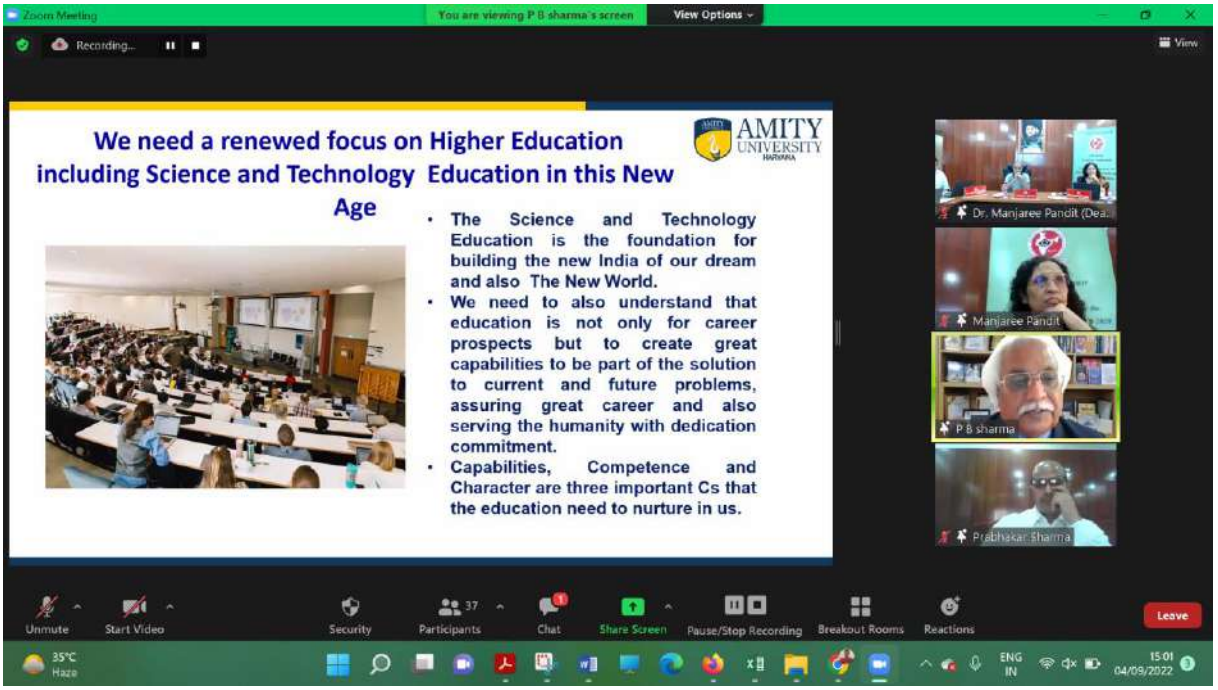
Zoom Meeting
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Recording...
We need a renewed focus on Higher Education including Science and Technology Education in this New Age
AMITY UNIVERSITY
HARYANA
The Science and Technology Education is the foundation for building the new India of our dream and also The New World.
We need to also understand that education is not only for career prospects but to create great capabilities to be part of the solution to current and future problems, assuring great career and also serving the humanity with dedication commitment.
Capabilities, Competence and Character are three important Cs that the education need to nurture in us.
Dr. Manjaree Pandit (Dea...
Manjaree Pandit
P B sharma
Prabhakar Sharma
Unmute
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Participants
Chat
Share Screen
Pause/Stop Recording
Breakout Rooms
Reactions
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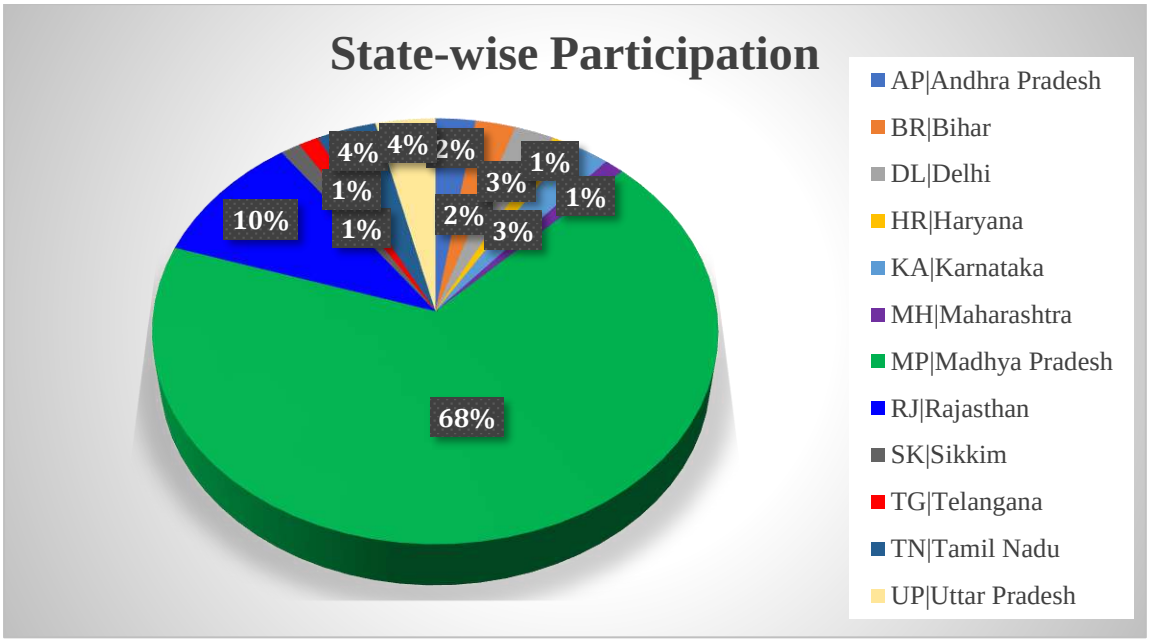
APPENDIX III: LIST OF PARTICIPANTS



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APPENDIX IV: FEEDBACK RESPONSE

Feedback from participants: 62 responses

(Ported verbatim from the Google form)

Question-1: Which session was most interactive? (Mention the topic only)

Responses

Curriculum delivery with emphasis on employability and skill development
All sessions
Stakeholder participation in curriculum design and implementation
Nep 2020
Curriculum Development with Focus on NEP - 2020
Capacity Building
Implementation of NEP 2020 MITS Gwalior experience
All are best.
Session of prof. Dr. P.b Sharma sir
Last session
Curriculum development to the effective implementation of NEP 2020 tion
Curriculum planning with key concept of NEP 2020
1st and 3rd session
Curriculum development
Assesment and evaluation with NEP 2020
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study
Session 3 of day 2
Assessment and evaluation with NEP-2020
Curriculum Development
Second
NAAC accreditation revised framework
Assessment and evaluation withNEP2020
CURRICULUM PLANNING IMPROVEMENT
Education policy
Almost All
Implementation of NEP : MITS EXPERIENCE
Curriculum design and implimentation
Stakeholder participation in curriculum design and implementation
stakeholder participation in curriculum design and implementation
Stakeholder participation in curriculum design and implementation.
Session 1
Panel Discussion
Dr.Manjaree Pandit Session 1
Stakeholder participation in curriculum design and implementation
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study
Who to design course
Value addes courses
Credit transfer provision and associated issues
Value added course
Stackholder participation in curriculum design
Implementation of NEP
Day
All
Curriculum Development with Focus on NEP-2020:
Revised accreditation framework of the NAAC
Session 2
Outcome based Education
All the session are interactive

Key concept of NEP 2020
Nep
NEP
Curriculum development with focus on NEP2020
Lecture 2
Curriculum planning with key concept of NEP-2020
NEP 2020
1
Implementation of NEP 2020
Credit transfer provisions and associated issues
Dr. Manjaree Pandit

Question-2: Which session was the best and why? (Mention the topic)

Response

All
Ugh system
Curriculum Development with Focus on NEP - 2020
Day 1 Session 2 because major initiative taken till now were discussed in brief
Credit transfer provisions and associated issues
All session are best. They provide good knowledge to me who is new in educational industry.
Session of prof.dr.urmila mam about implementation of NEP
Second day 1 ,regarding bsp 2020
Curriculum design and implementation for the new age of invention and future redinance
Session 2 was very informative for NEP implementation
Curriculum delivery
Curriculum planning with key concepts
All sessions are good, but first, one session which explains the concept of NEP is very informative
Stakeholders participation in curriculum design & its implementation.
Assessment and evaluation with NEP-2020
Curriculum Development as it is the most important to link one institution to the other as per credit system
Implementation of NEP 2020 by Dr. Manjaree Pandit mam
Assessment and evaluation with NEP
Revised accreditation framework of NAAC
Education policy
5: Implementation of NEP2020 : MITS Gwalior experience : Real life experiences and Challanges
Implementation of NEP-2020: MITS Gwalior experience
First.related to present need
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study-Assessment and evaluation of NEP 2020 perspective, beacause assessment standard should be same for all.
"Assessment and evaluation of NEP 2020 perspective"because this policy is new for all and there should be some common standard and practices for evaluation.
Curriculum development with focus on NEP 2020:MITS case study. The real change in the institution was all upfront and motivating for others also to introduce the same in their curriculum.
Session 2 Revised accreditation framework of NAAC
Assisment and Evolution with NEP
Dr.Manjaree Day 2 - it related to my objective
Revised Accreditation Framework of the NAAC, Very well explained and informative
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study because of various examples
Using workshop update the information
Value added courses
Curriculum development with focus on NEP20
Assessment and evaluation with NEP-2020 perspective
Oc based
Stackholder participation in curriculum design, relevant to the topic
Session 4 (curriculum development with focus on NEP-2020)

Day 2 session 1 implementation of NEP @MITS Gwalior
"Curriculum delivery with emphasis on employability" because we learn how to improvise teaching skills in this season.
Revised Accreditation Framework of the NAAC
Revised accreditation framework of the NAAC
2
All sessions
All the session are good
Framework of NAAC, because it will comprehensively evaluate all
Motivation knowledgeable
IMPLEMENTATION OF NEP
Implementation of NEP 2020: MITS Gwalior because it's explain about the implementation and practical pros and cons after implementing very effectively by speaker.
Curriculum delivery with emphasis on employability and skill development As that was focused on employability and skill which is the need of today.
Implementation of NEP 2020: MITS Gwalior experience
Provide Detail information about the topic
Curriculum development with focus on NEP -2020. I understood the NEP2020 process
Implementation NEP2020
1
All sessions were excellent
Curriculum delivery with emphasis on employability and skill development
Curriculum planning with key concepts of NEP-2020 Various aspects of curriculum planning are explained in detail.
NEP 2020;MITS GWALIOR CASE STUDY

Question-3 :Which session/sessions was/were more inspiring? (Mention the topic)

Responses

All
All session
Curriculum Development with Focus on NEP - 2020
By Dr Rajesh Khambayat
Curriculum development with focus of NEP
All session are inspiring.
Challenge in curriculum design
Day 2 last session
Curriculum design and implementation for the new age of invention and future redinance
Session 2
All the sessions were inspired
Credit transfor provision and assoiciated issue
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study
Curriculum planning, Assessment & evaluation
Assessment and evaluation with NEP-2020
Credit associated with transfer rules
Curriculum Planning with key concept of NEP 2020
Curriculum development with focus on NEP-2020
Implementation of NEP2020
All the topics
1 : Curriculum planning with key concepts of NEP 2020: most relevant
Implementation of NEP-2020: MITS Gwalior experience
First
Implementation of NEP-2020: MITS Gwalior experience
Curriculum development for NEP 2020:MITS case study
Assessment and evaluation with NEP 2020,credit transfer provisions and perspective and stakeholder participation in curriculum design were very inspiring with zealous speakers giving the message of lifelong learning.
NEP 2020 MITS CASE STUDY

Curriculum planning with key concepts
Day 2
Curriculum delivery with emphasis on employability and skill development
Curriculum Development with Focus on NEP-2020: MITS Gwalior Case Study
Dr P B Sharma
All were very informative and helpful
Implementation of NEP-2020: MITS Gwalior experience
Stackholder participation in curriculum design
Stakeholder participation in development design and implementation
Same as above
Assesment and evaluation with NEP 2020 perspective
Curriculum planning with key concepts of NEP-2020
Credit transfer provisions and associated issues
3
All sessions
Case study of MITS Gwalior by Dr. Manjaree Pandit Madam
Curriculum design
NAAC
Stakeholder participation in curriculum design and implementation
Curriculum development with Focus on NEP 2020
Assessment and evaluation with NEP 2020 petspective
Lecture 2
Stakeholder participation in curriculum design and implementation.
Stakeholder participate in curriculum activity
1
Curriculum planning with key concepts of NEP- 2020
Keynote Address
NEP 2020;MITS GWALIOR CASE STUDY

Question-4: Mention any five significant point you learnt from this course?

Responses

Okey
I got a deep insight of NEO
Skilling children not in formal school system, Capacity building training for TVET, Diploma Program on DVET, Greening TVET, initiative taken by institutions
Implementation of flexible curriculum and its assessment process
1. Making of CO 2. Improvement in the curriculum 3. Improvement in the job opportunities 4. Enhancement in the quality of education 5. Importance of the hybrid courses.
Knowledge about new policy, India has great scope for education, gain knowledge about different topics
NEP 2020 , syllabus , scheme , multipoint entry ,and exit
Teaching method, technology,
Vocational skill, group based learning
Curriculum
Structure for delivering a quality education
How to design CO How to developed curriculum How to calculate CO sheet Evaluation scheme OBCA framework
About the new NEP scheme, the importance of academic courses.
To implement the curriculum based on stakeholders feedback, students feedback so that it will easy to enhance the syllabus according to industrial need. It will be helpful for the students to go aboard for higher studies. How we can assess & evaluate Curriculum planning
CAS Assessment Evaluation Curriculum activities
Assessment Credit Transfer Curriculum Development Curriculum Implementation Implementation of NEP
Curriculum development with NEP 2020 NAAC accreditation framework Credit transfer associated issues
Assessment/evaluation with NEP 2020 Curriculum delivery with employbility/skill development
Continuous Assessment System Credit System and Minor and Major Projects

NEP CURRICULUM PLANNING EMPLOYEBILITY NAAC SSR
Qualitative learning right approach interactive session
Need of implementing NEP 2020 Salient features of NEP 2020 Challanges of implementing NEP 2020 Methods of Assessment Credit Transfer Methods and Challanges
Curriculum Development, NEP 2020 Roles in Nation Building, Stakeholders Weight and Roles in Institute, NAAC accreditation Policy, Curriculum Delivery Importance
Revised the syllabus.upto date our knowledge.time punctual.follow the texonomy.
- Concept of NEP 2020 -Curriculum design - Employability and interdisciplinary course - Preperation of effective Scheme structure -Basic principle of NEP 2020
1. BASIC STRUCTURE OF NEP 2. Role of NEP in education transformation 3.Curriculum design using NEP approach 4. Stakeholders involvement in curriculum design 5. Future scenario in technical education and need of interdisciplinary approach.
1) To create interactive PPTs and slides. All of the presentations were way more than excellent in their content and some were very sorted from understanding perspective... Especially that of Manjaree ma'am's. 2) Need of restructuring the course titles and syllabi of all the courses which will have more of hands on experience. Accreditation, credit based system, etc are the elements of restructured education system. 3) Value based education and civic behavior are two very important concepts which can be inculcated in a professional college also and it's not a far cry. 4) Subjects must be attributes of the teachers. 5) STEM to STEAM: New call for flexible curriculum.
1. About NEP 2020 2. Curriculum planning towards NEP 2020 3. Changes in Teaching learning strategies 4. Changes in NAAC framework 5. Contribution of Institute/universities towards NEP
Learner centered, subject centered, problem centered, conceptualized etc.
Pedagogy, learning, vision
Stakeholder participation in curriculum design, Revised Accreditation Framework of the NAAC, Curriculum delivery with emphasis on employability, Assessment and evaluation with NEP-2020
Honors, Minors, NEC, Holistic approach, MMTLP.
Alumi design the course
How to choose topic value added couse oc based
Curriculum development, delivery, NAAC FRAMEWORK, NEP20,credit transfer
1. Timely delivery of talks 2. Resolution of the problems during online sessions 3. Content of the workshop 4. Response to the question 5. Experts - highly experienced
V
Knowledge NAAc revised format Credit trasfer Courses for holistic development Interdisciplanary collaboration
1. What is NEP-2020 2.Need and objectives of NEP with its implementation strategies 3.Role of NEP in development of Indian higher educational system 4.With motto "Educate, encourage,enlighten " will work better and cover almost all the level of students. 5.This is balanced and inclusive outlook...such as curriculum development , employability , Skill development.
Flexible curriculum Value added course Various assessment methods Various lecture delivery methods Challenges ahead for small Institutions
—
1) How to improvise teaching by proper formatting of assesment 2) limitations of assesment 3) Activity based training is important 4) To enhance the skills use of structured assignment, interaction with local field expert, case studies etc. are essential.
1. key concepts of NEP-2020 2. Curriculum Development 3. Accreditation Framework of the NAAC 4. Credit transfer provisions 5.Curriculum delivery
All the sessions were very good
NEP
Curriculum development for effective communication in NEP 2020
Need of different kind of Feedbacks, Skills needed for improving employbility, Assessment tools for calculating attainment, Peer to Peer learning, Flexible curriculum
About the education system
Curriculum design, employability, concern of society, flexibility,, case studies
Nep
NEW ASPECTS OF NEP
1. Different teaching learning methods for students and evaluation of students. 2. Implementation of skill based courses in different departments of the institute 3. Flexible choice for students to opt. for interdisciplinary courses in

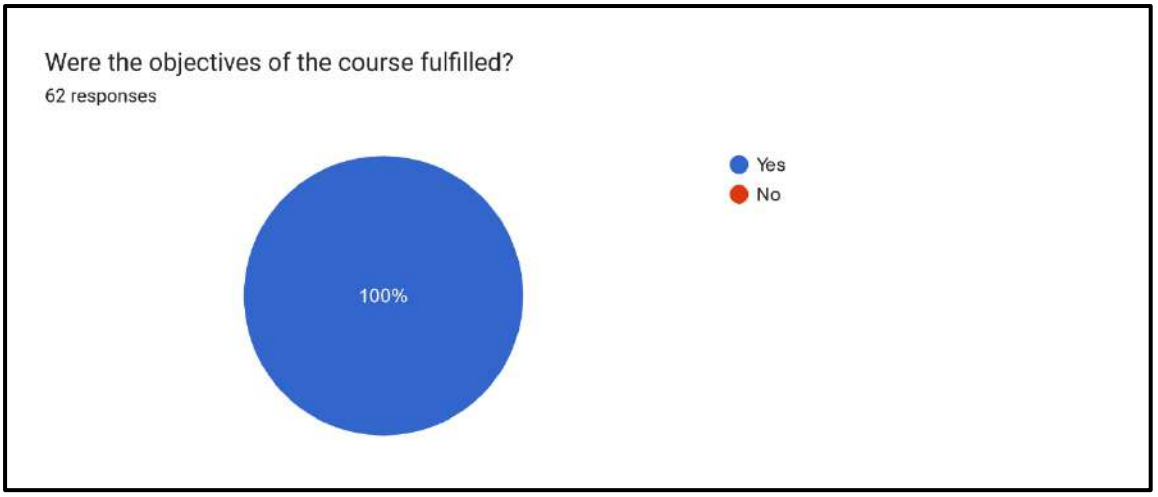
New education policy. 4. Making class more interactive by Implementation of industry person/online webinars/ industry exposure/ nptel lectures. 5. Project oriented approach of students by assigning real problems.
How to designe and develope the curriculum in view of NEP 2020 How we can make teaching learning interesting How an institute can prepare for NAAC How students can benefited through natinal academic credit Bank. How the stakeholders can play a vital role in implementation of NEP 2020
NEP objective, need, implementation, importance, Advantages
Policy framework, detailed implementation
Curriculum development as per NEP-2020 Assessment Tool for programs outcomes Holistic Education Academic Bank credit Honours&Minor specialization
Curriculum design, NEP 2020, NAAC, CREDIT TRANSFER , implementation
1
Process of Curriculum development, NEP 2020 Implementation at MITS, Challenges in Engg Education
NEP merits and demerits
1. Glimpse of future programs. 2. Experiential learning 3. Need of skilled workforce w.r.to Industry 5.0 4. Revision in accreditation framework of NAAC 5. Credit transfer provisions & associated issues
Importance of NEP 2020 for curriculum development and quality enhancement of students

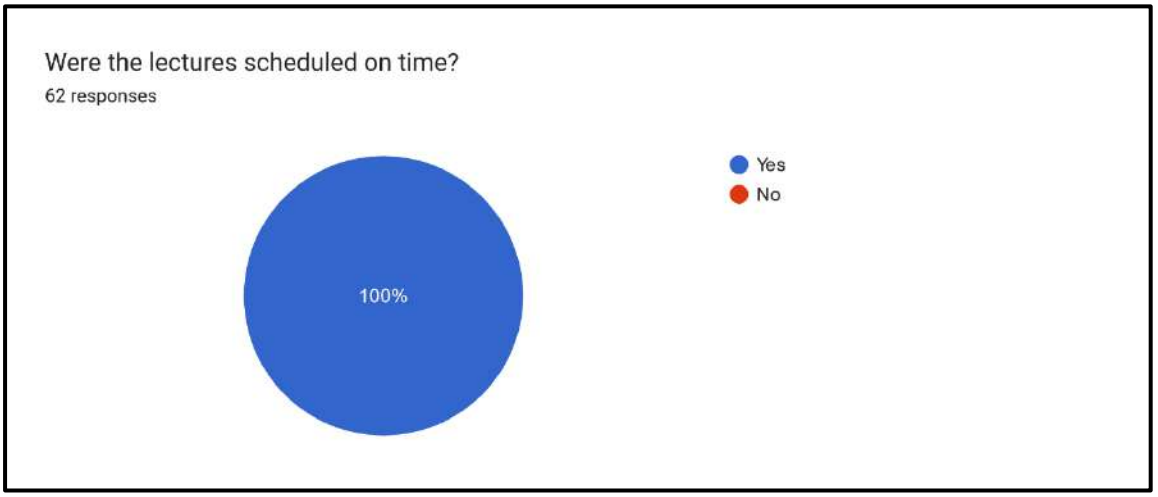
Question-5: Is there anything you want to learn more about?

