



STRATEGIC ACTION PLAN FOR IMPLEMENTING NEP 2020



National Institute of Technical Teachers Training and Research, Chandigarh (Ministry of Education, Government of India)

राष्ट्रीय तकनीकी शिक्षक प्रशिक्षण एवं अनुसंधान संस्थान चंडीगढ़ (शिक्षा मंत्रालय, भारत सरकार)



Prof. B R GURJAR, DIRECTOR, NITTTR CHANDIGARH

NITTTR CHANDIGARH: EMBRACING THE TRANSFORMATIVE VISION OF THE NEP 2020

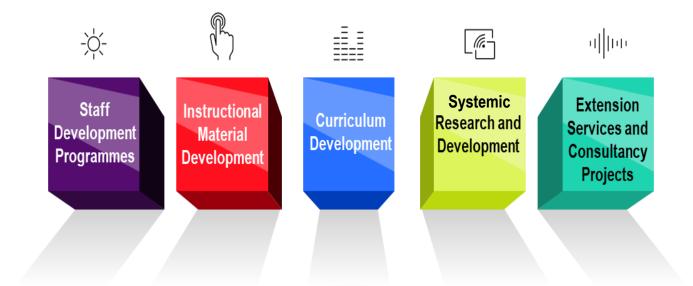
In the dynamic landscape of education and training, the National Education Policy (NEP) 2020 stands as a transformative milestone for India's educational ecosystem. Embracing the vision of a comprehensive and inclusive learning environment, the NEP 2020 has paved the way for radical reforms in technical education system, equipping it to meet the evolving and emerging needs of a rapidly changing world. The primary objective of NITTTR Chandigarh is to ensure that technical education institutes remain vibrant hubs of teaching, learning, innovation, and research. This transformation can happen with teachers' commitment to understanding, embracing, and implementing the vision of NEP 2020.

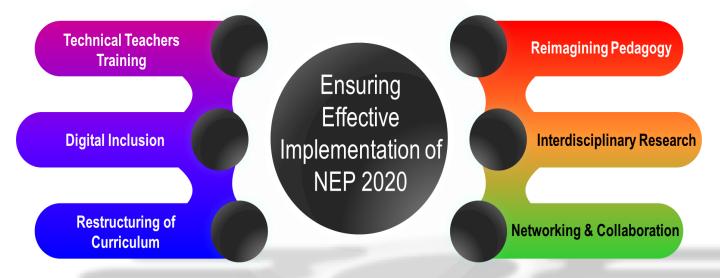
As we embrace the transformative vision of the NEP 2020, it is important to equip our technical teachers with the knowledge, skills, and mindset needed to foster innovation, critical thinking, and holistic development among the students. NITTTR Chandigarh is always committed to pave the way for teachers of technical institutions by investing its resources in their professional development and nurturing a culture of continuous learning.

NITTTR Chandigarh has already embarked on its journey to implement the NEP 2020 as an institute catering to academic and technical education of states of Haryana, Punjab, Himachal Pradesh, Uttar Pradesh, Rajasthan, Uttarakhand, and UTs of Chandigarh, J&K and Ladakh.

NITTTR Chandigarh strives to nurture a generation of skilled, adaptable, and socially responsible individuals who will shape the future of our nation and the world beyond. As we embark on this transformative journey, we invite every stakeholder to join hands and contribute to the realization of this shared vision. Together, we shall build a brighter, more prosperous, and inclusive future, through the implementation of the NEP 2020 in technical education systems of the country.

Institute Is Committed to...



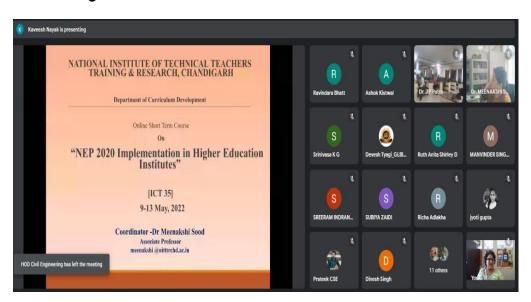


STCs in Consonance with NEP (2020-23)

- → All Courses offered are aligned with NEP 2020
- → From NEP 2020 document, 12 clauses have been extracted and all courses are mapped with these 12 sections

Sr.No.	Type of NEP	No. of Courses	No. of Participants
1.	NEP 1	23	1813
2.	NEP 2	71	3677
3.	NEP 3	17	813
4.	NEP 4	27	3972
5.	NEP 5	21	554
6.	NEP 6	13	443
7.	NEP 7	65	2862
8.	NEP 8	67	7397
9.	NEP 9	21	901
10.	NEP 10	31	1122
11.	NEP 11	24	1473
12.	NEP 12	1	65