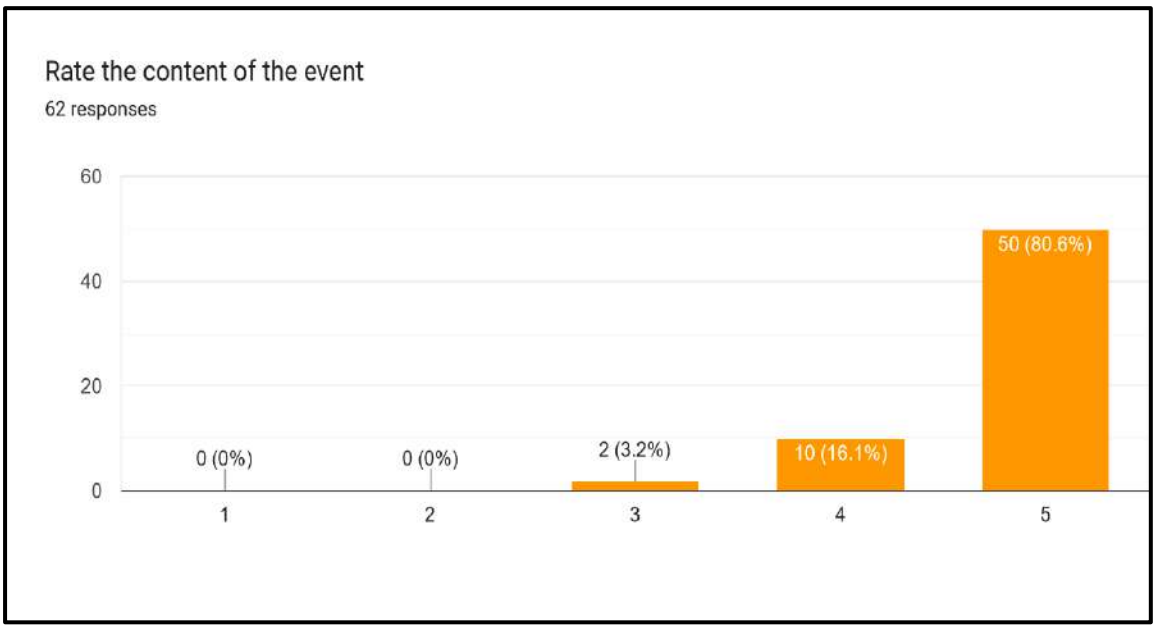
Responses

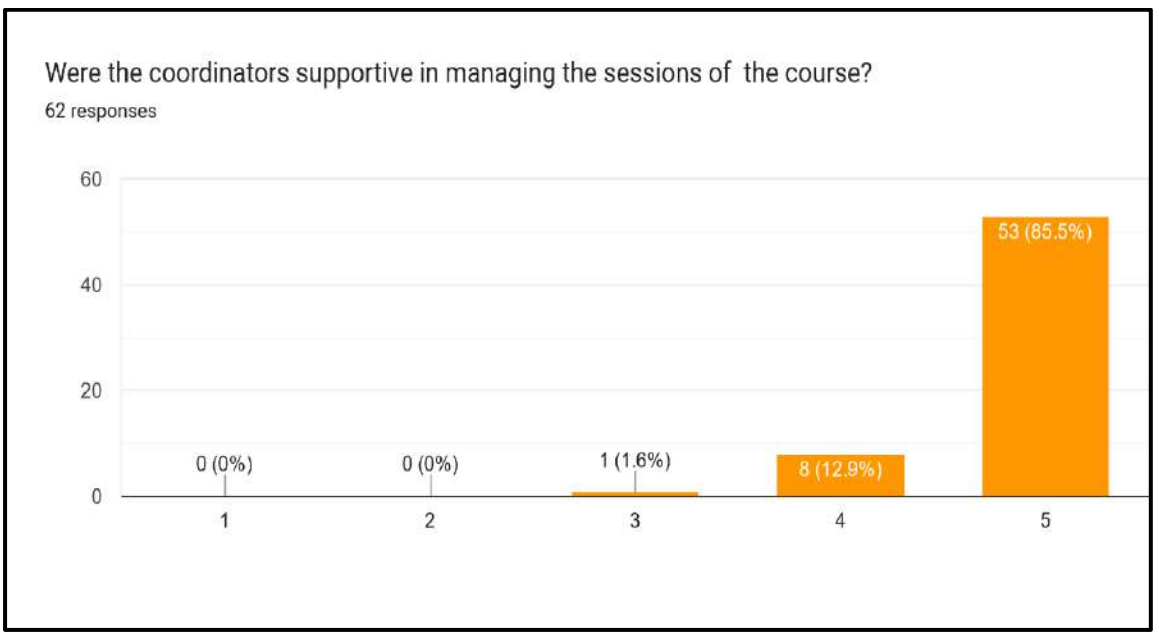
No
NA
More seminar
Virtual Lab
No.
Yes I want to know more about the NEP in detailed..that it can be really beneficial for our country...and it can work on ground
Implementing of NEP 2020 at our institute
7 criteria of Naac
Stakeholders participation
Overall good
More workshops on NEP 2020
Credit Counting and distribution
NEP Implementation at diploma level as thier existance in not mentioned in the NEP
NAAC accreditation framework
Credit Award Methods
It was more sufficient
More to be discussed on NAD and ABC
-
More about texonomy
Accreditation of NAAC
Employability and skill developement of students
It would be good if the discussion could be more on NEPs implementation on daily basis. The things that can be done regularly till the time formalities on papers are completed and the need of an environment to make NEP strictly necessary for teachers to implement it must be discussed in more details. Also how to bridge a gap between industry and academia must be discussed so that all the branches could be equally given importance to as now a days students and guardians both are misguided by opting a certain branch of computers or information practices only. How to cure this issue as a country and economy both needs all the branches to function well. So how the employability rate of core branches can be increased must be discussed.
Everything is good..
knowledge
Curriculum delivery with emphasis on employability
How to add practical
It was excellent
H
Credit trasfer

Still there is some discussion needed in Implementation of NEP in technologies and professional courses.
Yes, how NEP will be implemented in IITs, NITs, IIM, NLU, AIIIMS, Central Universities etc.
—
Yes
Nep
All things is good
All contents are helpful
Ok
NO
Implementing policy steps. Industry interaction implementation
--
In university courses the difference between third-year complete graduate and forth - year complete graduate .
no
1
Challanges in practical implementation of NEP 2020 and OBE
Nil
Implementation aspects of issues discussed.






Rate the content of the event
62 responses
60
40
20
0
0 (0%)
0 (0%)
2 (3.2%)
10 (16.1%)
50 (80.6%)
1
2
3
4
5


Were the coordinators supportive in managing the sessions of the course?
62 responses
60
40
20
0
0 (0%)
0 (0%)
1 (1.6%)
8 (12.9%)
53 (85.5%)
1
2
3
4
5

PROJECT COMPLETION REPORT

OF

INTERNATIONAL CONFERENCE OF UNDERGRADUATE STUDENTS (ICUS 2021)

November 27-28, 2021

WEBSITE: https://www.icus21.scrs.in/

COORDINATOR

DR. MANJAREE PANDIT

PROFESSOR & DEAN ACADEMICS

DEPARTMENT OF ELECTRICAL ENGINEERING

MITS, GWALIOR – 474005

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NACC Accredited Institute Affiliated to RGPV, Bhopal)

ORGANIZED BY

SOFT COMPUTING RESEARCH SOCIETY

IN PARTNERSHIP WITH

- Indian Institute of Information Technology, (IIIT) Pune
- National institute of technology (NIT) Delhi
- Christ University Bangalore
- BBDNIIT
- REC Sonbhadra
- RIET, Jaipur and
- Anand International College of Engineering, Jaipur

TABLE OF CONTENTS

CALL FOR PAPER

Soft Computing Research Society (SCRS) is a non-profit, scientific swarm of researchers. It was established in 2013 and has its headquarter in Delhi, India. With more than 2000 regular members, SCRS has an approach throughout India.

This society has organized (virtually) an International Conference of Undergraduate Students (ICUS 2021) from 27-28 November, 2021. This conference has been organized in partnership with different institutes of India and abroad. The objective of the conference is to provide an international platform for undergraduate students and showcase their talent in research and development.

UG students from any stream are invited to submit only abstract and/or full length paper. All the full length papers will be reviewed and accepted papers will be published as a conference proceedings in SCRS Book Series (**COMPUTING AND INTELLIGENT SYSTEMS**).

Corresponding author should be an undergraduate student. Faculty members/ PG Students / Research Scholar can also be an author. Opportunity for presentation will be given to all the registered participants.

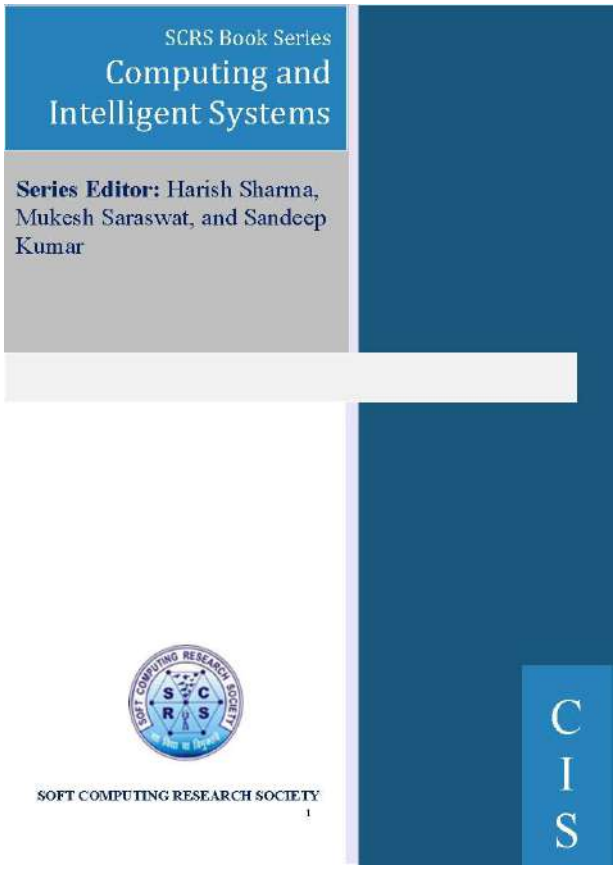
The topics covered (but are not limited to) in the conference are as follows:

- Artificial Intelligence and Machine Learning
- Automation
- Automotive Engineering
- Big Data and Data Analytics
- Bioinformatics and Biosciences
- Biomedical Engineering
- Computational intelligence
- Computer Architecture and Real-Time Systems
- Control Science and Control Engineering
- Data Science
- Data Visualization and Virtual Reality Cloud & Distributed Computing
- Digital Marketing
- Disaster Management
- e-Business Applications
- E-commerce & Entrepreneurship
- Economic Sustainability
- Electrical and Electronics Engineering
- Electrotechnologies
- Embedded systems
- Environmental Management
- Human-Computer Interaction
- Image Processing/Multimedia
- Industrial Engineering
- Information and Data Security
- Intelligent control systems
- International and Internal Business Communication
- Internet of things

- Manufacturing Engineering
- Mechatronics & Robotics
- Mobile App and Web Development
- Operations, Designing & Redesigning
- Parallel Processing and Distributed Computing
- Power System and its Automation
- Smart grid
- Supply Chain Management
- Sustainable Business Development & Management
- Thermal Engineering
- Wireless Networks and Mobile Computing
- Mathematical Sciences
- Chemical Sciences
- Physical Sciences

PUBLISHING PARTNERS

The after-conference proceeding of the ICUS 2021 will be published in SCRS Book Series, 'COMPUTING AND INTELLIGENT SYSTEMS'.



IMPORTANT DATES

Last date of Abstract Submission and Registration: November 20, 2021

Conference Date: November 27-28, 2021

Last date of Full-length Article Submission: March 10, 2022

Online Publication: April 30, 2022

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ICUS 2021 PROGRAM SCHEDULE

INSTRUCTIONS

As a Technical Session Presenter, please find detailed instructions below to assist you with logging in and navigating for your technical paper session. These instructions must be read prior to logging in to your session/keynotes.

The Opening ceremony, Closing ceremony and Conference Workshop will be held on the online platform **Webex**. All the Technical Paper Presentations will be held on the online platform **Google Meet**.

1. Click **Join** to attend/present the respective Keynotes (K)/Technical Sessions (TS).
2. Join the Keynotes (K)/Technical Sessions (TS) at least 05 minutes before the scheduled time. All the times are in **Indian Standard Time (IST)**.
3. All the participants and presenters are requested to keep their mic and video off until and unless it is asked to un-mute.
4. The presenters are requested to be ready with their presentation slides and check their mic and video settings in advance.
5. The authors (presenters) will be called one-by-one in their respective Technical Sessions (TS) by Session Chairs.
6. The presenter has to prepare presentation slides in any format.
7. Paper presentation time for each paper is 08 Min and 2 minutes for Q & A.

— The conference was conducted in virtual mode using webex.
— 416 authors from different countries have submitted their abstracts/papers
— 18 parallel technical sessions were conducted
— 01 workshop on "Introduction to Machine Learning and Project Development by Dr. P.S. Rana, Thapar University

DAY 1

Opening Ceremony & Conference Workshop (Webex)		11:00 – 12:30
OC	Opening Ceremony	11:00 – 11:30
K1	Conference Workshop on Introduction to Machine Learning and Project Development	11:30 – 12:30
	Speaker: Dr. P. S. Rana, Thapar University, Patiala	
TS 01: Intelligent Systems (Google Meet)		13:00 – 14:30

2	Hand Gesture Controlled Robot
	Ravi Khan, Rahul Samria, Sagar Parashar, Sachin Pareta, Lokesh Tharani, Madan Lal Meena, Deepak Bhatia
4	Face Emotion Recognition
	Ishita Singhal, Apoorva Sharma, Jatin Yadav, Dr. Deepak Bhatia , Dr. Ajay Khunteta
5	Real-Time Recognition Framework for Indian Sign Language Using Fine- Tuned Convolutional Neural Networks
	Rajat Soni , Aakash Khandelwal, Anshul Vijay, Radhika Vijay, Dr. Deepak Bhatia, Dr. Pankaj Shukla, Mr. Vipin Yadav.
9	AI Based Real Time Vehicle Tracking With Geofencing Capabilities
	Mohit Kumar Meena, Vikash badsara, Vikash Kaswan, Tarun Choudhary, J B Sharma, Deepak Bhatia
13	Artificial Intelligence: Evolution, Applications and Future Technologies
	Md Afridi, Ankit Saini, Pradeep jha
18	Artificial Intelligence: The Future
	Rohit Kumar Seth, Prachi Porwal, Prakash Dangi
19	A Review on Artificial Intelligence
	Mohammad Saqib, Mohammad Sahil Ansari, Kapil Sharma
TS 02: Data Analytics and Computing (Google Meet)	13:00 – 14:30
12	Cloud Computing and Big Data: An Overview
	Miheer Sakria, Sanjay Choudhary, Kiran Ahuja
15	A Review on Data Science
	Harsh Raj, Jaishree, Yashika Saini
17	Impact Assessment of Introducing High Speed Rail on CO2 Emissions In India
	Aditya Verma
30	Big Data Analytics for Smart Grid Management
	Ayushi Chakrabarty, Sri Ramalakshmi P
39	An Exploration of Disaster Management Strategies Using Big Data Analytics in Saudi Arabia
	Eman Fahad Al Haider, Shubashini Rathina Velu
119	Virtual Tutoring for Students
	Jose Palacios, Susana Flores, Jorge Galindo, Erick Guerrero, Marian Alfaro
TS 03: Communication and Control Systems (Google Meet)	13:00 – 14:30
1	Design And Statistical Analysis of Semiconductor Optical Amplifier For 16 Channel DWDM System Having Pre-Compensating Fiber
	Aashi Vijay, Amandeep Swami, Asba Parveen, Himanshu Chauhan, Ritika Jeswani, M. L. Meena, Lokesh Tharani

10	Wireless Communication in IoT	
	Mohd Farhan, Arjun Sharma, Ankit Agarwal	
56	Evolution Of Microgrid and Hierarchical Control Of Microgrid	
	HS Pranavi Peddada, Tatwamashi Panda, Annika Gupta, Sriramalakshmi P, Balamurugan P	
58	Design Of Compact Z Shape Slot Graphene Antenna for 2.4 Ghz Wireless Fidelity Applications	
	Shreya Sharad, Madhur Deo Upadhayay	
72	Detection Of ADHD Based on Electroencephalogram Signals	
	Kartikay Sinhal, Manali Saini, Madhur Deo Upadhayay	
113	Polyimide based antenna for sub-6 GHz applications	
	Mumuksha Gupta, Vidhi Garg, Jitendra Prajapati, Madhur Deo Upadhayay	
115	Flexible Patch Antenna for WLAN applications	
	Vidhi Garg, Jitendra Prajapati, Madhur Deo Upadhayay, Mumuksha Gupta	
TS 04: Computer Networks and Security (Google Meet)		13:00 – 14:30
14	Security Challenges Posed by Ransomware for Cloud Computing and Its Solutions	
	Chirag Goel, Purnima Vaishnav, Manish Kumar Mukhija	
16	Bitcoin By Block Chain: A Review	
	Mukesh Kumar Bansal, Neha Saxena, Yashika Saini	
20	A Case Study on Infrastructure as A Service on Cloud: A Review	
	Piyush Nirbhay, Prince, Satish Kumar	
21	DOS & DDOS Attack	
	Udit Kashyap, Harsh Bhatt, Manish Kumar	
24	Ethical Hacking: White Hat Hackers	
	Vikram Kumawat, Priyanshi Pal, Pradeep Jha	
25	Cyber Security and It's Techniques	
	Anjali kumari Soni, Harleen Kour, Himanshu Arora	
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	Tejasva Sharma, Jaya Kumari, Akash Rawat	
TS 05: Emerging Technologies (Google Meet)		13:00 – 14:30
3	A Review: Traffic Police Handy Device	
	Shivani Agarwal, Tanmay Khandelwal, Dr. Deepak Bhatia	
6	IOT Based Health Monitoring System for Covid-19 Patients	
	Surbhi Saxena, Manisha Yadav, Rohitash Badsara, Ansh Tiwari, Dr. Deepak Bhatia, Mr. Vipin Prakash Yadav	

7	Hand Gesture Controlled Spider Bot	
	Akshat Sethi , Ankit Vijay , Vishnu Chandora , Devesh Gour , Yash Rathore, Deepak Bhatia	
8	Dual Axis Solar Tracker Using Dust Cleaner System	
	Dinesh Mahawar, Mithilesh Kumar	
11	An Overview on Web Design Portfolio	
	Sakshi Swami, Payal saxena, Sagar Pradhan	
22	Role of Blockchain	
	Akshat Giri, Priya tanwar, Naveen Kumar Tiwari	
116	A Review on Performance of Thin-Walled Metallic Tubes as Energy Absorbing Structures	
	Aakash Saini, Anunjay Loda, Sanjay Kumar Tak, Ayan Dev, Dipali, Bhartesh Palasiya	
TS 06: Intelligent Systems (Google Meet)		13:00 – 14:30
26	Virtual Reality, The Technology of Future	
	Ashutosh Kumar Jha, Abhinav Anand	
32	Exploring The Effects of Data Augmentation for Drivable Area Segmentation.	
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SCRS BEST PAPER PRESENTATION AWARD (TRACK WISE)

Soft Computing Research Society (SCRS), New Delhi, India will facilitate the awardee with a free annual SCRS membership equivalent to Rs. 1200 and an appreciation certificate.

This year the winner of the best paper presentation awards are as follows:

Track Name	Paper ID	Title	Authors
TS01: Intelligent Systems	18	Artificial Intelligence: The Future	Rohit Kumar Seth, Prachi Porwal, Prakash Dangi
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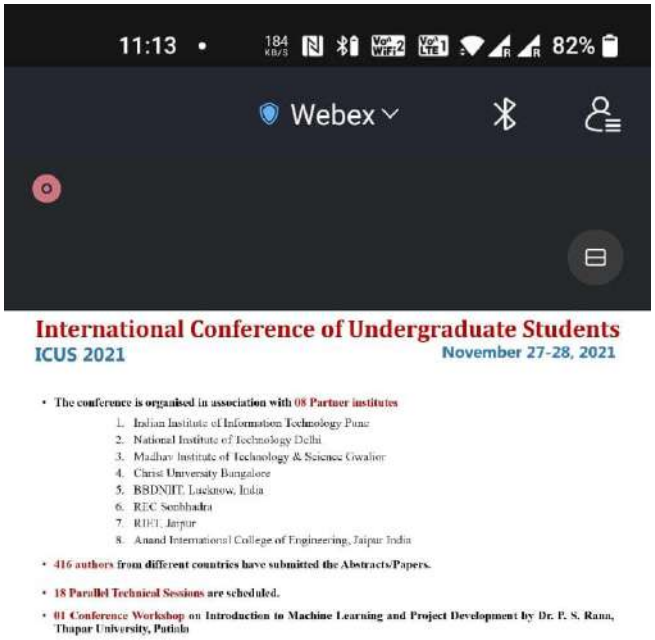
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ICUS 2021
November 27-28, 2021
• The conference is organised in association with 08 Partner institutes
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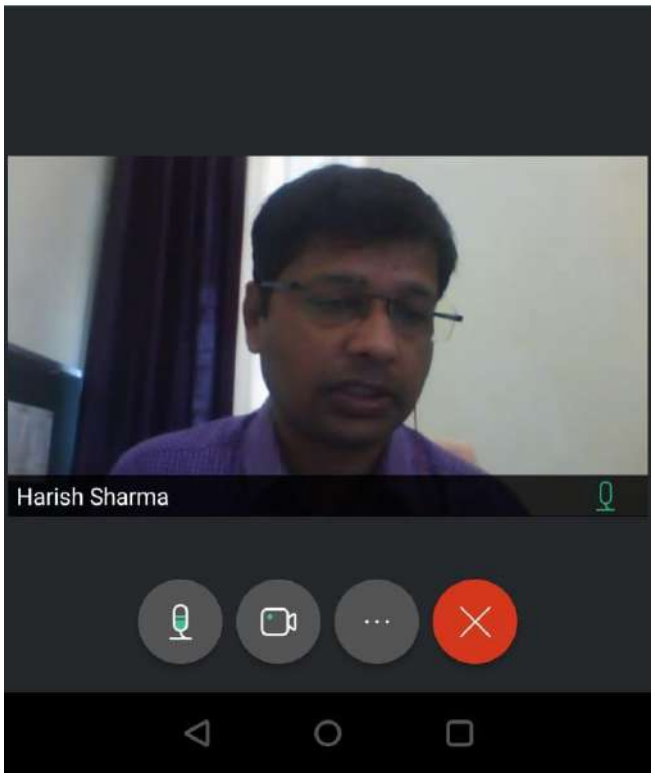
2. National Institute of Technology Delhi
3. Madhav Institute of Technology & Science Gwalior
4. Christ University Bangalore
5. BSDNIIT, Lucknow, India
6. REC Sonbhadra
7. RIET, Jaipur
8. Anand International College of Engineering, Jaipur India
• 416 authors from different countries have submitted the Abstracts/Papers.
• 18 Parallel Technical Sessions are scheduled.
• 01 Conference Workshop on Introduction to Machine Learning and Project Development by Dr. P. S. Rana, Thapar University, Patiala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PROJECT COMPLETION REPORT

OF

4TH INTERNATIONAL CONFERENCE

ON

SUSTAINABLE AND INNOVATIVE SOLUTIONS FOR CURRENT CHALLENGES IN ENGINEERING & TECHNOLOGY (ICSISCET - 2022)

19-20 NOVEMBER 2022

ORGANIZED BY

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NACC Accredited Institute Affiliated to RGPV, Bhopal)

TECHNICALLY SPONSORED BY

SOFT COMPUTING RESEARCH SOCIETY (SCRS)

Akbar Bhawan, Chankyapuri, New Delhi

COORDINATOR

DR. MANJAREE PANDIT

DEAN ACADEMICS & PROFESSOR

DEPARTMENT OF ELECTRICAL ENGINEERING

MITS, GWALIOR - 474005

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PREFACE

The concept of sustainability is central to all development; the term becomes more relevant by each passing day as the very existence of life on this planet is endangered due to the continuous and mindless exploitation of nature and natural resources due to population explosion, economic growth, infrastructure development, lifestyle changes and many other such factors.

There is an urgent need to develop technologies that are sustainable. There is a need for experts from different domains to join hands, come together and create models and systems which are able to produce sustainable solutions to current and emerging problems for the benefit of the society. Innovations and advancements which have taken place in intelligent computing paradigm over the last few decades have provided smart solutions for almost all kinds of societal problems. Therefore, the focus of this conference is towards interdisciplinary applications of Intelligent & sustainable computing.

Most practical real world problems are usually ill defined, noisy, uncertain and complex which make them difficult to solve using traditional computational techniques and algorithms. Computational intelligence based techniques are found to deal with real problems and situations very effectively due to their model free structure, learning ability and a flexible approach. The interdisciplinary applicability of this paradigm makes it very attractive to researchers.

Right from infrastructure management to data mining, ICT, pattern recognition, image & video processing, healthcare informatics, bioinformatics, renewable energy pricing, scheduling and dispatch, internet of things, big data analysis, real-time operating systems, smart homes and devices, electric vehicles, computer integrated manufacturing, biomedical engineering etc. are domains where machine learning techniques and computational intelligence are extensively being used for designing, developing, manufacturing, controlling, analyzing and optimizing diverse engineering systems and processes.

Technology is progressing at a very fast pace, which is putting a great burden on natural resources, creating heavy damage to the environment. The price of development is being paid in the form of climate change, hazardous pollution levels and degradation of the environment, which is endangering the very existence of life of the planet earth. There is a need for technocrats, academicians, researchers and all other stakeholders to come together and deliberate on this issue and try to find intelligent solutions to the problem.

Scientific discoveries and technological innovations taking place for fulfilling the requirements of the power and energy sector, manufacturing sector, transportation, industrial

automation, waste disposal etc. now must pointedly focus on the ecological footprint. **Madhav Institute of technology & Science, Gwalior is committed to this theme and therefore this is the 4th international conference being organized in this series**.

The first AICTE sponsored ICSISCET-2019 was conducted two year ago on 02-03 November 2019. Over 148 papers were received, 88 papers were accepted after rigorous review for presentation under 10 tracks; 16 sessions were conducted; 10 expert sessions were conducted; 24 experts contributed as sessions chairs and over 100 faculty & scholars participated. **As an environment friendly initiative and the sustainability theme, the best practice of giving e-certificates was started in the institute**. The conference proceeding with 51 papers was published by Springer {Proceedings in Adaptation Learning & Optimization (PALO) series} entitled "**Intelligent Computing Applications for Sustainable Real-World Applications**". One edited volume was also published with 09 papers selected in the domain **"Nature Inspired Optimization for Electrical Power System " by** Springer series 'Algorithms for Intelligent Systems' (AIS). Both these books have been well received by the researchers and show more than 5600 & 1500 downloads respectively (within six months of publication) till this report is being compiled.

The second AICTE sponsored ICSISCET 2020 was conducted last year on December 18-19, 2020. Over 102 papers were received; 69 papers were accepted after rigorous review for presentation under 4 tracks; 46 were selected for publication; 08 expert sessions were conducted; Six paper presentation sessions were; 18 experts contributed as sessions chairs. The conference proceedings was published in Algorithms for Intelligent systems (AIS) Springer Book Series, entitled **"Artificial Intelligence and Sustainable Computing - Proceedings of ICSISCET 2020".** (https://www.springer.com/series/16171).

The 3rd ICSISCET 2021 was organized successfully by **Madhav Institute of technology & Science, Gwalior.** In the 3rd ICSISCET 2021, over 267 papers were received, 112 papers were accepted after rigorous review for presentation under 4 tracks, 72 papers were published in Springer book series and 26 papers were published in SBS. Total 91 papers were presented in 15 different technical sessions in which 22 experts contributed as sessions chairs.

In continuation of the above mentioned series, the 4th ICSISCET 2022 has been organized successfully by Madhav Institute of Technology & Science, Gwalior. The 4th ICSISCET 2022 aims to bring the researchers, academicians, industry, and government personnel together to share and discuss the various aspects of sustainable and innovative solutions for current challenges in engineering & technology.

In this 4th ICSISCET 2022, total 250 were papers received from 16 number of countries, including Algeria, Bulgaria, Canada, Ghana, India, Japan, Kenya, Malaysia, Oman, Senegal, Serbia, Slovakia, South Africa, Spain, Sri Lanka, United Arab Emirates. A total of 60 papers were accepted and registered for presentation in this conference.

ACKNOWLEDGEMENT

The General Chairs and Organizing Chair of the 3rd International Conference on "Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology" gratefully acknowledge technical support from Soft Computing Research Society, New Delhi.

The conference chief patron Prof. K. K. Aggarwal, Chairman NBA, and patron Prof. R.K. Pandit, Director, MITS were the guiding force behind the conference. Prof. K. K. Aggarwal also kindly accepted to deliver the keynote address, for which the organizers are eternally indebted.

Dr. Snehanshu Saha, Associate Professor of Computer Science and Head of the Anuradha and Prashanth Palakurthi Centre for Artificial Intelligence Research (APPCAIR), BITS PIlani K K Birla Goa Campus and Dr. Satyasai Jagannath Nanda, Assistant Professor in the Department of Electronics and Communication Engineeering, Malaviya National Institute of Technoloogy, Jaipur, Rajasthan deserve a special mention for sparing their valuable time for delivering the Keynote talks.

Dr. Jagdish Chandra Bansal, Series editor, Algorithms for Intelligent Systems (AIS), Mr. Aninda Bose, Executive Editor and Mr. Mani Arasan, Project Coordinator, Springer Nature, deserves special thanks for helping the organizers in publishing the proceedings.

The support from Dr. Jagdish Chandra Bansal, Dr. Mukesh Saraswat and Dr. Harish Sharma, from the Soft Computing Research Society, New Delhi, right from paper review stage to the smooth conduction of the conference on 19th & 20th November, 2022 is gratefully acknowledged.

Thanks are also due to all the esteemed reviewers for their time and significant contribution in maintaining the quality of the papers.

The contribution of internal and external experts as session chairs and the session support teams during the two days was crucial for the effective conduction of the conference. They played a key role in conference conduction by giving valuable comments for improving the quality of the paper and by ensuring that all reviewer comments were incorporated into the revised papers, before publication. The organizers are grateful for their support and efforts in conference conduction.

During the COVID times, organizing an International conference in virtual mode was quite challenging. The hard work and efforts of the Conference Core Team are sincerely acknowledged. The members of the Conference Core Team have worked relentlessly and have left no stone unturned to make the e-conference a reality.

Thanks are also due to media persons, guests, authors and all those who have directly or indirectly contributed in organizing and conducting this conference.

The hard work and efforts of the **Conference Core Team** is sincerely acknowledged. The Conference Core Team have worked relentlessly and have left no stone unturned to make the e-conference a reality.

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Organizing Team - ICSISCET 2022

OBJECTIVES OF THE CONFERENCE

Technology is progressing at a very fast pace which is putting great burden on natural resources, creating heavy damage to environment. The price of development is being paid in the form of climate change, hazardous pollution levels and degradation of environment, which is endangering the very existence of life of the planet earth. There is a need for technocrats, academicians, researchers and all other stakeholders to come together and deliberate on this issue and try to find engineering solutions to the problem. This is the time when new innovations, start-ups and novel ideas are needed to address the ecological problems created by industrial and other ventures. Alternate solutions are urgently needed to handle the crisis created by the previous technological set up.

There is a need for professionals from Electrical Engineering, Electronics and Communication Engineering, Mechanical & Automobile Engineering, Computer Science, Information Technology, Energy Studies and mathematicians to come together and collaborate for generating sustainable solutions for maintaining the growth of economy without damaging the environment.

There is an urgent need to develop technologies that are sustainable. The idea is to unite experts from different domains to join hands and create models and systems which are able to produce sustainable solutions to current and emerging problems for the benefit of the society. Innovations and advancements which have taken place in intelligent computing paradigm over the last few decades have provided smart solutions for almost all kinds of societal problems. Therefore, the focus of this conference is towards interdisciplinary applications of Intelligent & sustainable computing.

The conference aims to bring together researchers, technocrats, academicians and industrialists on a common platform to deliberate on various issues arising in this scenario.

CONFERENCE TRACKS

SUSTAINABLE COMPUTING AND INFORMATION TECHNOLOGY

Information security, natural language processing, language technologies and information retrieval, computer systems organization and communication networks, information systems and communication service, software engineering and operating systems, management of computing and information systems green IT, eco-friendly materials, cloud & grid computing, re-cycling and disposal of e-waste, environmental footprint, awareness drive, energy-efficient data center design, telecommuting, mobile computing, application security.

COMPUTATIONAL INTELLIGENCE & MACHINE LEARNING

Optimization techniques, system modeling and simulation fuzzy system, evolutionary computational methods, artificial neural network, Bayesian learning, hybrid intelligent systems, soft computing, smart computing, big-data, data mining, signal, image and video processing, robotics & computer vision, peer-to-peer computing.

EMBEDDED SYSTEMS & VLSI DESIGN

Embedded architectures, software and hardware, embedded cybersecurity and cryptography, real-time operating systems, microcontrollers and applications, embedded machine learning, deep learning and artificial intelligence Internet of things (IoT), sensors, computing, control, communication, IoT applications, medical electronics, blockchain technology, drones, smart homes and devices, role of electronics in efficiency enhancement, automotive and industrial applications, automation & control, system on chip (SOC) & semiconductor technology.

ADVANCES IN INTELLIGENT COMPUTING, SUSTAINABLE ENGINEERING SYSTEMS, AND PRACTICES

Ambient intelligence, computational neuroscience, artificial life, virtual worlds and society, cognitive science and systems, self-organizing and adaptive systems, e-learning and teaching, recommender systems, knowledge-based paradigms, Smart Engineering Solutions for waste management, sustainable architecture, data analytics, AI in industry, optimization techniques smart grid technologies, communication, control, power electronics, energy storage, demand control and response.