Conducting various training programs and workshops for technical teachers and trainers to enhance their instructional strategies and upgrade their knowledge in their respective fields in alignment with NEP 2020



Alignment of Activities with NEP 2020 features

Ref. No.	Operationalized Categories	In support of the following parameter of NEP 2020	
NEP-1	Emerging Pedagogy / Assessment & Evaluation - Pedagogy Programmes with Methods and Practice of Teaching	"23 Technology Use and Integration"	
NEP-2	Multidisciplinary Education and Research - Advanced Level futuristic and emerging technology courses	20.6 of "20 Professional Education"; and "11 Towards a More Holistic and Multidisciplinary Education"	
NEP-3	Mission Mentoring	3.7 of "3 Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels"; 5.23 under Approach to Teacher Education of "5 Teachers"; 10.12 of "10 Institutional Restructuring and Consolidation"; and 14.4.2 Steps to be taken by all HEIs of "14 Equity and Inclusion in Higher Education"	
NEP-4	Capacity Development Programmes	"18 Transforming the Regulatory System of Higher Education"	
NEP-5	Quality Online Education and Technology (Integrated) Enabled Learning	"24 Online and Digital Education: Ensuring Equitable Use of Technology"	
NEP-6	Professional Education	"20 Professional Education"	
NEP-7	Hands on Skill Oriented Programmes towards Reimagining Vocational Education	"16 Re-imagining Vocational Education"	
NEP-8	Research Motivation - Research Oriented Programmes to ignite research passion among faculty	23.10 of "23 Technology Use and Integration"	
NEP-9	Capacity Building Programmes – Motivational Programmes	"13 Motivated, Energized, and Capable Faculty"	
NEP-10	Industry collaborative Programmes	11.12 of "11 Towards a More Holistic and Multidisciplinary Education"	
NEP-11	Programmes related to Community Development	15.6. of "15 Teacher Education"	
NEP-12	Ethics & Values	5.1 of "5 Teachers"	

Sensitization and Awareness of Faculty: Training Programme on NEP 2020

TAC No.	Name of Programme	Coordinator	Beneficiary
ICTO-W-7	One Day Online Panel Discussion on Making Mentoring Relevant: NEP 2020 Perspective	Maitreyee Dutta/ Rupinder Singh	National
ICTO-NC-1	Unlocking Atmanirbhar Bharat Through NEP-2020	Atmanirbhar Bharat Team	National
NC-4	Seminar on Implementation of NEP-2020 in Higher Technical Institutions" Jointly with MRS-PTU Bathinda.	Atmanirbhar Bharat Team	National
NC-5	One-day Seminar on Quality Ecosystem through NEP 2020 on 26.10.2021.	Atmanirbhar Bharat Team	National
W-16	Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL)	Atmanirbhar Bharat Team	National
ICT-173	Computer technology assisted teaching tools for effective implementation of NEP-2020	Pankaj Sharma	National
ICT-35	NEP 2020 Implementation in Higher Education Institutes	Meenakshi Sood	National
W-20	Manthan – NEP 2020	B S Pabla/ Meenakshi Sood	National
W-21	Manthan on the Indian Knowledge system for effective implementation of NEP-2020	Pankaj Sharma	National
NC-3	Prospects and Challenges of Quality Vocational Skills based Education from Higher Secondary to University level Education under NEP 2020	U N Roy	National
IMEE-8	Training of Physical Education Teachers in the context of NEP-2020	Maitreeye Dutta	National
ICT-3	Curriculum Development in light of NEP 2020 in HEI	Meenakshi Sood	National
W-14	Promotion of Pedagogical Skills among Technical Teachers in Context of NEP 2020	U N Roy	National
ICT-35 & MED-5	Technology Integration and NEP 2020	SS Pattnaik/ R K Wats	National
ME-12	OBE for NEP Implementation	B S Pabla	National

Capacity Building Programme for Principals of Higher Education Institutes of Haryana



The overall objective of this program was to strengthen the capacity of the principals to effectively gear their interventions towards undertaking the responsibilities in the direction of preparing the Comprehensive Roadmap for Implementation of NEP 2020. The participants were involved in series of discussions/consultative sessions with the eminent experts covering broadly all the domains of NEP framework as Restructuring Curriculum Framework for Higher Education, Regulation and Quality Assurance in Higher Education, Enhancing objectivity of Assessment through Rubrics, Harnessing the challenges of NEP implementation, Ensuring equitable use of Technology and many others. The three day programme incorporated various interactive and brainstorming sessions along with exposure to MOOC development and integration of emerging areas in education.