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3. Deepak
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6. Narendra Verma
7. Poonam Singh
8. Rahul Jha
9. Sanjay Kumar Vaishnav
10. Shradha Dubey
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12. Shubham Sharma
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15. Vinay Kumar Tatekayala

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48. Dr. Vandana Vikas Thakre, MITS, Gwalior, India
49. Dr. Amit Aherwar, MITS, Gwalior, India

MINUTE-TO-MINUTE PROGRAM OF OPENING CEREMONY

(19th November 2022)

Time (IST)	Event	Duration (Min)
10:45 AM	Invocation	**15**
11:00 AM	Saraswati Vandana	**02**
11:02 AM	Welcome Address by Prof. Manjaree Pandit, Dean Academics, MITS, Gwalior & General Chair, ICSISCET - 2022	**08**
11:10 AM	Address by Dr. Jagdish Chand Bansal, General Secretary, SCRS	**05**
11:15 AM	Address by Prof. R. K. Pandit, Director, MITS, Gwalior & Patron, ICSISCET - 2022	**05**
11:20 AM	Address by Er. Ramesh Agrawal, Secretary, Scindia Engineering College Society, Gwalior	**05**
11:25 AM	Address by Prof. S. N Singh, Guest of Honor Director ABV- IIITM Gwalior, India	**10**
11:35 AM	Inaugural Address by Prof. K. K. Aggarwal, Chief Guest and Chairman, NBA and Founder Vice Chancellor, GGS Indraprastha University, India	**15**
11:50 AM	Vote of Thanks	**05**
11:55 AM	High Tea	**—**

CONFERENCE SCHEDULE

November 19, 2022		
OC	Opening Ceremony	11:00 – 12:00
K1	Keynote Talk **Speaker:**Dr. Snehanshu Saha, Birla Institute of Technology and Science, Pilani K K Birla Goa Campus, Goa, India	12:00 – 12:45
TS 01	**Sustainable Computing and Information Technology (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)
TS 02	**Computational Intelligence & Machine learning (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)
TS 03	**Embedded Systems & VLSI Design (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)
TS 04	**Advances in Intelligent Computing, Sustainable Engineering Systems, and Practices (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)
TS 05	**Sustainable Computing and Information Technology (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)
TS 06	**Computational Intelligence & Machine learning (on Google Meet)**	14:00 – 15:30 (Indian Standard Time)

November 20, 2022		
K2	Keynote Talk **Speaker:** Dr. Satyasai Jagannath Nanda Senior Member IEEE, Department of Electronics and Communication Engineering, MNIT Jaipur	11:00 – 11:45
TS 07	**Embedded Systems & VLSI Design (on Google Meet)**	12:30 – 14:00 (Indian Standard Time)
TS 08	**Advances in Intelligent Computing, Sustainable Engineering Systems, and Practices (on Google Meet)**	12:30 – 14:00 (Indian Standard Time)
TS 09	**Computational Intelligence & Machine learning (on Google Meet)**	12:30 – 14:00 (Indian Standard Time)
TS 10	**Advances in Intelligent Computing, Sustainable Engineering Systems, and Practices (on Google Meet)**	12:30 – 14:00 (Indian Standard Time)
TS 11	**Computational Intelligence & Machine learning (on Google Meet)**	12:30 – 14:00 (Indian Standard Time)

DETAILS OF TECHNICAL SESSIONS

Paper ID	Authors	Paper Title	Session No.	Session Chair 1	Session Chair 2	Session Chair 3	Session Coordinators
36	Gowri R Choudhary and Iti Sharma	Text Visualization of Entire Corpus through Single document Input Tools	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
117	Maninder Singh, Vikram Singh and Sangeeta Rani	Security Enhancement of Data Mining Over Cloud	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
152	Yejvander Thakur and Geetesh Goga	"Rejuvenation with Modernization of Hydrogenator"; Prediction and Control of Electromagnetic vibration with Artificial, development of Stator Frame design, Artificial Intelligence -A Review Study	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
179	Karthika L and Gunasundari S	An Efficient Approach To Estimate Software Cost By Analogy Using ACO	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
187	Aarush Mahajan and Reetu Jain	Data Analysis to Understand the Causes of Global Warming and Application of Soft Computing Techniques to Develop its Forecasting Model	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
195	Dev Dalmia, Reetu Jain and Syed Abou Iltaf Hussain	Intelligent System for Real-Time Potholes Monitoring and Detection	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
250	Jayanthan M, Arunkumar M and Durai Stalin K	Tinnitus Detection and Diagnosis With EMG Data Sharing System For Humans	TS 01	Dr. Manish Dixit	Dr. Arvind Jain	Dr. Amit Kumar	Priyanka Gupta, Rahul Jha
24	Shraddha Jain Sharma and Ratnalata Gupta	Recent developments in the application of deep learning to stock market prediction	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan
25	Loganayaki Thangaraj and Dr.Poongothai M	Tomato Foliage disease recognition using Random Forest and Convolutional Neural Networks	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan

30	Barkha Joshi and Hetal Bhavsar	Lycopersicon Crop Leaf Disease Identification using Deep Learning	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan
47	Savia Singla and Harpreet Kaur	Machine learning algorithms to forecast a heart disease	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan
103	Ranichitra A and Mercy Rani A	Impact of Online Classes Using Machine Learning Algorithms: Estimation, Classification, and Prediction	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan
107	Gayatri Pandi and Kedar Agrawal	Deep Learning Based 3 D Model for CULTURAL Heritage site in Gujarat	TS 02	Dr. Vivek Shrivastava	Dr. Yashwant Sawle	Dr. Deepak Batham	Poonam Singh, Shyamveer Singh Chauhan
97	Prasad Chillakuru and Kullayamma Dr.I	Features Extraction and Analysis of Electro-Myogram Signals using Time, Frequency, and Wavelet Transform Methods	TS 03	Dr. Pradyumn Chaturvedi	Dr. Varun Sharma	Prof. Ramasubramanian B	Vinay Kumar Tatekayala, Shubham Sharma
198	Md. Afroz and Birendra Goswami	An Analysis of Safe IoT Integration with Cloud Computing	TS 03	Dr. Pradyumn Chaturvedi	Dr. Varun Sharma	Prof. Ramasubramanian B	Vinay Kumar Tatekayala, Shubham Sharma
207	Arifa Sultana, Aroop Bardalai and Kandarpa Kumar Sarma	Attention Neural Network based Channel Selection Algorithm for Cognitive Decision Making and Control in Smart Grid	TS 03	Dr. Pradyumn Chaturvedi	Dr. Varun Sharma	Prof. Ramasubramanian B	Vinay Kumar Tatekayala, Shubham Sharma
212	Anees Fathima Bashir, M P Flower Queen, Tarig Faisal and Ranjeet Ranjan	A Tool for Processing IoT-Sensor Measurement with a Moving Horizon Filter Approach	TS 03	Dr. Pradyumn Chaturvedi	Dr. Varun Sharma	Prof. Ramasubramanian B	Vinay Kumar Tatekayala, Shubham Sharma
229	Dinesh Bhoyar and Swati Mohod	Design and Development of Multipurpose Low Cost AIR Cooler	TS 03	Dr. Pradyumn Chaturvedi	Dr. Varun Sharma	Prof. Ramasubramanian B	Vinay Kumar Tatekayala, Shubham Sharma
18	Hemant Gupta and Yogendra Kumar	Facts Devices with Distinctive Positioning for Voltage Regulation	TS 04	Dr. Arun Kumar Wadhwani	Dr. Laxmi Shrivastava	Dr. Ankur Goyal	Kamal Sharma\, Amit Shrivastava

76	Vibhor Vishal Soni, Sneha Shukla, Somya Saxena and Shivam Gupta	Model Order Reduction using Pole Clustering and Factor Division Method	TS 04	Dr. Arun Kumar Wadhwani	Dr. Laxmi Shrivastava	Dr. Ankur Goyal	Kamal Sharma\, Amit Shrivastava
110	Vishal Choudhary and Reena Sharma	Efficient Cluster Key Management Scheme for Wireless Sensor Networks	TS 04	Dr. Arun Kumar Wadhwani	Dr. Laxmi Shrivastava	Dr. Ankur Goyal	Kamal Sharma\, Amit Shrivastava
112	Norliana Mohd Najib and Lazim Abdullah	Application of a Fuzzy Decision-Making Method to Identify Cause-Effect Criteria of Wastewater Treatment Systems	TS 04	Dr. Arun Kumar Wadhwani	Dr. Laxmi Shrivastava	Dr. Ankur Goyal	Kamal Sharma\, Amit Shrivastava
113	P A Devaraj, R Sudarshan, Dr Ravish B, Mr Chetan Kumar M and Ms Bharathi S	Smart Water Management System for Jal Jeevan Mission	TS 04	Dr. Arun Kumar Wadhwani	Dr. Laxmi Shrivastava	Dr. Ankur Goyal	Kamal Sharma\, Amit Shrivastava
201	Sumitra Biswal	Mitigating Trade-Off between Explainability and Confidentiality in Artificial Intelligence.	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
210	Sara Khan and Saurabh Pal	Web Based User Interface Testing and Test Automation: Exploring the Current Market Challenges	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
217	Subha J and Saudia S	Robust Flood Prediction Approaches Using Exponential Smoothing and ARIMA Models	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
227	Kumarsagar Dange and B.Srinivasa Varma	A Comprehensive Review on Agriculture Based Pesticide Spraying Robot	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
232	Uma Shankar Yadav, Mano Ashish Tripathi and Dr Ravindra Tripathi	Digital and Innovative Suggestions for the Solution of a Sustainable and Smart city in India	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak

234	Rajesh Thakare, Swati Mohod and Dinesh Bhoyar	Classification of Brain MRI Images	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
239	Shwethal Trikannad and Noel Pereira	PDLW-Net: Novel Object Detection Variant of Vision Transformers in the Localization of Periodontal Ligament Widening	TS 05	Dr. Rakesh Singh Jadon	Dr. Anshu Chaturvedi	Dr. S.V. Vasantha	Vimal Tiwari, Deepak
128	Priyanka Jangde and Manoj Ramaiya	Transfer Learning Approach to Detect and Predict the Malaria from Blood Cell Images	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
137	Jithendra Bojedla, Dileep Kumar Boyapati, Siddaiah Upputuri, Akshitha Gali and Sangeetha Yalamanchili	Lung Cancer Prediction using Machine Learning	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
138	Nakul Singh and Sandeep Kumar Parashar	Recent developments in Generative Adversarial Networks	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
141	Dr. Ch Hussaian Basha, Dr. Prajakta J. Shinde, Dr. V. Prashanth, Dr. Shaik. Rafi Kiran and Dr. Shweta S. Patil	Performance Analysis of Satellite Image Classification Using Deep Learning Neural Network	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
144	Sindhu Gutta	The Recital of Fastest Recognition of Band sensed by Using Machine learning Technique	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
161	Etikala Raja Vikram Reddy and Sushil Thale	Pedestrian Detection Using YOLOv5 and Complete IoU Loss for Autonomous Driving Applications	TS 06	Dr. Chandra Shekhar Malvi	Dr. Sandeep Sharma	Dr. Puja Shashi	Shubham Chitransh, Jay Singh
231	Dinesh Bhoyar and Diksha Ninave	Dual-band Patch Antenna with Four-slot Structure for 5G Wireless Applications	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma
233	Rajesh Thakare, Kishore Kulat and Dinesh Bhoyar	Advancement Of Short Range Wireless Communication System For Recent And Future Applications	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma

240	Dimple, Anurag, Vinod Kumar and Gaurav Purohit	GUI based NAND Flash memory and functional implementation of Block level address translation scheme	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma
243	Kritika Tiwari, Deepak Batham and Vandana Vikas Thakare	Space Division Multiplexing Elastic Optical Network - Challenges and Opportunities	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma
246	Aayushi Singhal, Arvind Tomar and Pratesh Jayaswal	Rolling element bearing fault diagnosis using a kurtogram and spectral kurtosis analysis.	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma
118	Guruprasad B, Manjunath D.V and Shwetha M.S	Experimental Study of Humidity Effect on Sensitivity of MEMS Cantilever Sensor	TS 07	Dr. Pramod Kumar Singhal	Dr. Dinesh Kumar Rathore	Dr. Deepika Pantola	Shubham Sharma, Priyanka Gupta, Narendra Verma
124	Ashwani Kumar Pandey, Abhinandan Tripathi, Ashok Kumar Yadav and Shreya Yadav	Voting System Based on Blockchain Technology Smart-Contracts	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
147	Fouzia Adjailia and Michal Takac	Computational Methods in Computational Fluid Dynamics	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
169	Gayatri Gangipamula, Reetu Jain and Syed Abou Iltaf Hussain	A Model to Identify the Impairment Caused by Smoking to the Oral Cavity	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
175	Ghaliya Alfarsi	Virtual Reality Environment with The Education Sector	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
182	Anjali Yadav and Sanjay Ganorkar	Improving Right Ventricle Contouring in Cardiac MR Images Using Integrated Approach for Small Datasets	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
214	Rachit Jain, P.K Singhal and Vandana Vikas Thakare	An Effective Approach for Optimizing Antenna Design based on Machine Learning Models	TS 08	Dr. Pratesh Jayaswal	Dr. Hari Mohan Dubey	Dr. Aruna SK	Vimal Tiwari, Shradha Dubey, Deepak
167	Hemant Choubey and Alpana Pandey	A Deep Learning based neural network for detection of Epileptic Seizure	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha

170	Arhaan Garg, Reetu Jain and Vikramjeet Singh	Early Detection of Vocal Disorders such as Laryngeal Cancer and Dysphonia Using Voice Analysis and Machine Learning	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha
178	Garima Natani	Artificial intelligence and Machine Learning for Climate Change Mitigation and Adaptation	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha
190	Jahnavi Y, Balasaraswathi V R and Pavan Kumar Reddy Y	Model Building and Heuristic Evaluation of various Machine learning classifiers	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha
193	Jahnavi Y, Nagendra Kumar P and Anusha Palagati	Prediction and evaluation of cancer using Machine learning techniques	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha
249	Megh Patel, Devarsh Patel and Sarthak Patel	Comparative analysis of segmentation and generative models for fingerprint retrieval task	TS 09	Dr. Shishir Dixit	Dr. Saumil Maheshwari	Dr. Mausam Goswami	Vinay Kumar Tatekayala, Rahul Jha
122	B. Alekya Himabindu	Image Enhancement for Underwater Photography Using Morphological Filter	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav
183	Vinay Kumar Tatikayala and Shishir Dixit	Power Quality enhancement for Grid connected PV and Wind System with TS Fuzzy Converters	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav
191	Tanush Arora, Reetu Jain and Vikramjeet Singh	Experiment on a Novel Approach Toward Quantifying the Toxicity Level of the Soil Around the Yamuna River and Checking the Impact of Polluted Water on the Soil	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav
194	Daksh Upadhyay, Reetu Jain and Syed Abou Iltaf Hussain	Development of a Robust Model to Predict the Sales of Tickets Employing Fuzzy IF-THEN Rules Based Algorithm	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav
200	Vemala Bhargavi and Dr. Humera Khanam	A Comparative Study on various methodologies used in sentiment analysis for Indian languages	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav

238	Antonio Sarasa Cabezuelo	Development of a restaurant recommendation system	TS 10	Dr. Manoj Kumar Trivedi	Dr. Bhavna Rathore	Dr. Srigitha.S.Nath	Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav
204	Ramasubramanian B, Hemanand D, Kavin Kumar K and Muthumanjula M	An Efficient System for grading Diabetic Retinopathy by detecting the location of lesions	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava
205	Luka Jovanovic, Nebojsa Bacanin, Ana Jovancai, Dejan Jovanovic, Dharmendra Singh, Milos Antonijevic, Miodrag Zivkovic and Ivana Strumberger	Oil Price Prediction Approach Using Long Short-Term Memory Network Tuned by Improved Seagull Optimization Algorithm	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava
242	Kirankumar Eranki and Bramara Jangala	Prediction of Heart Stroke using improved feature extraction based CNN Model	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava
247	Chennupati Prathyusha and Kalyan Dusarlapudi	Design and Implementation of ML based Pothole Detection System with Telegram Notification	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava
248	Devarsh Patel, Sarthak Patel and Megh Patel	Application of image-to-image translation in improving pedestrian detection	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava
11	Ely Ondo Ekogha and Pius Adewale Owolawi	SAPV sizing optimization: A numerical iterative method using LTE base station profile in SA	TS 11	Dr. Rajni Ranjan Singh Makwana	Dr. Smita Parte	Dr. Kalaivani C T	Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava

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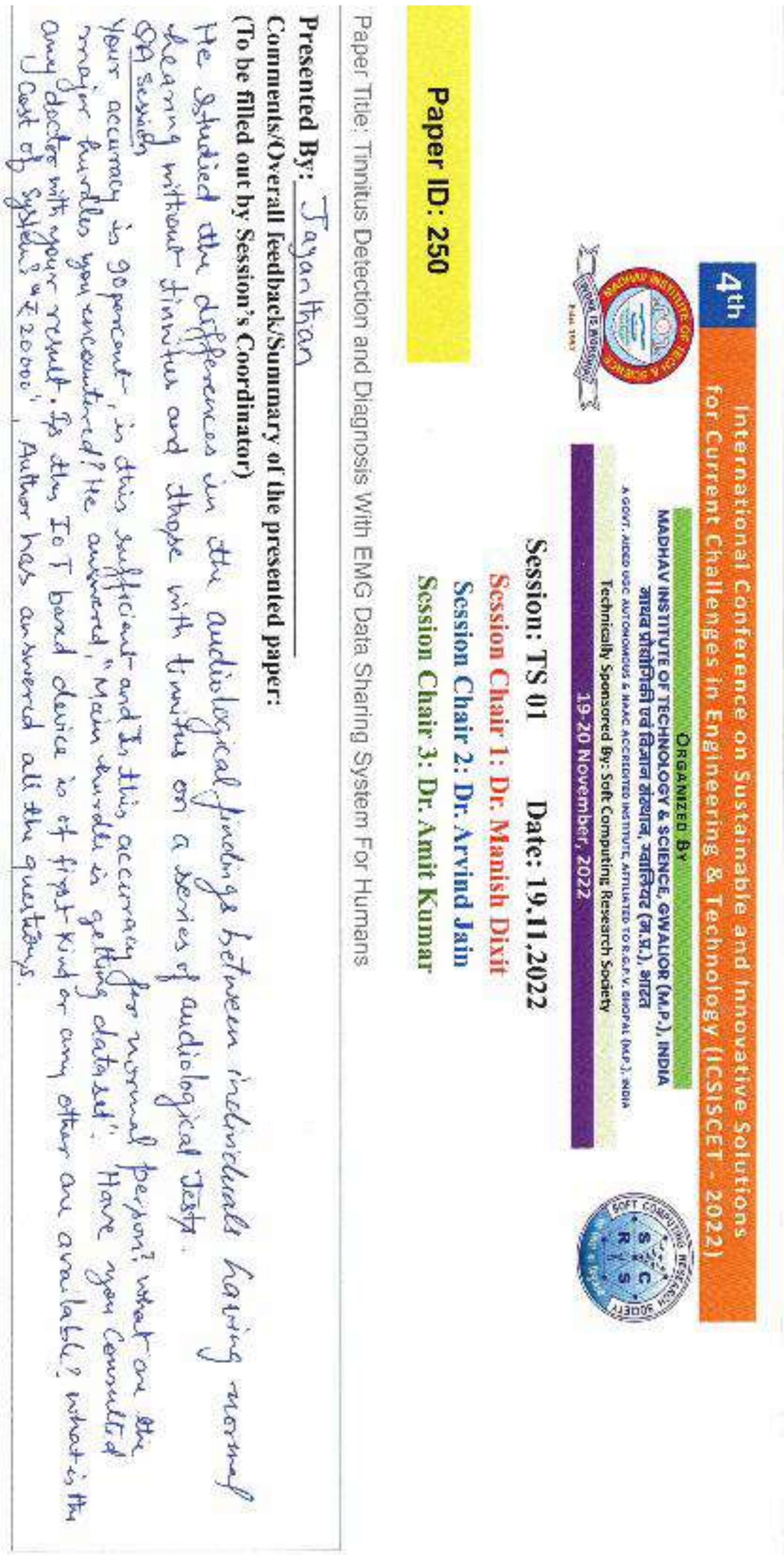
55. Deep Kishore Parsediya
56. Barenya Bikash Hazarika
57. Megha Chhabra
58. Pavlo Maruschak
59. Amir Aminzadeh Ghavifekr

SESSION CONDUCTION SUMMARY (SESSION 1-6)

Session	Accepted/Scheduled Papers	Presented Papers
TS 1	7	5
TS 2	6	6
TS 3	5	5
TS 4	6	5
TS 5	5	4
TS 6	6	5
TS 7	5	4
TS 8	6	5
TS 9	6	4
TS 10	6	5
TS 11	6	6

REPORT: TECHNICAL SESSION – I



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19-20 November, 2022

Session: TS 01 Date: 19.11.2022
Session Chair 1: Dr. Manish Dixit
Session Chair 2: Dr. Arvind Jain
Session Chair 3: Dr. Amit Kumar

Paper ID: 250

Paper Title: Tinnitus Detection and Diagnosis With EMG Data Sharing System For Humans

Presented By: Jayanthan

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

He studied the differences in the audiological findings between individuals having normal hearing without tinnitus and those with tinnitus on a series of audiological Tests.
QA Session
Your accuracy is 90 percent, is this sufficient and Is this accuracy for normal person? What are the major hurdles you encountered? He answered, "Main hurdle is getting dataset". Have you consulted any doctor with your result. Is this IoT based device is of first kind or any other are available? What is the cost of System? "₹20000". Author has answered all the questions.

Signature: **Priyanka Gupta, Rahul Jha**

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 36

Paper Title: Text Visualization of Entire Corpus through Single document Input Tools

Presented By: Gouri Choudhary

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Text visualization techniques and application is discussed.
Weighing Scheme method is recommended.
Prof. Arvind Jain
Drawbacks of proposed method → Not less than 2 or 3 pages, it is for Corpus
Author has answered all the questions satisfactorily.

Signature: Priyanka Gupta, Rahul Jha

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 117

Paper Title: Security Enhancement of Data Mining Over Cloud

Presented By: Maninder Singh

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

The performance of data transmission through the cloud is impaired, After aquiring, data is clustered, Compressed, building security model then security and performance evaluation is done by LSTM model Tools used – MATLAB. This method provide more secure environment & save time
what is big data? what is meaning of data mining? Why you considered Toy = 30% rates of learning and testing? asked

Signature: **Priyanka Gupta, Rahul Jha**

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 152

Paper Title: "Rejuvenation with Modernization of Hydrogenator"; Prediction and Control of Electromagnetic vibration with Artificial, development of Stator Frame design, Artificial Intelligence -A Review Study

Presented By: Yejvander Thakur

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Artificial intelligence is a key opportunity to rejuvenate hydro-generator. the study was carried out on particular about stator vibration characteristics depending on Hydrogenerator electromagnetic force, thermal expansion, rigidity.

Q&A session : which software you used? ANSYS. what is novality of your work? the stator frame oblique arm design to reverse rotation clockwise and anticlockwise has not yet analyzed by any researcher for hydrogenerator.

Priyanka

Signature: Priyanka Gupta, Rahul Jha

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 179

Paper Title: An Efficient Approach To Estimate Software Cost By Analogy Using ACO

Presented By:_____

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT

Signature: **Priyanka Gupta, Rahul Jha**

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 187

Paper Title: Data Analysis to Understand the Causes of Global Warming and Application of Soft Computing Techniques to Develop its Forecasting Model

Presented By: Aarush Mahajan

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

He discussed three time-series model ARIMA, SARIMA (extension of ARIMA) and Holt-winters algorithm.
He shows Correlation between increase in Global temperature and Greenhouse Gas Concentration
The Holt-model for CO_2 Concentration shows 94.5% accuracy.
Q&A Session:
How you defend your work accuracy with previously available work? What is source of your data?
Author satisfactory answered all the questions.

Signature: **Priyanka Gupta, Rahul Jha**

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Session: TS 01 **Date: 19.11.2022**

Session Chair 1: Dr. Manish Dixit

Session Chair 2: Dr. Arvind Jain

Session Chair 3: Dr. Amit Kumar

Paper ID: 195

Paper Title: Intelligent System for Real-Time Potholes Monitoring and Detection

Presented By:_____

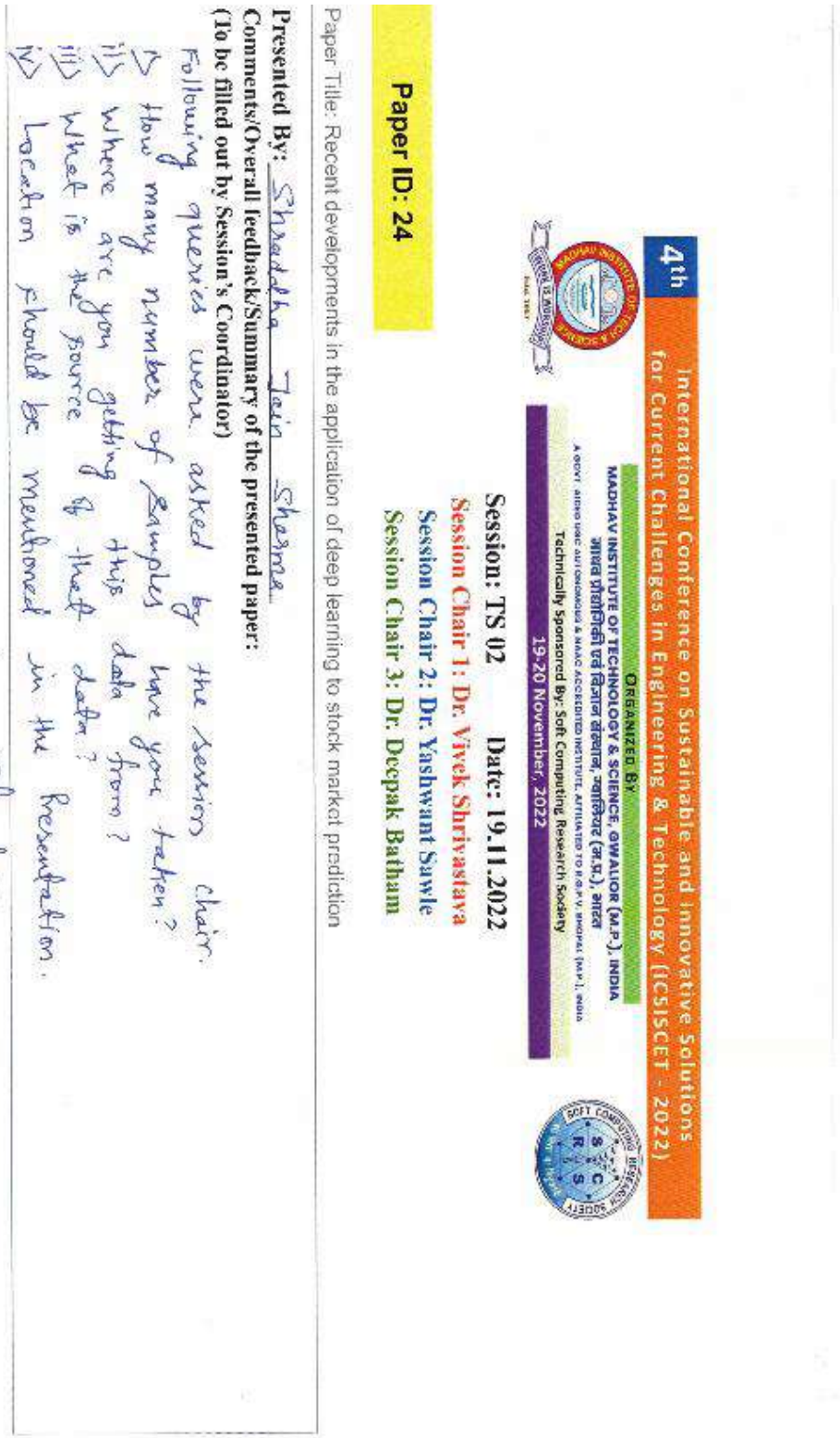
Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT

Signature: **Priyanka Gupta, Rahul Jha**

REPORT: TECHNICAL SESSION – II



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Session: TS 02 Date: 19.11.2022

Session Chair 1: Dr. Vivek Shrivastava
Session Chair 2: Dr. Yashwant Sawle
Session Chair 3: Dr. Deepak Batham

Paper ID: 24

Paper Title: Recent developments in the application of deep learning to stock market prediction

Presented By: Shraddha Jain Sharma

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Following queries were asked by the session chair.
i) How many number of samples have you taken?
ii) Where are you getting this data from?
iii) What is the source of that data?
iv) Location should be mentioned in the presentation.

Signature: Poonam Singh, Shyamveer Singh Chauhan

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Session: TS 02 **Date: 19.11.2022**

Session Chair 1: Dr. Vivek Shrivastava

Session Chair 2: Dr. Yashwant Sawle

Session Chair 3: Dr. Deepak Batham

Paper ID: 25

Paper Title: Tomato Foliage disease recognition using Random Forest and Convolutional Neural Networks

Presented By: Loganayaki Thangaraj

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

following queries were asked by the Session Chair.

i) Latest references are missing

ii) What are the limitations of Random forest and Convolutional Neural Networks.

Overall Presentation is excellent.

Signature: Poonam Singh, Shyamveer Singh Chauhan

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Session: TS 02 **Date: 19.11.2022**

Session Chair 1: Dr. Vivek Shrivastava

Session Chair 2: Dr. Yashwant Sawle

Session Chair 3: Dr. Deepak Batham

Paper ID: 30

Paper Title: Lycopersicon Crop Leaf Disease Identification using Deep Learning

Presented By: Barkha Joshi

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Your Presentation is very excellent and content is also good.

Signature: **Poonam Singh, Shyamveer Singh Chauhan**

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Session: TS 02 **Date: 19.11.2022**

Session Chair 1: Dr. Vivek Shrivastava

Session Chair 2: Dr. Yashwant Sawle

Session Chair 3: Dr. Deepak Batham

Paper ID: 47

Paper Title: Machine learning algorithms to forecast a heart disease

Presented By: Carla Singla.

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Following queries were asked by the session chair

1) What are the main objectives ?

2) What are the main data mining technique used for ?

Signature: **Poonam Singh, Shyamveer Singh Chauhan**

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Session: TS 02 **Date: 19.11.2022**

Session Chair 1: Dr. Vivek Shrivastava

Session Chair 2: Dr. Yashwant Sawle

Session Chair 3: Dr. Deepak Batham

Paper ID: 103

Paper Title: Impact of Online Classes Using Machine Learning Algorithms: Estimation, Classification, and Prediction

Presented By: A mercy Rani

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

How much time required to collect the sample size.
Overall presentation is good.

Singh Chauhan

Signature: **Poonam Singh, Shyamveer Singh Chauhan**

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Session: TS 02 **Date: 19.11.2022**

Session Chair 1: Dr. Vivek Shrivastava

Session Chair 2: Dr. Yashwant Sawle

Session Chair 3: Dr. Deepak Batham

Paper ID: 107

Paper Title: Deep Learning Based 3 D Model for CULTURAL Heritage site in Gujarat

Presented By: Gayatri Pandit

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

i) How many images you have for a Particular location.
ii) What type of Resolution required.
iii) Which type of technical device used.

Signature: Poonam Singh, Shyamveer Singh Chauhan

REPORT: TECHNICAL SESSION – III

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Session: TS 03 **Date: 19.11.2022**

Session Chair 1: Dr. Pradyumn Chaturvedi

Session Chair 2: Dr. Varun Sharma

Session Chair 3: Prof. Ramasubramanian B

Paper ID: 97

Paper Title: Features Extraction and Analysis of Electro-Myogram Signals using Time, Frequency, and Wavelet Transform Methods

Presented By: Pragya Chillakurru

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session Chair asked about source of data (primary/secondary). EMG signal were recorded by presenter. Further work done by author is appreciated by Session Chair.

Signature: Vinay Kumar Tatekayala, Shubham Sharma

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Session: TS 03 **Date: 19.11.2022**

Session Chair 1: Dr. Pradyumn Chaturvedi

Session Chair 2: Dr. Varun Sharma

Session Chair 3: Prof. Ramasubramanian B

Paper ID: 198

Paper Title: An Analysis of Safe IoT Integration with Cloud Computing

Presented By: Md. Afroz

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Dr Varun asked him about extension of his work and appreciated his work.

Signature: Vinay Kumar Tatekayala, Shubham Sharma

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Session: TS 03 **Date: 19.11.2022**

Session Chair 1: Dr. Pradyumn Chaturvedi

Session Chair 2: Dr. Varun Sharma

Session Chair 3: Prof. Ramasubramanian B

Paper ID: 207

Paper Title: Attention Neural Network based Channel Selection Algorithm for Cognitive Decision Making and Control in Smart Grid

Presented By: Arifa Sultana

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Prof. Ramasubramanian B asked what is/are the parameter being used/Network considered and also asked for Comparison with existing system. And also what are the reason behind the selection of Algorithm.
Further Session chair appreciated her work.

Signature: Vinay Kumar Tatdkayala, Shubham Sharma

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19-20 November, 2022

Session: TS 03 **Date: 19.11.2022**

Session Chair 1: Dr. Pradyumn Chaturvedi

Session Chair 2: Dr. Varun Sharma

Session Chair 3: Prof. Ramasubramanian B

Paper ID: 212

Paper Title: A Tool for Processing IoT-Sensor Measurement with a Moving Horizon Filter Approach

Presented By: Aneeq Fathima Bashir

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Session chair asked on which data is considered for processing in your research and what approach is used. Furthermore Session chairs congratulated her work.

Signature: **Vinay Kumar Tatekayala, Shubham Sharma**

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Session: TS 03 **Date: 19.11.2022**

Session Chair 1: Dr. Pradyumn Chaturvedi

Session Chair 2: Dr. Varun Sharma

Session Chair 3: Prof. Ramasubramanian B

Paper ID: 229

Paper Title: Design and Development of Multipurpose Low Cost AIR Cooler

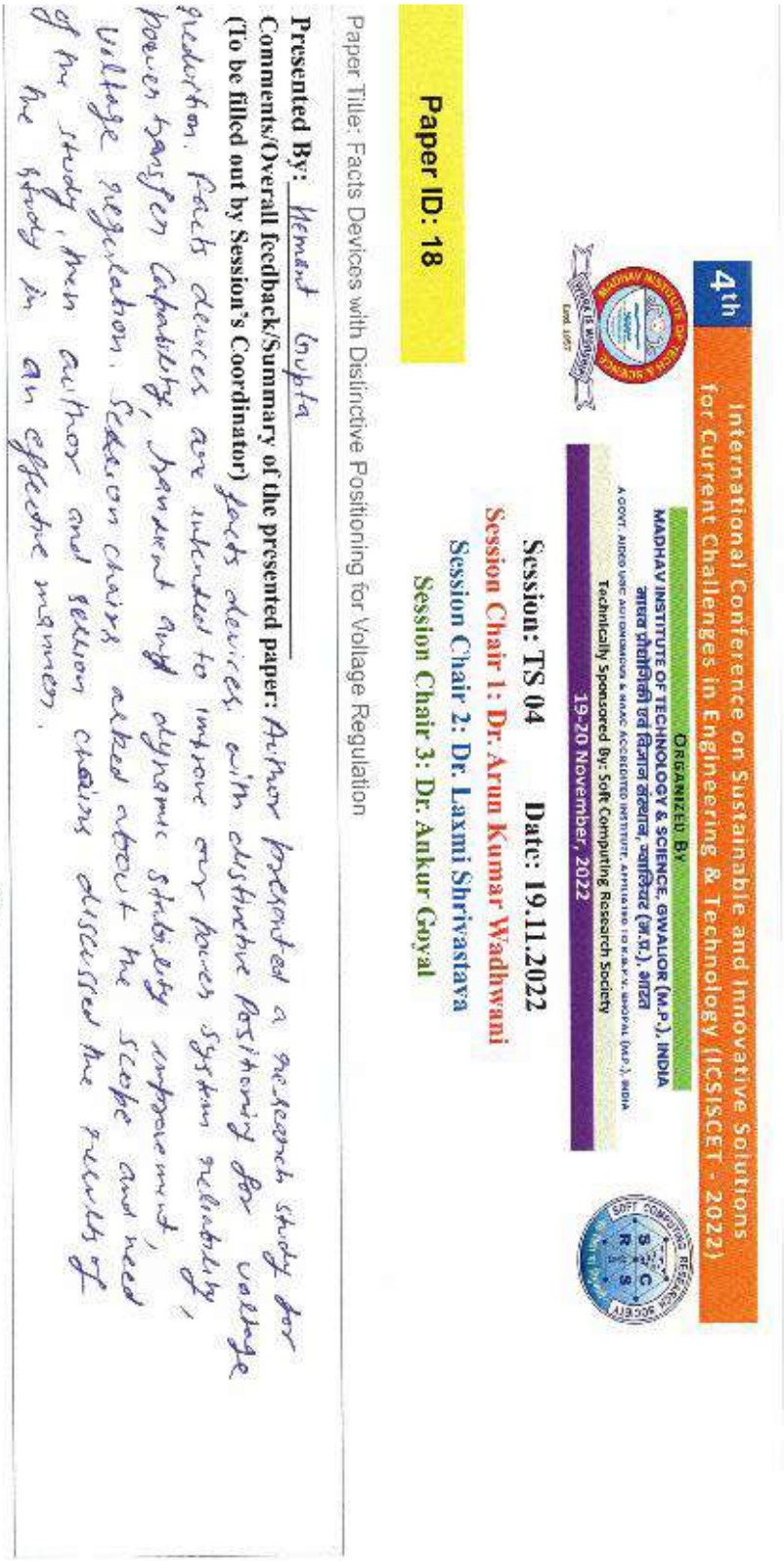
Presented By: Dinesh Bhoyar

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session Chair appreciated the work done by author and asked about Comparison parameters which were answered by Presenter.

Signature: **Vinay Kumar Tatekayala, Shubham Sharma**

REPORT: TECHNICAL SESSION – IV



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Session: TS 04 Date: 19.11.2022

Session Chair 1: Dr. Arun Kumar Wadhwani

Session Chair 2: Dr. Laxmi Shrivastava

Session Chair 3: Dr. Ankur Goyal

Paper ID: 18

Paper Title: Facts Devices with Distinctive Positioning for Voltage Regulation

Presented By: Hemant Gupta

Comments/Overall feedback/Summary of the presented paper: Author presented a research study for
(To be filled out by Session's Coordinator) facts devices with distinctive positioning for voltage
regulation. Facts devices are intended to improve our power system reliability,
power transfer capability, dynamic and dynamic stability, improvement,
voltage regulation. Session chairs asked about the scope and need
of the study, then author and session chairs discussed the results of
the study in an effective manner.

Signature: Kamal Sharma, Amit Shrivastava

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Session: TS 04 **Date: 19.11.2022**

Session Chair 1: Dr. Arun Kumar Wadhwani

Session Chair 2: Dr. Laxmi Shrivastava

Session Chair 3: Dr. Ankur Goyal

Paper ID: 76

Paper Title: Model Order Reduction using Pole Clustering and Factor Division Method

Presented By: Somya Saxena

Comments/Overall feedback/Summary of the presented paper: Somya Saxena presented a study for model order reduction using pole clustering and factor division method. Author presented a mixed method for reducing the order of large-scale single input ~~single~~ single output system. In this method, denominator polynomial is determined using pole clustering method. Author and session chairs discussed the objectives and methodology to develop the equations for the study.

Signature: Kamal Sharma, Amit Shrivastava

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Session: TS 04 **Date: 19.11.2022**

Session Chair 1: Dr. Arun Kumar Wadhwani

Session Chair 2: Dr. Laxmi Shrivastava

Session Chair 3: Dr. Ankur Goyal

Paper ID: 110

Paper Title: Efficient Cluster Key Management Scheme for Wireless Sensor Networks

Presented By: Vishal Chowdhary

Comments/Overall feedback/Summary of the presented paper: Dr. Vishal presented the research work on **(To be filled out by Session's Coordinator)** efficient cluster key management scheme for wireless sensor networks. Dr Vishal told that they tried to simplify the key generation and distribution within the cluster nodes. Their analysis shows that this method improve the security by using dynamic cluster formation along with key generation and distribution. session chairs and author ~~discussed~~ discussed results of study in detail.

Signature: Kamal Sharma, Amit Shrivastava

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Session: TS 04 **Date: 19.11.2022**

Session Chair 1: Dr. Arun Kumar Wadhwani

Session Chair 2: Dr. Laxmi Shrivastava

Session Chair 3: Dr. Ankur Goyal

Paper ID: 112

Paper Title: Application of a Fuzzy Decision-Making Method to Identify Cause-Effect Criteria of Wastewater Treatment Systems

Presented By: Norliana Mohd Najib

Comments/Overall feedback/Summary of the presented paper: (To be filled out by Session's Coordinator) Norliana presented the study over the application of fuzzy-decision making method to identify cause-effect criteria of wastewater treatment system. In this study, the IF-DEMATEL method was applied to establish the relationship among nine criteria of wastewater treatment systems. Session chairs asked about need of their study in present scenario and what are the criteria of selecting membership functions. Authors told that water pollution is increasing day-by-day, and membership functions are selected based on literature Review.