Principals and NEP coordinators of Govt colleges of Haryana (177 in no) for grounding NEP into implementation reality

Brainstorming Workshop MANTHAN- Effective Implementation of National Education Policy 2020



- To commemorate the services of NITTTR Chandigarh to technical education, Director, expressed that NEP 2020 is a proactive policy that enable the students to choose their own trajectory of learning with flexibility of time, space and pace. He also told about the role of NITTTR Chandigarh in implementing the ABC framework of NEP 2020 for engineering colleges and polytechnics.
- The chief guest of the event Prof. N P Padhy talked about NEP policy envision and how technical education will change with the effective implementation of the same.







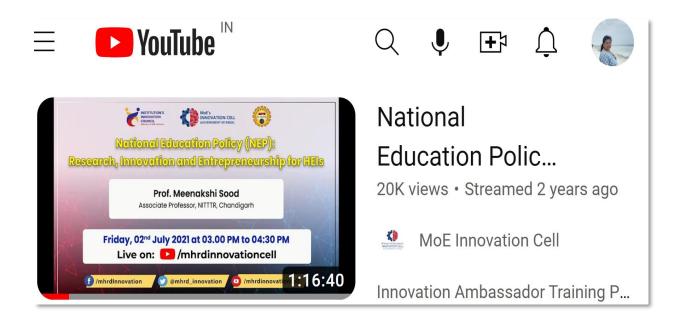
Contributions of Faculty

Sensitization of Faculty

- STCs on Value Based Education -
 - Development of Ethics and Values
 - Guidance, Counselling and Mentoring
 - Happiness and Wellbeing
 - Wellness and Meditation
 - Neuro Linguistic Programming (NLP)
 - Embracing the Change
 - Building Self-Reliant India



 Online seminar in collaboration with NIT Kurukshetra organized on International Literacy Day 2020 on the theme NEP 2020, September 08, 2020



Development of MOOCS in Hindi



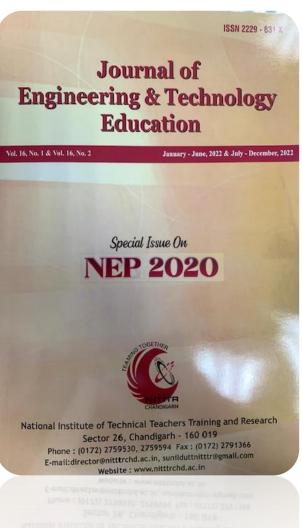


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Platform to Foster Ideas and Views on NEP 2020



Special Issue of the Institute
Journal on "Journal of
Engineering and Technology
Education" on National
Education Policy 2020



Curriculum Designed for Stakeholders in Consonance With NEP 2020

Designed Curriculum for 30 Diploma courses of Haryana State Board of Technical Education

Designed Curriculum for 21 Diploma courses Punjab State Board of Technical Education

Faculty as experts in Developing curriculum for Himachal Pradesh, J&K

Multidisciplinary Education and Flexibility in Curriculum

- Flexible Designing of curriculum as per NEP regulatory policy is necessary keeping in mind multiple exit and entry points.
- Curriculum development department of NITTTR developing the curriculum for various states in compliance with NEP 2020
- Punjab State 21 Curriculum
- Haryana State 30 Curriculums
- National Skill Qualification Framework (NSQF) aligned for Board of Technical Education (BTE) Delhi

Skill Development Initiatives



Competency Updation
Programmes for Principals/ HODs
of various Stakeholder states



- Induction Training programmes for the Newly recruited Faculty with emphasis on pedagogical practices specific to the branch of specialization
- Start of Telecom Technician course under the Skill Hub initiative of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) which aligns perfectly with the goal of developing holistic individuals and creating a knowledgeable, and skilled workforce.

Seminar on "Quality Ecosystem through NEP 2020" held on 26th October, 2021



Detailed discussion on Sub themes such as MOOCs development for Yuva Sashaktikaran for Nation Bulding and Empowering faculty for interdisciplinary research and Development were held in the seminar. Shri Pankaj Nafde, Sanparks Sah-Pramukh Bharatiya Shikshan Mandal, Shri Devinder Singh, Prant Sanyojak Bharatiya Shikshan Mandal, Punjab were the part of the discussion.