Signature: Kamal Sharma, Amit Shrivastava

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Session: TS 04 **Date: 19.11.2022**

Session Chair 1: Dr. Arun Kumar Wadhwani

Session Chair 2: Dr. Laxmi Shrivastava

Session Chair 3: Dr. Ankur Goyal

Paper ID: 113

Paper Title: Smart Water Management System for Jal Jeevan Mission

Presented By: Ms Bharathi S

Comments/Overall feedback/Summary of the presented paper: **(To be filled out by Session's Coordinator)** Ms Bharathi S presented the research work on smart water management system for Jal Jeevan Mission along with highlighting the importance of Jal Jeevan Mission. Author and session chairs discussed the smart water management system in India. Session chair asked author for their motivation of study. Author clearly explained the objective, methodology and conclusion of the study.

Signature: Kamal Sharma, Amit Shrivastava

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Session: TS 08 04 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 175

Paper Title: Virtual Reality Environment with The Education Sector

Presented By: Ghaliya Alfarei

Comments/Overall feedback/Summary of the presented paper: Ghaliya Alfarei present the research work on Virtual Reality environment with the education sector. Author discussed that the virtual reality was created by the interaction of several tools together to make the image with a 3D feature, as it gives the viewer a high quality vision as if he is watching a realistic and real scene. Author and session chairs also discussed about limitation and future scope of the study

(To be filled out by Session's Coordinator)

Signature: ~~Vimal Tiwari, Shradha Dubey, Deepak~~ Kamal Sharma

REPORT: TECHNICAL SESSION –V

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 201

Paper Title: Mitigating Trade-Off between Explainability and Confidentiality in Artificial Intelligence.

Presented By: Sumitra Biswal.

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Dr. S.V. Vasantha has asked to explain the EC accessor and their scope for future work.
Dr. Anshu Chaturvedi has asked about the optimal response and accuracy of system and how its value are calculated. Is it fuzzy based or some concrete value.
Dr. R.S Jadon has commented that the author presented the paper very well and give satisfactory response to the all queries.
Overall presentation are very good.

Signature: Vimal Tiwari, Deepak

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 210

Paper Title: Web Based User Interface Testing and Test Automation: Exploring the Current Market Challenges

Presented By: Sara Khan

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

- Dr. S.V. Vasantha has asked which techniques you recommended for future in the list of different review techniques.
- Dr. Anshu Chaturvedi has asked which tools and methods are best suited with respect to the future work of authors. She also asked why do we need web based testers.

Dr. R.S. Jadon has asked the no. of paper referred in this work and also suggested to add more paper.

Overall presentation is good.

Signature: **Vimal Tiwari, Deepak**

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 217

Paper Title: Robust Flood Prediction Approaches Using Exponential Smoothing and ARIMA Models

Presented By: Subha J.

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Dr. R.S. Jadon asked why author used ARIMA Models instead of simple time regression models
Dr. S.V. Vasantha asked why Is author's go through the linear regression model.
Later Dr Jadon about the real practical used and also asked if Author is baised with their prediction during selecting the data. He suggested to add data from unpredictable region also and suggest to choose the data carefully.
Overall presentation is good but some technical glitches from author's side

Signature: Vimal Tiwari, Deepak

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 227

Paper Title: A Comprehensive Review on Agriculture Based Pesticide Spraying Robot

Presented By: Kumari Sagari Dange

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Dr. Anshu Chaturvedi asked how this work differ from the early proposed model.
Dr. S.V. Vasantha asked Is author explore the drone based robot.
Overall presentation is good.

Signature: Vimal Tiwari, Deepak

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 232

Paper Title: Digital and Innovative Suggestions for the Solution of a Sustainable and Smart city in India

Presented By: Uma Shankar Yadav

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Overall presentation is good. No query is raised by the session chair person.

Signature: Vimal Tiwari, Deepak

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 234

Paper Title: Classification of Brain MRI Images

Presented By: Swati Mohad.

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

. Dr. R.S. Jadon asked how authors identified from images is it malignat or benign.
overall presentation is good.

Signature: Vimal Tiwari, Deepak

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Session: TS 05 **Date: 19.11.2022**

Session Chair 1: Dr. Rakesh Singh Jadon

Session Chair 2: Dr. Anshu Chaturvedi

Session Chair 3: Dr. S.V. Vasantha

Paper ID: 239

Paper Title: PDLW-Net: Novel Object Detection Variant of Vision Transformers in the Localization of Periodontal Ligament Widening

Presented By: Shaiethal Tsikannad.

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

. Dr. Anchu Chaturvedi commented as authors say this work is first of its kind and the work is good.
Overall presentation is good.

Signature: **Vimal Tiwari, Deepak**

REPORT: TECHNICAL SESSION –VI

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 128

Paper Title: Transfer Learning Approach to Detect and Predict the Malaria from Blood Cell Images

Presented By: Priyanka Tangde

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ How many layers included in this network model
→ How many data set used for validation for better & for testing
→ Accuracy level is not increasing that much why?
→ Why you stick on standard no. of layers.

Signature: Shubham Chitransh, Jay Singh

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 137

Paper Title: Lung Cancer Prediction using Machine Learning

Presented By: Jithendra Bojedla

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ where you get this data set & is this data set authentic or not.
→ feature importance analysis performance was done or not.
→ Criteria for selecting features.
→ Are you used feature importance curves.
→ Is it possible to remove all type of noise from image for processing.

Signature: Shubham Chitransh, Jay Singh

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 138

Paper Title: Recent developments in Generative Adversarial Networks

Presented By: Nakul Singh

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ Why you have done your work on BIGGAN.
→ If you want to filter the images then why you don't used recent techniques.
→ from where you getting your data (source).

Signature: **Shubham Chitransh, Jay Singh**

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 141

Paper Title: Performance Analysis of Satellite Image Classification Using Deep Learning Neural Network

Presented By:_____

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT.

Signature: Shubham Chitransh, Jay Singh

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 144

Paper Title: The Recital of Fastest Recognition of Band sensed by Using Machine learning Technique

Presented By: Sindhu Gupta

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ Novelty of your work regarding your domain?
→ Why you use cummulative method & how the efficiency reaching maximum
→ Why primary user does not have certain security?
→ Why you used certain optimization in your research work.

Signature: **Shubham Chitransh, Jay Singh**

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Session: TS 06 **Date: 19.11.2022**

Session Chair 1: Dr. Chandra Shekhar Malvi

Session Chair 2: Dr. Sandeep Sharma

Session Chair 3: Dr. Puja Shashi

Paper ID: 161

Paper Title: Pedestrian Detection Using YOLOv5 and Complete IoU Loss for Autonomous Driving Applications

Presented By: Etikala Raja Vikram Reddy

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ How misrate is different from false alarm rate.
→ From where you get the data set, is it authetic
→ Difference b/w two stage & one stage misrate method.
→ Is there is increasing in accuracy by using two stage method.

Signature: Shubham Chitransh, Jay Singh

REPORT: TECHNICAL SESSION –VII

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)

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19-20 November, 2022

Session: TS 07 **Date: 20.11.2022**

Session Chair 1: Dr. Pramod Kumar Singhal

Session Chair 2: Dr. Dinesh Kumar Rathore

Session Chair 3: Dr. Deepika Pantola

Paper ID: 118

Paper Title: Experimental Study of Humidity Effect on Sensitivity of MEMS Cantilever Sensor

Presented By:

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

ABSENT

Signature: **Shubham Sharma, Priyanka Gupta, Narendra Verma**

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Technically Sponsored By: Soft Computing Research Society
19-20 November, 2022

Session: TS 07 **Date: 20.11.2022**

Session Chair 1: Dr. Pramod Kumar Singhal

Session Chair 2: Dr. Dinesh Kumar Rathore

Session Chair 3: Dr. Deepika Pantola

Paper ID: 231

Paper Title: Dual-band Patch Antenna with Four-slot Structure for 5G Wireless Applications

Presented By: Diksha Ninave

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

→ Dual band patch antenna by changing the 3 slots.
→ To check the feasibility of proposed antenna.
Session chair asked about which softwares were used in research work and were answered by author. Further Session chair appreciated her work. and Author were suggested for adding loss function in her work in future.

Signature: Shubham Sharma, Priyanka Gupta, Narendra Verma

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Session: TS 07 **Date: 20.11.2022**

Session Chair 1: Dr. Pramod Kumar Singhal

Session Chair 2: Dr. Dinesh Kumar Rathore

Session Chair 3: Dr. Deepika Pantola

Paper ID: 233

Paper Title: Advancement Of Short Range Wireless Communication System For Recent And Future Applications

Presented By: Dr. Rajesh Thakur

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Session chair appreciated work done by author. Further Dr. Singhal remarked this presentation as a very informative work since it is related to the UHB that is next generation (5G) telecommunication band.

Overall Presentation was very informative.

Signature: Shubham Sharma, Priyanka Gupta, Narendra Verma

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Session: TS 07 **Date: 20.11.2022**

Session Chair 1: Dr. Pramod Kumar Singhal

Session Chair 2: Dr. Dinesh Kumar Rathore

Session Chair 3: Dr. Deepika Pantola

Paper ID: 240

Paper Title: GUI based NAND Flash memory and functional implementation of Block level address translation scheme

Presented By: Dimple

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session chair appriciated the work of author since the Presentation was to deal with security of mesmory management and Garbage collection at Paging level and block level. further Session chair motivated author to do and continue her work in same direction.

Signature: **Shubham Sharma, Priyanka Gupta, Narendra Verma**

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Session: TS 07 **Date: 20.11.2022**

Session Chair 1: Dr. Pramod Kumar Singhal

Session Chair 2: Dr. Dinesh Kumar Rathore

Session Chair 3: Dr. Deepika Pantola

Paper ID: 243

Paper Title: Space Division Multiplexing Elastic Optical Network - Challenges and Opportunities

Presented By: Kritika Tiwari

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session chair asked about nature of work and realization of material used in Optical Network. Further Author were motivated to continue her work in this field.
Overall Presentation was very nice and informative

Signature: **Shubham Sharma, Priyanka Gupta, Narendra Verma**

REPORT: TECHNICAL SESSION –VIII

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Session: TS 08 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 124

Paper Title: Voting System Based on Blockchain Technology Smart-Contracts

Presented By: Ashwani Kumar

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Dr. Hari Mohan Dubey asked the contribution from author side as the results/outcome are missing.
Dr. Pratesh Jayaswal wants to know about the real time testing as the implementation part is missing. Finding & comparison with other existing methodology are also missing.
Dr. Aruna SK wants to know the future enhancement of the work.
Later, Dr. Hari Mohan Dubey suggested to make the presentation in standard format with precise information.
Overall, Presentation is good.

Signature: Vimal Tiwari, Shradha Dubey, Deepak

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Session: TS 08 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 147

Paper Title: Computational Methods in Computational Fluid Dynamics

Presented By:_____

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

ABSENT

Signature: Vimal Tiwari, Shradha Dubey, Deepak

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Session: TS 08 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 169

Paper Title: A Model to Identify the Impairment Caused by Smoking to the Oral Cavity

Presented By: Gayakri Meghana

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Dr. Aruna SK wants to know about the data - is it publically available or collected. later, she asked is the concent of the patient is taken

Dr. Pratesh Jayaswal wants to know is this work is used by any hospital for real time diagnosis of disease. & how this work is used to diagnosis disease

Dr. Hari Mohan Dubey comment as presentation is nice & wants to know the difference between the CNN & deep learning. How many layers are selected & suggested to increase the no. of layers for better results

overall presentation is good

Signature: Vimal Tiwari, Shradha Dubey, Deepak

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Session: TS 08 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 182

Paper Title: Improving Right Ventricle Contouring in Cardiac MR Images Using Integrated Approach for Small Datasets

Presented By: Anjali Yadav

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Dr. Aruna SK asked about the existing methods used by the authors & also why only eight ventricles is used in research work. why not left ventricle.
Dr. Pratesh Jayaswal wants to know why this work is more successful than the previous work and will it be use in real time. can we use this work to diagnosis for the categories as cardiac disease
Dr. Hariomohan Dubey asked how accuracy is selected by the authors & suggested to add more references & compare your result with existing research for proper validation.
Overall, presentation is nice.

Signature: Vimal Tiwari, Shradha Dubey, Deepak

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Session: TS 08 Date: 20.11.2022

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 184

Paper Title: Biometric Framework for Securing IoT Environment

Presented By: Prabhjot Maki

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

- Dr. Aruna SK commented to present work done by author's instead of showing ideas.
- Dr. Pratesh Jaiswal commented that the author's contribution is missing in the work.
- Dr. Hari Mohan Dubey asked the no. of research paper referred in the work and suggest to add more than 40 research paper and compare them to make a better and effective review paper.

Overall presentation is good.

Signature: Vimal Tiwari, Shradha Dubey, Deepak

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Session: TS 08 **Date: 20.11.2022**

Session Chair 1: Dr. Pratesh Jayaswal

Session Chair 2: Dr. Hari Mohan Dubey

Session Chair 3: Dr. Aruna SK

Paper ID: 214

Paper Title: An Effective Approach for Optimizing Antenna Design based on Machine Learning Models

Presented By: Rachit Jain

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Dr. Aruna asked about the contribution of author in the work. Later, she asked is there any comparison with the existing or published work.
Dr. Pratesh Jayaswal asked about the comparison of ANN & machine learning specifically for antenna design & commented that the novelty of the work is missing.
Dr. Hari Mohan Dubey commented that the work is good but the formulation part is missing & objective of the work should be clears. He also suggested to not use abbreviation in the presentation.
Overall, the presentation is good.

Signature: Vimal Tiwari, Shradha Dubey, Deepak

REPORT: TECHNICAL SESSION –IX

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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19-20 November, 2022

Paper ID: 167

Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper Title: A Deep Learning based neural network for detection of Epileptic Seizure

Presented By: Hemant Choubey

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

In this paper, the automated method of Epileptic Seizure detection using simple and most common feature without any optimization techniques. It is based on ANN architecture which trained this model. The proposed automated detection method have an accuracy of 98%.

Q&A How many data is selected for testing? Have you compared your results with other papers? What is the utility of your method?

The author answered all the question satisfactorily.

Signature: **Vinay Kumar Tatekayala, Rahul Jha**

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Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper ID: 170

Paper Title: Early Detection of Vocal Disorders such as Laryngeal Cancer and Dysphonia Using Voice Analysis and Machine Learning

Presented By: Arhaan Garg

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

In this paper, Logistic Regression is employed with close Conjunction with the MFCC to achieve the aim of the paper. A non-invasive method of detection is used like a simple microphone to detect illness of (vocal disorders) such as Laryngeal Cancer and Dysphonia.

Q&A: How you formulate the equation ? Have you done mathematical modelling ? How you Compare your method with all existing methods ? Have you filed any kind of patent ?

Author answered all the questions. Chair persons are very happy to see that a XII Std. student is presenting such research.

Signature: Vinay Kumar Tatekayala, Rahul Jha

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Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper ID: 178

Paper Title: Artificial intelligence and Machine Learning for Climate Change Mitigation and Adaptation

Presented By: Garima Nautiyal

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

Author discussed application of AI in preparedness, urban environment, transportation, Combating misinformation and promote climate optimism, Researcher talked about inventiveness, knowledge and influence toward reversing climate change. Also, AI cannot solve climate change issue alone

Q&A what is top 10 result? How many columns are there in your dataset? Elobrate your flowchart? which algorithm you used?

Author answered all the questions

Signature: Vinay Kumar Tatekayala, Rahul Jha

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Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper ID: 190

Paper Title: Model Building and Heuristic Evaluation of various Machine learning classifiers

Presented By:_____

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT

Signature: **Vinay Kumar Tatekayala, Rahul Jha**

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Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper ID: 193

Paper Title: Prediction and evaluation of cancer using Machine learning techniques

Presented By:_____

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT

Signature: Vinay Kumar Tatekayala, Rahul Jha

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Session: TS 09 **Date: 20.11.2022**

Session Chair 1: Dr. Shishir Dixit

Session Chair 2: Dr. Saumil Maheshwari

Session Chair 3: Dr. Mausam Goswami

Paper ID: 249

Paper Title: Comparative analysis of segmentation and generative models for fingerprint retrieval task

Presented By: Megh Patel

Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

In this paper, author proposes a new dataset consisting of pairs of synthetically generated ground-truth and noisy fingerprints. The paper explores a deep learning approach to extricate the original fingerprint from noisy images using Generative and Segmentation models. The U-net-segmentation model performed better than the Generative networks suggesting

Q&A Question asked, Difference between the models pix2pix and CycleGAN, Are both of supervised learning or unsupervised learning?

The author answered all the question satisfactorily.

Signature: Vinay Kumar Tatikayala, Rahul Jha

REPORT: TECHNICAL SESSION –X

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Session: TS 10 **Date: 20.11.2022**

Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 122

Paper Title: Image Enhancement for Underwater Photography Using Morphological Filter

Presented By: Alekya chintu

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

All the session chair has appreciated her work. However following are observation and gaps related to research have been noticed by the session chair: (i) comparision of proposed algorithm with any other algorithm with same problem (ii) Idea behind the choosing of proposed algorithm. In their response, presenter has provide satisfying answer to the session chair and explain the things in a good manner. Overall the presentation or research are good and have wide application in other field too.

Signature: Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav

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Session: TS 10 **Date: 20.11.2022**

Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 183

Paper Title: Power Quality enhancement for Grid connected PV and Wind System with TS Fuzzy Converters

Presented By: Vinay Kumar Patikayala

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

All the session chair has appreciated his work and remark a good points about their research such as Good work, New idea, Sustainable in nature and satisfied with his work. Further, following questions were asked like testing of model in real time manner, about performance index, tuning of PID and concentrate toward controller side. Presenter satisfied all the session chair with their answers. In addition to that following suggestion were provided to work in near future such as, inclusion of PID parameters, updation of title of paper, current analysis, utilization of TS fuzzy.

Signature: Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav

4th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET - 2022)
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Technically Sponsored By: Soft Computing Research Society
19-20 November, 2022

Session: TS 10 **Date: 20.11.2022**

Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 191

Paper Title: Experiment on a Novel Approach Toward Quantifying the Toxicity Level of the Soil Around the Yamuna River and Checking the Impact of Polluted Water on the Soil

Presented By: Tanush Arora

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session chairs have appriciated his work as the presenter is 12th standard student. In this regard, sessionchairs have asked about that the quantification of toxic parameter and other quality parameter. The presented has satisfied with their answers, overall the work is good.

Signature: Shubhham Chitransh, Jay Singh, Sanjay Kr. Vaishnav

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Session: TS 10 **Date: 20.11.2022**

Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 194

Paper Title: Development of a Robust Model to Predict the Sales of Tickets Employing Fuzzy IF-THEN Rules Based Algorithm

Presented By: Daksh Upadhyay

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

Session chairs appreciated their work and ask following question regarding their research, which are as follows:
1) Testing of model in real life scenario
Presenter have already tested this model in real life manner in L Calendario game at Barcelona in which he found that their algorithm works perfectly.

Signature: Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav

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Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 200

Paper Title: A Comparative Study on various methodologies used in sentiment analysis for Indian languages

Presented By: Vemala Bhargavi

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator)

All the session chairs has appreciated her work. In which one session chair has asked me questions, regarding application of proposed algorithms for any other languages too. In this regard, Presenter shows limitation of their algorithms such that availability of data, volume of data and need of linguistic expert. Overall the presentation is good. ~~and her~~

Signature: **Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav**

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Session Chair 1: Dr. Manoj Kumar Trivedi

Session Chair 2: Dr. Bhavna Rathore

Session Chair 3: Dr. Srigitha.S.Nath

Paper ID: 238

Paper Title: Development of a restaurant recommendation system

Presented By:_____

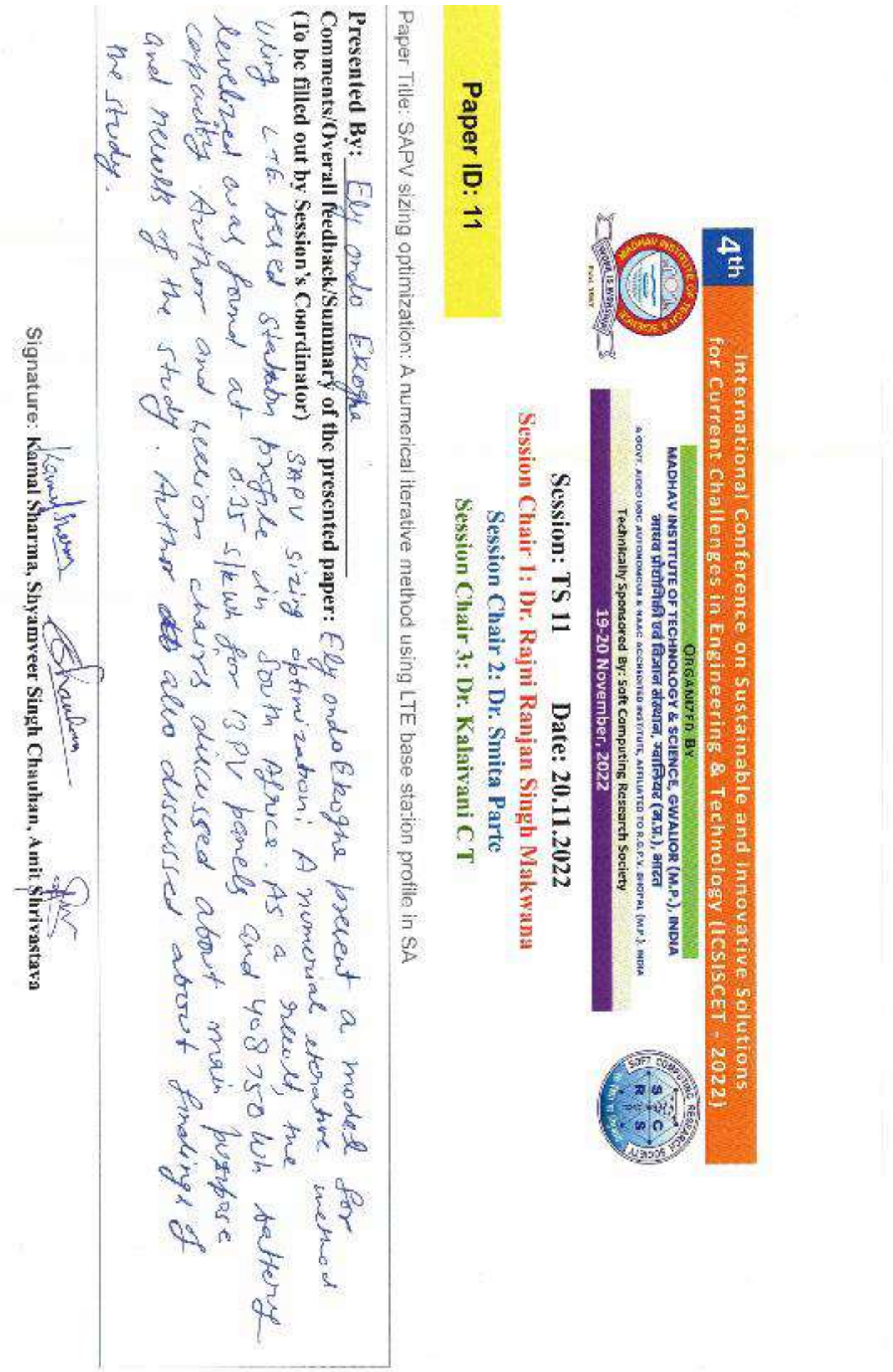
Comments/Overall feedback/Summary of the presented paper:

(To be filled out by Session's Coordinator)

ABSENT

Signature: **Shubham Chitransh, Jay Singh, Sanjay Kr. Vaishnav**

REPORT: TECHNICAL SESSION –XI



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Session: TS 11 Date: 20.11.2022

Session Chair 1: Dr. Rajni Ranjan Singh Makwana

Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 11

Paper Title: SAPV sizing optimization: A numerical iterative method using LTE base station profile in SA

Presented By: Ely ondo Ekogha

Comments/Overall feedback/Summary of the presented paper: (To be filled out by Session's Coordinator) Ely ondo Ekogha present a model for SAPV sizing optimization. A numerical iterative method using LTE based station profile in South Africa. As a result, the levelized cost found at 0.35 $/kWh for 13 PV panels and 408 750 Wh battery capacity. Author and session chairs discussed about main purpose and results of the study. Author also discussed about findings of the study.

Signature: **Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava**

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Session Chair 1: Dr. Rajni Ranjan Singh Makwana

Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 204

Paper Title: An Efficient System for grading Diabetic Retinopathy by detecting the location of lesions

Presented By: Ramasubramanian B

Comments/Overall feedback/Summary of the presented paper:
(To be filled out by Session's Coordinator) Ramasubramanian B presented the research work on the efficient system for grading diabetic retinopathy by detecting the location of lesions. Author explained that the retinal screening contributes to early detection of diabetic retinopathy and timely treatment. Sessions chairs were interested to discussed about the novelty of presented work. Author explained the results and process methodology in detail.

Signature: **Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava**

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Session Chair 1: Dr. Rajni Ranjan Singh Makwana

Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 205

Paper Title: Oil Price Prediction Approach Using Long Short-Term Memory Network Tuned by Improved Seagull Optimization Algorithm

Presented By: Luka Jovanovic

Comments/Overall feedback/Summary of the presented paper: Luka Jovanovic presat a oil price prediction approach using long short-term memory network tuned by improved seagull optimization algorithm. The results of the study clearly demonstrate to improved performance of the novel approach, as it surpassed ~~one~~ all others algorithms, excluding the original SOA under identical test conditions. Author and session chairs also discussed about methodology to predict the oil price.

Signature: Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava

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Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 242

Paper Title: Prediction of Heart Stroke using improved feature extraction based CNN Model

Presented By: Bramara Jangala

Comments/Overall feedback/Summary of the presented paper: Bramara Jangala provided a research for the prediction of heart stroke using improved feature extraction based CNN model. Author proposed a method to predict the probability of presence of cardiovascular disease in a patient. Author and session chair discussed about the parameters taken for developed CNN networks. session chairs were also interested to know the limitations of the study.

(To be filled out by Session's Coordinator)

Signature: Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava

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Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 247

Paper Title: Design and Implementation of ML based Pothole Detection System with Telegram Notification

Presented By: Chennupati Pratyusha.

Comments/Overall feedback/Summary of the presented paper: Chennupati pratyusha presented the research **(To be filled out by Session's Coordinator)** Study on design and implementation of ML based pothole detection System with telegram notification. This study affords a prototype of an IOT primarily based on totally pothole and hump detection machine that may be incorporated with the automobile. Author and session chair discussed about the factors affecting the design and implementation of proposed system.

Signature: Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava

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Session Chair 1: Dr. Rajni Ranjan Singh Makwana

Session Chair 2: Dr. Smita Parte

Session Chair 3: Dr. Kalaivani C T

Paper ID: 248

Paper Title: Application of image-to-image translation in improving pedestrian detection

Presented By: Devesh Patel

Comments/Overall feedback/Summary of the presented paper: Devesh patel discussed about the application of image-to-image translation in improving pedestrian detection. The lack of effective targets regions makes it difficult to perform several visual functions in low intensity light, including pedestrain recognition, and image-to-image translation. Authors and session chairs discussed about the aim, methodology and ~~result~~ results of the study.

(To be filled out by Session's Coordinator)

Signature: Kamal Sharma, Shyamveer Singh Chauhan, Amit Shrivastava

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एमआईटीएस में अंतर्राष्ट्रीय शोध सम्मेलन शुरू

नगर चिंगारी | ग्वालियर

वर्तमान तकनीकी चुनोतियों का अभिनव एवं सतत समाधान चुनोतियों के विश्लेषण एवं पूर्वानुमान के द्वारा खोजा जा सकता है एवं उभरते हुए तकनीकी विधियों जैसे सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेबल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह उदगार माधव प्रौधोगिकी एवं विज्ञान संस्थान ग्वालियर में आयोजित दो दिवसीय ज्वलंत तकनीकी चुनोतियों के सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रिय शोध सम्मेलन के उदघाटन सत्र में डॉ. के. के. अग्रवाल चेयरमैन एनबीए एवं मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस ग्वालियर ने व्यक्त किये। उदघाटन सत्र में डॉ. एस.एन. सिंह डायरेक्टर ए.व्ही. बी. ट्रिपल आईटीएम ग्वालियर ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। साथ ही इंजीनियर रमेश अग्रवाल सचिव सिंधिया इंजीनियरिंग कॉलेज सोसायटी ने अंतर्राष्ट्रिय शोध सम्मेलन के सफल एवं सार्थक आयोजन के लिए शुभकामनाए प्रदान की एवं शोध सम्मेलन अपने अपेक्षित लक्ष्यों

को प्राप्त कर सके इसके लिए संस्थान प्रबंधन का हर संभव प्रयास रहे यह प्रतिबद्धता ज्ञापित की ।संस्थान अभिनव एवं सतत तकनीकी समाधान की लगातार चौथी अंतर्राष्ट्रिय सम्मेलन का आयोजन कर रहा है एवं यह सम्मेलन विश्व स्तरीय हो एवं अपने क्षेत्र का उत्कृष्ट आयोजन बने एवं अंतर्राष्ट्रिय शोधार्थी एवं विषय विशेषज्ञ का पारस्परिक संवाद संस्थान के फेकल्टी एवं शोधार्थीयों से हो सके ताकि संस्थान नवाचारी समाधान खोजने में अपनी सार्थक योगदान दे सके इस तरह की प्रतिबद्धता उदघाटन सत्र में संस्थान के निदेशक डॉ. आर. के. पण्डित ने व्यक्त की।अंतर्राष्ट्रिय शोध सम्मेलन के उद्देश्य एवं प्राप्त शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है। यह उदबोधन इस सम्मेलन की चेयरपर्सन डॉ. मंजरी पण्डित डीन अकेडमिक ने उदघाटन सत्र में दिया।अंतर्राष्ट्रिय सम्मेलन के सह आयोजक सोफ्ट कम्प्युटिंग एवं रिसर्च सोसायटी के जनरल सेक्रेटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है ताकि अत्याधुनिक जटिल समस्याओं के समाधान प्राप्त करने के लिए शोधार्थियों को प्रेरित एवं प्रोत्साहित किया जा सके।अंतर्राष्ट्रिय शोध सम्मेलन के प्रथम सत्र में डॉ. स्नेहांशु साहा प्रोफेसर बिट्स पिलानी गोवा कैंपस, ने सोफ्ट कम्प्युटिंग के प्रयोग से सस्टेनेबल डेवलपमेंट गोल (एसडीजी) को अपेक्षित स्तर पर प्राप्त किया जा सकता है तथा ऑप्टीमाइजेशन एल्गोरिदम का प्रयोग करके उर्जा के महत्तम उपयोग को बढाया जा सकता है। वर्तमान वैश्विक तापन समस्या का उपयुक्त समाधान खोजा जा रहा है।प्रथम दिवस छः तकनीकी सत्रों का आयोजन किया गया जिसमें तकनीकी के विभिन्न क्षेत्रोंसॉफ्ट कम्प्युटिंग टेक्नीक्स फॉर सस्टेनेबल डेवलपमेंटसस्टेनेबल कम्प्युटिंग एण्ड इनफॉर्मेशन टेक्नोलॉजी कम्प्युटेशनल इंटेलीजेंस एण्ड मशीन लर्निंगएमबेडेड सिस्टम एण्ड व्हीएलएसआई डिजायनएडवांसेस इन इंटेलीजेंट कम्प्युटिंग, सस्टेनेबल इंजीनियरिंग सिस्टम एण्ड प्रेक्टिसेस सस्टेनेबल डेवलपमेंट एण्ड इनोवेशन इन टेक्नोलॉजीजडॉ. प्रतेश जायसवाल प्रोग्राम चेयर ने बताया कि सम्मेलन में 36 शोध पत्रों का वाचन किया गया।

ग्वालियर समाचार

एमआईटीएस में अंतर्राष्ट्रीय शोध सम्मेलन शुरू

पेस मेकर हृदय रोगियों के लिए अभिनव तकनीकी समाधान है : डॉ. केके अग्रवाल

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वर्तमान तकनीकी चुनोतियों का अभिनव एवं सतत समाधान चुनोतियों के विश्लेषण एवं पूर्वानुमान के द्वारा खोजा जा सकता है एवं उभरते हुए तकनीकी विधियों जैसे सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेबल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह उदगार माधव प्रौधोगिकी एवं विज्ञान संस्थान ग्वालियर में आयोजित दो दिवसीय ज्वलंत तकनीकी चुनोतियों के सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रिय शोध सम्मेलन के उदघाटन सत्र में डॉ. के. के. अग्रवाल चेयरमैन एनबीए एवं मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस ग्वालियर ने व्यक्त किये। उदघाटन सत्र में डॉ. एस.एन. सिंह डायरेक्टर ए.व्ही. बी.

ट्रिपल आईटीएम ग्वालियर ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। साथ ही इंजीनियर रमेश अग्रवाल सचिव सिंधिया इंजीनियरिंग कॉलेज सोसायटी ने अंतर्राष्ट्रिय शोध सम्मेलन के सफल एवं सार्थक आयोजन के लिए शुभकामनाए प्रदान की एवं शोध सम्मेलन अपने अपेक्षित लक्ष्यों को प्राप्त कर सके इसके लिए संस्थान प्रबंधन का हर संभव प्रयास रहे यह प्रतिबद्धता ज्ञापित की । संस्थान अभिनव एवं सतत तकनीकी समाधान की लगातार चौथी अंतर्राष्ट्रिय सम्मेलन का आयोजन कर रहा है एवं यह सम्मेलन विश्व स्तरीय हो एवं अपने क्षेत्र का उत्कृष्ट आयोजन बने एवं अंतर्राष्ट्रिय शोधार्थी एवं विषय विशेषज्ञ का पारस्परिक संवाद संस्थान के फेकल्टी एवं शोधार्थीयों से हो सके ताकि संस्थान नवाचारी समाधान खोजने में अपनी सार्थक योगदान दे सके इस तरह की प्रतिबद्धता उदघाटन सत्र में संस्थान के निदेशक डॉ. आर. के. पण्डित ने व्यक्त की। अंतर्राष्ट्रिय शोध सम्मेलन के उद्देश्य एवं प्राप्त शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है। यह उदबोधन इस सम्मेलन की चेयरपर्सन डॉ. मंजरी पण्डित डीन अकेडमिक ने उदघाटन सत्र में दिया।

शोध गतिविधियों पर फोकस

अंतर्राष्ट्रिय सम्मेलन के सह आयोजक सोफ्ट कम्प्युटिंग एवं रिसर्च सोसायटी के जनरल सेक्रटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है ताकि अत्याधुनिक जटिल समस्याओं के समाधान प्राप्त करने के लिए शोधार्थियों को प्रेरित एवं प्रोत्साहित किया जा सके।अंतर्राष्ट्रिय शोध सम्मेलन के प्रथम सत्र में डॉ. स्नेहांशु साहा प्रोफेसर बिट्स पिलानी गोवा कैंपस, ने सोफ्ट कम्प्युटिंग के प्रयोग से सस्टेनेबल डेवलपमेंट गोल (एसडीजी) को अपेक्षित स्तर पर प्राप्त किया जा सकता है तथा ऑप्टीमाइजेशन एल्गोरिदम का प्रयोग करके उर्जा के महत्तम उपयोग को बढाया जा सकता है। वर्तमान वैश्विक तापन समस्या का उपयुक्त समाधान खोजा जा रहा है।

नवाचार वहीं जो समाज की वर्तमान समस्याओं को हल कर सके

ग्वालियर ■ राज न्यूज नेटवर्क

वर्तमान तकनीकी चुनौतियों का अभिनव एवं समाधान विश्लेषण के द्वारा खोजा जा सकता है। सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह बात माधव प्रौद्योगिकी एवं विज्ञान संस्थान में आयोजित दो दिवसीय सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रीय शोध सम्मेलन के उदघाटन सत्र में एनबीए के चेयरमैन और मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस के डॉ. केके अग्रवाल ने कही।

वहीं उदघाटन सत्र में एक्वीबी ट्रिपल आईटीएम डायरेक्टर डॉ. एसएन सिंह ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। साथ ही सिंधिया इंजीनियरिंग कॉलेज सोसायटी के सचिव रमेश अग्रवाल ने सफल आयोजन के लिए शुभकामनाए प्रदान की एवं शोध सम्मेलन अपने अपेक्षित लक्ष्यों को प्राप्त कर सके इसके लिए संस्थान प्रबंधन का हर संभव प्रयास रहे यह प्रतिबद्धता ज्ञापित की।

सम्मेलन की चेयरपर्सन डॉ. मंजरी पण्डित ने कहा कि शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है। अंर्तराष्ट्रिय सम्मेलन के सह आयोजक सोफ्ट कम्प्युटिंग एवं रिर्सच सोसायटी के जनरल सेक्रेटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है। डॉ. प्रतेश जायसवालने बताया कि सम्मेलन में 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, युएई, साउथ अफ्रिका, अल्जीरिया इत्यादी) के 52 तकनीकी संस्थानों के शोधार्थियों एवं विषय विशेषज्ञों ने प्रस्तुत किये। पीआरओ मुकेश मौर्य के अनुसार सम्मेलन का द्वितीय सत्र 20 नवंबर 2022 को आयोजित किया जायेगा ।

एमआईटीएस में दो दिवसीय अंतर्राष्ट्रीय शोध सम्मेलन शुरु

16 देशों के 52 शोधार्थियों ने पढ़े शोधपत्र

● आचरण संवाददाता

ग्वालियर। वर्तमान तकनीकी चुनोतियों का अभिनव एवं समाधान विश्लेषण के द्वारा खोजा जा सकता है। सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल क प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह बात माधव प्रोद्योगिकी एवं विज्ञान संस्थान में आयोजित दो दिवसीय सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रीय शोध स मेलन के उद्घाटन सत्र में एनबीए के चेयरमैन और मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस के डॉ. केके अग्रवाल ने कही। वहीं उद्घाटन सत्र में ए.व्ही.बी. ट्रिपल आईटीएम डायरेक्टर डॉ. एस.एन. सिंह ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। साथ ही सिंधिया इंजीनियरिंग कॉलेज सोसायटी के सचिव रमेश अग्रवाल ने सफल आयोजन के लिए शुभकामनाएं प्रदान की एवं शोध

सम्मेलन अपने अपेक्षित लक्ष्यों को प्राप्त कर सके इसके लिए संस्थान प्रबंधन का हर संभव प्रयास रहे यह प्रतिबद्धता ज्ञापित की। सम्मेलन की चेयरपर्सन डॉ. मंजरी पण्डित ने कहा कि शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ़ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है। अंर्तराष्ट्रीय सम्मेलन के सह आयोजक सोफ्ट कम्प्युटिंग एवं रिसर्च सोसायटी के जनरल सेक्रेटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है। डॉ. प्रतेश जायसवाल ने बताया कि सम्मेलन में 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, युएई, साउथ अफ्रीका, अल्जीरिया इत्यादि) के 52 तकनीकी संस्थानों के शोधार्थियों एवं विषय विशेषज्ञों ने प्रस्तुत किये। पीआरओ मुकेश मौर्य के अनुसार सम्मेलन का द्वितीय सत्र 20 नवंबर को आयोजित किया जायेगा।