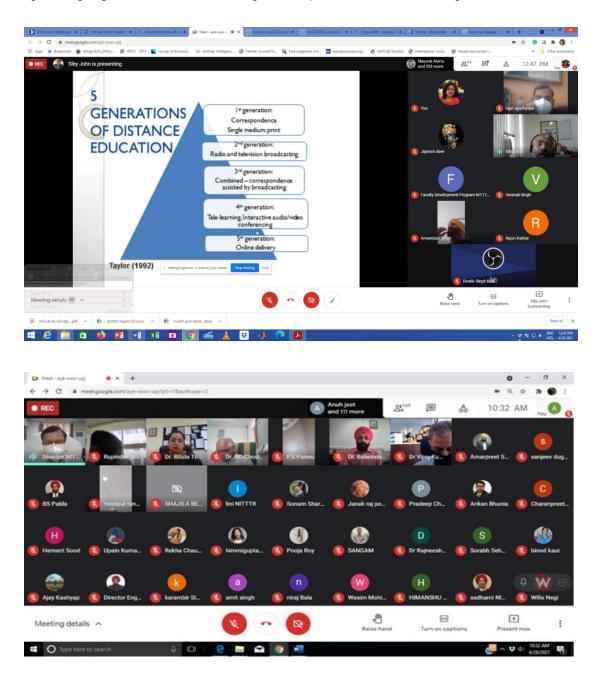


Hon'ble Shri Mukul Kanitkar, Akhil Bhartiya Sangathan Mantri, Bharatiya Shikshan Mandal, Nagpur was the Chief Guest of the Seminar.



Seminar on "Implementation of NEP-2020 for Quality Online and Open Distance Learning (ODL) Education" held on 28th April, 2021

In collaboration with **Maharaja Ranjit Singh Punjab Technical University** MRS- PTU Bathinda on 28th April, 2021 through online mode. Prof Rajneesh Arora, Former Vice Chancellor, IK Gujral Punjab Technical University, Jalandhar was the chief guest of the Occasion. Prof Siby John, Director (Ad-interim), an expert from Punjab Engineering College Chandigarh highlighted various advantages of Open Distance Learning.



Workshop on "Challenges and Scope of Implementation of NEP 2020" on 7th September 2020



On the occasion of **53**rd **Institute Day** celebrated on 7th September 2020, an open forum discussion on NEP-2020 was held. The faculty members shared their experiences, opinions and thought process on implementation of NEP 2020. The views of faculty members and their suggestions regarding the role of NITTTR in effective implementation of NEP 2020 were recorded and documented for further course of action.



Workshop on "New Education Policy (Draft 2019) on Technical Education and Challenges" on 6th March, 2020



It was agreed unanimously that this policy will not only change the educational landscape, but also prepare our youth to meet the variety of present and future challenges. Institutes at every level has to gear up to implement the changes the steps to be taken for seamless transition from present Higher Education System and upcoming policy.







GEARING THEM UP

PREPARING TEACHERS OF TECHNICAL EDUCATION FOR FUTURE....

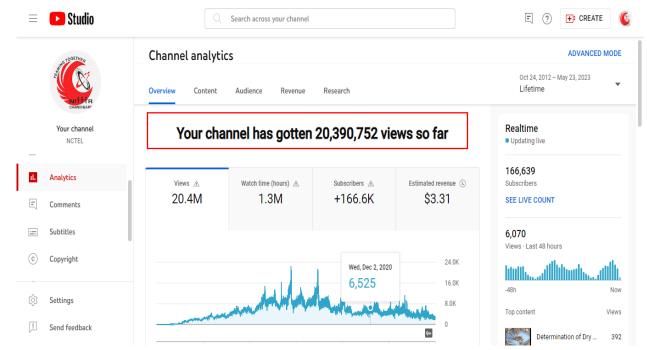


Swayam Courses (MOOCs)