पेसमेकर हृदय रोगियों के लिए अभिनव तकनीकी समाधान है: डॉ. अग्रवाल

एमआईटीएस में अंतर्राष्ट्रीय शोध सम्मेलन शुरू

पीपुल्स संवाददाता ● ग्वालियर
मो.नं. 9644644430

वर्तमान तकनीकी चुनोतियों का अभिनव एवं सतत समाधान चुनोतियों के विश्लेषण एवं पूवार्नुमान के द्वारा खोजा जा सकता है एवं उभरते हुए तकनीकी विधियों जैसे सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह उदगार माधव प्रौधोगिकी एवं विज्ञान संस्थान ग्वालियर में आयोजित दो दिवसीय ज्वलंत तकनीकी चुनोतियों के सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रीय शोध सम्मेलन के उदघाटन सत्र में डॉ. केके अग्रवाल चेयरमैन एनबीए एवं मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस ग्वालियर ने व्यक्त किये। उदघाटन सत्र में डॉ. एसएन सिंह डायरेक्टर एबीवी ट्रिपल आईटीएम ग्वालियर ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। एमआईटीएस के डायरेक्टर प्रो. आरके पंडित ने कहा कि संस्थान अभिनव एवं सतत तकनीकी समाधान की लगातार चौथी अंतर्राष्ट्रीय सम्मेलन का आयोजन कर रहा है एवं यह सम्मेलन विश्व स्तरीय हो एवं अपने क्षेत्र का उत्कष्ठ आयोजन बने एवं अंर्तराष्ट्रिय शोधार्थी एवं विषय विशेषज्ञ का पारस्परिक संवाद संस्थान के फेकल्टी एवं शोधार्थीयों से हो सके ताकि संस्थान नवाचारी समाधान खोजने में अपनी सार्थक योगदान दे सके। सम्मेलन की चेयरपर्सन डॉ. मंजरी पंडित ने कहा कि शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है।

पहले दिन छह तकनीकी सत्र हुए: सम्मेलन में पहले दिन सॉफ्ट कम्प्युटिंग टेक्नीक्स फॉर सस्टेनेवल डेवलपमेंट, सस्टेनेवल कम्प्युटिंग एण्ड इनफॉर्मेशन टेक्नोलॉजी कम्प्युटेशनल इंटेलीजेंस एण्ड मशीन लर्निंग, एमबेडेड सिस्टम एण्ड व्हीएलएसआई डिजायन, एडवांसेस इन इंटेलीजेंट कम्प्युटिंग, सस्टेनेवल इंजीनियरिंग सिस्टम एण्ड प्रेक्टिसेस सस्टेनेबल डेवलपमेंट एण्ड इनोवेशन इन टेक्नोलॉजी तकनीकी सत्र हुए। जिनमें 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों के 52 तकनीकी संस्थानों के शोधार्थीयों एवं विषय विशेषज्ञों ने प्रस्तुत किये।

एमआइटीएस में अंतरराष्ट्रीय शोध सम्मेलन

नवाचार वही सार्थक होता है, जो समाज की वर्तमान समस्याओं का हल दे सके

ग्वालियर @ पत्रिका. वर्तमान तकनीकी चुनौतियों का समाधान उसके विश्लेषण एवं पूर्वानुमान से खोजा जा सकता है। उभरती हुई तकनीकी विधि सॉफ्ट कंप्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेबल कम्प्युटिंग सिस्टम सहायक सिद्ध हुई है। यह बात शनिवार को एमआइटीएस में एनबीए के चेयरमैन डॉ. के.के अग्रवाल ने अंतरराष्ट्रीय शोध सम्मेलन के उद्घाटन अवसर पर कही। वह ग्वतकनीकी चुनौतियों के सतत एवं अभिनव समाधानद्य विषय पर बोल रहे थे। सम्मेलन के पहले दिन 36 शोध पत्र पढ़े गए। सम्मेलन में भारत के अलावा कनाडा, जापान, स्पेन, युएई, साउथ अफ्रीका, अल्जीरिया के रिसर्चर्स शामिल हुए।

शोध पत्र की गुणवत्ता बढ़ाना उद्देश्य

संस्थान के निदेशक डॉ. आरके पण्डित ने कहा कि तकनीकी चुनौतियों के सतत एवं अभिनव समाधान विषय पर लगातार चौथा सम्मेलन का आयोजन हो रहा है। डीन ऑफ एकेडमिक डॉ. मंजरी पंडित ने कहा कि शोध सम्मेलन के उद्देश्य एवं प्राप्त शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ़ रही है।

सॉफ्ट कंप्युटिंग से पा सकते हैं सस्टेनेबल डवलपमेंट गोल का लक्ष्य

एबीवी ट्रिपल आइटीएम के निदेशक डॉ. एसएन सिंह ने कहा कि नवाचार वही सार्थक होता है, जो समाज की वर्तमान समस्याओं का हल दे सके। पहले सत्र में विद्रस पिलानी गोवा कैंपस के प्रो. डॉ. स्नेहांशू साहा ने कहा कि सॉफ्ट कंप्युटिंग के प्रयोग से सस्टेनेबल डवलपमेंट गोल के लक्ष्य को प्राप्त किया जा सकता है तथा ऑप्टीमाइजेशन एल्गोरिदम का प्रयोग करके उर्जा के महत्तम उपयोग को बढ़ाया जा सकता है।

स्वदेश
ग्वालियर - मुख्य संस्करण
20 Nov 2022

आयोजन

एमआईटीएस में अंतर्राष्ट्रीय शोध सम्मेलन का शुभारम्भ

तकनीकी चुनौतियों का समाधान विश्लेषण से संभव : अग्रवाल

नगर संवाददाता ■ ग्वालियर

वर्तमान तकनीकी चुनौतियों का अभिनव एवं सतत समाधान चुनौतियों के विश्लेषण एवं पूर्वानुमान के द्वारा खोजा जा सकता है। साथ ही उभरते हुए तकनीकी विधियों जैसे सॉफ्ट कम्प्यूटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल कम्प्यूटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है।

यह बात माधव प्रौद्योगिकी एवं विज्ञान संस्थान में आयोजित दो दिवसीय ज्वलंत तकनीकी चुनौतियों के सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रीय शोध सम्मेलन के उद्घाटन सत्र में डॉ. के.के. अग्रवाल चेयरमैन एनबीए एवं मेंबर बोर्ड ऑफ गवर्नेंस एमआईटीएस ने व्यक्त किए। उदघाटन सत्र में एवीबी ट्रिपल आईटीएम के निदेशक डॉ. एस.एन. सिंह ने कहा कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। सिंधिया इंजीनियरिंग कॉलेज सोसायटी के सचिव रमेश अग्रवाल ने अंतर्राष्ट्रीय शोध सम्मेलन के सफल एवं सार्थक आयोजन के लिए शुभकामनाएं प्रदान की। इस अवसर पर विशेष रूप से संस्थान के निदेशक डॉ. आर. के. पण्डित, सम्मेलन के सह आयोजक सॉफ्ट कम्प्यूटिंग एवं रिसर्च सोसायटी के महासचिव डॉ. जगदीश चंद्र बंसल, डॉ. स्नेहांशु साहा, प्रोफेसर विद्रस पिलानी गोवा कैंपस ने भी व्याख्यान दिया।

संस्थान के प्रवक्ता मुकेश मौर्य ने बताया कि सम्मेलन में 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, यूएई, साउथ अफ्रीका, अल्जीरिया आदि) के 52 तकनीकी संस्थानों के शोधार्थियों एवं विषय विशेषज्ञों ने प्रस्तुत किए। साथ ही सम्मेलन का द्वितीय सत्र 20 नवंबर को आयोजित किया जाएगा। जिसमें पांच तकनीकी सत्रों में तीस शोधपत्रों का वाचन होगा एवं डॉ. सत्यसाई जगन्नाथ नंदा सीनियर मेंबर आई ट्रिपल ई एवं प्रोफेसर एमएनआईटी जयपुर का मुख्य तकनीकी उद्बोधन होगा।

नवाचार वही जो समाज की वर्तमान समस्याओं को हल कर सके

ग्वालियर ■ राज न्यूज नेटवर्क

वर्तमान तकनीकी चुनौतियों का अभिनव एवं समाधान विश्लेषण के द्वारा खोजा जा सकता है। सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह बात माधव प्रौद्योगिकी एवं विज्ञान संस्थान में आयोजित दो दिवसीय सतत एवं अभिनव समाधान विषय पर अंतर्राष्ट्रीय शोध सम्मेलन के उदघाटन सत्र में एनबीए के चेयरमैन और मेंबर बोर्ड ऑफ गवर्नर्स एमआईटीएस के डॉ. केके अग्रवाल ने कही।

वहीं उदघाटन सत्र में एवीबी ट्रिपल आईटीएम डायरेक्टर डॉ. एसएन सिंह ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। नवाचार वही सतत एवं सार्थक होता है जो समाज की वर्तमान समस्याओं का प्रासंगिक हल प्रदान कर सके। साथ ही सिंधिया इंजीनियरिंग कॉलेज सोसायटी के सचिव रमेश अग्रवाल ने सफल आयोजन के लिए शुभकामनाए प्रदान की एवं शोध सम्मेलन अपने अपेक्षित लक्ष्यों को प्राप्त कर सके इसके लिए संस्थान प्रबंधन का हर संभव प्रयास रहे यह प्रतिबद्धता ज्ञापित की।

सम्मेलन की चेयरपर्सन डॉ. मंजरी पण्डित ने कहा कि शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ रही है तथा सोफ्ट कम्प्युटिंग के माध्यम से सतत एवं अभिनव समाधान निकाले जा सकते है। अंर्तराष्ट्रिय सम्मेलन के सह आयोजक सोफ्ट कम्प्युटिंग एवं रिसंच सोसायटी के जनरल सेक्रेटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है। डॉ. प्रतेश जायसवालने बताया कि सम्मेलन में 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, युएई, साउथ अफ्रिका, अल्जीरिया इत्यादी) के 52 तकनीकी संस्थानों के शोधार्थियों एवं विषय विशेषज्ञों ने प्रस्तुत किये। पीआरओ मुकेश मौर्य के अनुसार सम्मेलन का द्वितीय सत्र 20 नवंबर 2022 को आयोजित किया जायेगा ।

दैनिक भास्कर
ग्वालियर 20-11-2022

एमआईटीएसः अंतर्राष्ट्रीय शोध सम्मेलन में पहले दिन 52 शोधपत्र प्रस्तुत किए

तकनीक से ही वर्तमान समस्याओं का निदान हो सकता हैः डॉ. अग्रवाल

एजुकेशन रिपोर्टर | ग्वालियर

तकनीक से परिस्थितियों का विश्लेषण कर समस्याओं का पूर्वानुमान खोजा जा सकता है। तकनीक में जैसे सॉफ्ट कम्प्यूटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेबल कम्प्यूटिंग सिस्टम वर्तमान में अत्यंत उपयोगी साबित हुई हैं। यह बात माधव प्रौद्योगिकी एवं विज्ञान संस्थान (एमआईटीएस) में आयोजित दो दिवसीय ज्वलंत तकनीक चुनौतियों के सतत एवं अभिनव समाधान विषय पर अंतरराष्ट्रीय शोध सम्मेलन के उद्घाटन सत्र में डॉ. केके अग्रवाल चेयरमैन नेशनल बोर्ड ऑफ एक्रिडिटेशन एवं मेंबर बोर्ड ऑफ गवर्नेंस एमआईटीएस ग्वालियर ने कही। उद्घाटन सत्र में डॉ. एसएन सिंह डायरेक्टर एबीवी. ट्रिपल आईटीएम ने कहा कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ट बनाने में अहम योगदान होता है। इस मौके पर चेयर पर्सन डॉ. मंजरी पंडित डीन अकादमिक, डॉ. स्नेहांशु साहा प्रोफेसर पिलानी गोवा कैंपस आदि मौजूद थे। सम्मेलन के सह आयोजक सॉफ्ट कम्प्यूटिंग एवं रिसर्च सोसायटी के

एमआईटीएस में आयोजित अंतरराष्ट्रीय शोध सम्मेलन में मौजूद अतिथि।

जनरल सेक्रटरी डॉ. जगदीश चंद्र बंसल ने कहा कि यह सोसायटी लगातार इस तरह की शोध गतिविधियों के आयोजन को संभव बनाने के लिए प्रतिबद्ध रहती है। डॉ. प्रतेश जायसवालने बताया कि सम्मेलन में 36 शोध पत्रों को प्रस्तुत किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, युएई, साउथ अफ्रिका, अल्जीरिया आदि) के 52 तकनीकी संस्थानों के शोधार्थियों एवं विषय विशेषज्ञों ने प्रस्तुत किये। संस्थान के जनसंपर्क अधिकारी मुकेश मौर्य के अनुसार सम्मेलन का द्वितीय सत्र 20 नवंबर को आयोजित किया जाएगा जिसमें पांच तकनीकी सत्र में 30 शोधपत्रों का वाचन किया जाएगा।

शोध का टॉपिक ऐसा चुनें, जो सभी के लिए उपयोगी होः प्रो. त्रिपाठी

हमारी कोशिश होनी चाहिए कि शोध का टॉपिक ऐसा चुनें, जो सभी के लिए उपयोगी है। इसलिए इसका चयन सोच-समझकर करें। यह बात प्रो. एमएम त्रिपाठी ने कही। वे अटल बिहारी वाजपेयी इंडियन इंस्टीट्यूट ऑफ इन्फॉर्मेशन टेक्नोलॉजी एंड मैनेजमेंट (एबीवी ट्रिपल आईटीएम) में आयोजित सीआईसीटी सम्मेलन में बोल रहे थे। इससे पहले आईआईटी दिल्ली से आए प्रो. एसडी जोशी ने बेसिक कॉन्सेप्ट ऑफ लीनियर एलजेबरा के बारे में चर्चा की।

राष्ट्रीय हिन्दी दैनिक

हिन्दुस्तान एक्सप्रेस

मध्यप्रदेश राजस्थान हरियाणा छत्तीसगढ़ महाराष्ट्र से प्रकाशित

डाक पंजीयन क्र. 173/15-17 | 5 हार्दिक पांड्या बन सकते हैं कैप्टन टिमिन वनडे-टेस्ट में लीड करते होंगे | सम्पादकीय | रिहाई बनाम आचरण | निवेशकों के लिए नए शेयर खरीदने का एक और मौका, आने वाला है 5

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नई तकनीकी विधियों से कई समाधान संभव हो गये हैं : डॉ. अग्रवाल

एमआईटीएस में अंतर्राष्ट्रीय शोध सम्मेलन प्रारंभ

ग्वालियर। वर्तमान तकनीकी चुनोतियों का अभिनव एवं सतत समाधान चुनोतियों के विश्लेषण एवं पूर्वानुमान के द्वारा खोजा जा सकता है एवं उभरते हुए तकनीकी विधियों जैसे सोफ्ट कम्प्युटिंग मशीन लर्निंग, इंटेलीजेंट सस्टेनेवल कम्प्युटिंग सिस्टम अत्यन्त प्रासंगिक सिद्ध हुई है। यह उदगार माधव प्रौधोगिकी एवं विज्ञान संस्थान ग्वालियर में आयोजित दो दिवसीय ज्वलंत तकनीकी चुनोतियों के सतत एवं अभिनव समाधान विषय पर अंर्तराष्ट्रिय शोध सम्मेलन के उदघाटन सत्र में डॉ. के. के. अग्रवाल चेयरमैन एनबीए एवं मेंबर बोर्ड ऑफ गर्वनर्स एमआईटीएस ग्वालियर ने व्यक्त किये। उदघाटन सत्र में डॉ. एस.एन. सिंह डायरेक्टर ए.व्ही. बी. ट्रिपल आईटीएम ग्वालियर ने बताया कि समय प्रबंधन एवं अर्जित ज्ञान का समाज को उत्कृष्ठ बनाने में अहम योगदान होता है।

संस्थान द्वारा चौथी अंर्तराष्ट्रीय सम्मेलन का आयोजन किया गया है। यह सम्मेलन विश्व स्तरीय हो एवं अपने क्षेत्र का उत्कष्ठ आयोजन बने एवं अंर्तराष्ट्रिय शोधार्थी एवं विषय विशेषज्ञ का पारस्परिक संवाद संस्थान के फेकल्टी एवं शोधार्थीयों से हो सके ताकि संस्थान नवाचारी समाधान खोजने में अपनी सार्थक योगदान दे सके। इस तरह की प्रतिबद्धता उदघाटन सत्र में संस्थान के निदेशक डॉ. आर. के. पण्डित ने व्यक्त किये।

डॉ. प्रतेश जायसवाल प्रोग्राम चेयर ने बताया कि उक्त सम्मेलन में पहले दिन 36 शोध पत्रों का वाचन किया गया। यह शोध पत्र 16 विभिन्न देशों (कनाडा, जापान, स्पेन, युएई, साउथ अफ्रिका, अल्जीरिया इत्यादी) के 52 तकनीकी संस्थानों के शोधार्थीयों एवं विषय विशेषज्ञों ने प्रस्तुत किये।

पीआरओ मुकेश मौर्य ने बताया कि आज रविवार को द्वितीय सत्र में तीस शोधपत्रों का वाचन किया जावेगा एवं डॉ. सत्यसाई जगन्नाथ नंदा सीनियर मेंबर आई टिपल ई एवं प्रोफेसर एमएनआईटी जयपुर का मुख्य तकनीकी उदबोधन होगा।

एमआइटीएस में अंतरराष्ट्रीय शोध सम्मेलन

नवाचार वही सार्थक होता है, जो समाज की वर्तमान समस्याओं का हल दे सके

ग्वालियर @ पत्रिका. वर्तमान तकनीकी चुनौतियों का समाधान उसके विश्लेषण एवं पूर्वानुमान से खोजा जा सकता है। उभरती हुई तकनीकी विधि सॉफ्ट कंप्युटिंग मशीन लर्निंग, इंटेलीजेंट . सस्टेनेबल कम्प्युटिंग सिस्टम सहायक सिद्ध हुई है। यह बात शनिवार को एमआइटीएस में एनबीए के चेयरमैन डॉ. के के अग्रवाल ने अंतरराष्ट्रीय शोध सम्मेलन के उद्घाटन अवसर पर कही। वह ऋतकनीकी चुनौतियों के सतत एवं अभिनव समाधानद्य विषय पर बोल रहे थे। सम्मेलन के पहले दिन 36 शोध पत्र पढ़े गए। सम्मेलन में भारत के अलावा कनाडा, जापान, स्पेन, युएई, साउथ अफ्रीका, अल्जीरिया के रिसर्चर्स शामिल हुए।

शोध पत्र की गुणवत्ता बढ़ाना उद्देश्य

संस्थान के निदेशक डॉ. आरके पण्डित ने कहा कि तकनीकी चुनौतियों के सतत एवं अभिनव समाधान विषय पर लगातार चौथा सम्मेलन का आयोजन हो रहा है। डीन ऑफ एकेडमिक डॉ. मंजरी पंडित ने कहा कि शोध सम्मेलन के उद्देश्य एवं प्राप्त शोध पत्रों की गुणवत्ता प्रतिवर्ष बढ़ रही है।

सॉफ्ट कंप्युटिंग से पा सकते हैं सस्टेनेबल डवलपमेंट गोल का लक्ष्य

एबीवी ट्रिपल आइटीएम के निदेशक डॉ. एसएन सिंह ने कहा कि नवाचार वही सार्थक होता है, जो समाज की वर्तमान समस्याओं का हल दे सके। पहले सत्र में विद्रस पिलानी गोवा कैंपस के प्रो. डॉ. स्नेहांशू साहा ने कहा कि सॉफ्ट कंप्युटिंग के प्रयोग से सस्टेनेबल डवलपमेंट गोल के लक्ष्य को प्राप्त किया जा सकता है तथा ऑप्टीमाइजेशन एल्गोरिदम का प्रयोग करके उर्जा के महत्तम उपयोग को बढ़ाया जा सकता है।

Dr. Pratesh Jayaswal
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