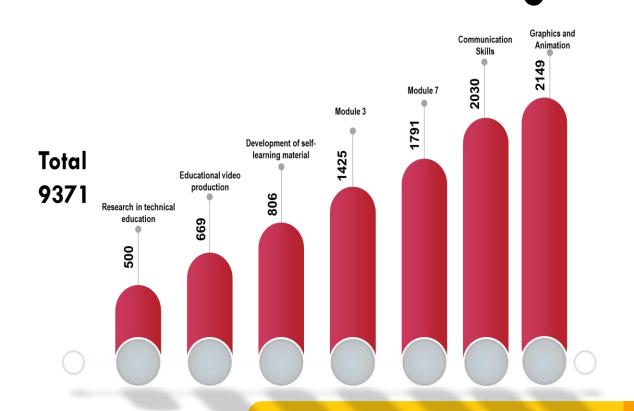


NITTTR, Chandigarh Technology Enabled Learning

(NCTEL) YouTube Channel Analytics

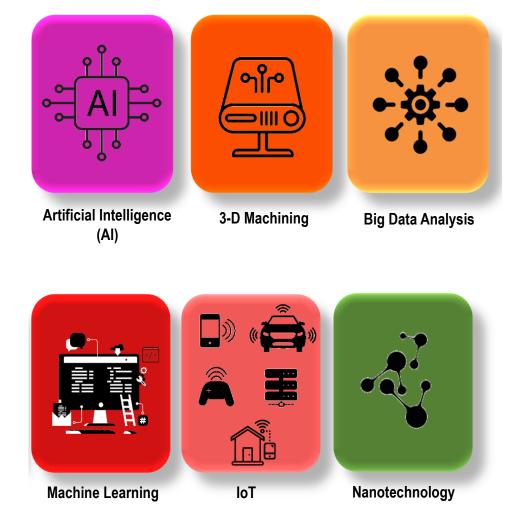


SWAYAM COURSES (Conducted from April to June, 2022)



Preparing Teachers In Cutting-edge Technologies and Interdisciplinary domains

- Existing education culture should be transformed and revamped. Education should not only develop Intelligence Quotient (IQ) but also Emotional Quotient (EQ) and Social Quotient (SQ) in students.
- Development of Augmented reality (AR) and Virtual Reality (VR) lab, Thrust area in teaching like Artificial Intelligence (AI), blockchain, Internet of Things (IoT)

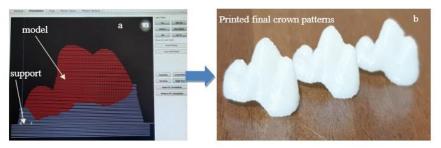


Applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

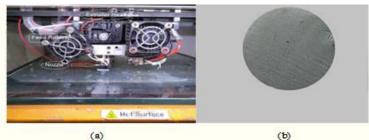
Interdisciplinary research activities for social causes

- Establishment of research clusters,
- Collaboration with industries, and
- MoUs with Industry and Institutes of repute.

Collaboration at International and National Level for Make in India and Capacity building



Pre and post-processing of 3D printed Acrylonitrile butadiene styrene (ABS) thermoplastic sacrificial pattern for strategic dog teeth





Polyvinylidene Fluoride (**PVDF**) matrix for 4D applications

Development of composite feedstock filaments for 3D printing in hernia tissue reconstruction of veterinary patients

Self Reliant Bharat- Success Stories



Corporate Social Responsibility (CSR) funding from ABB- 1.65 Cr

Ministry of Electronics and Information Technology(MeitY), New Delhi-Design and Development of System-on-Chip Rs. 3.63 Cr

Inter-disciplinary research -Three Dimensional Printing in Orthopedic Applications, 3D Printed ABS Based Bluetooth Sensor, Multimaterial 3D printing for 4D applications

AICTE-NITTT (National Initiative for Training of Technical. Teachers) Module 3,7,8 for freshly Inducted Teachers

AICTE Curriculum of 9 courses on Emerging Technologies

Module 3: Communication Skills, Modes and Knowledge Dissemination

Module 7: Creative Problem Solving, Innovation and Meaningful R & D

Module 8 - Institutional Management & Administrative Procedures

Developing Entrepreneurial Capabilities

- National Conf. on Need of Entrepreneurship Development- 165 participants
- Workshop under G-20 on Building Sustainable Entrepreneurship Ecosystem. No. of Participants – 48.
- An online In-country Program on "Entrepreneurship for Technical and Vocational Education and Training TVET Professionals" for officials of Bangladesh from 11-15 September 2022.



Training the Trainers ... Mentoring of Faculty

Quality education requires investment in initial and in-service teacher education and professional development. No educational institution is better than its teachers, but there is a huge shortage of qualified teachers available. Many quality teachers leave the profession due to low salaries, difficult working conditions and insufficient professional support. Both formal and non-formal teachers need to be trained with reference to nationally-agreed levels of competences.

Mentoring the Teachers

ENSURE

passionate, motivated, professionally trained faculty

- Skilling faculty with creative Instructional strategies and innovative pedagogical approaches
- Induction Training programmes conducted for newly inducted technical teachers
- Empowering the faculty to conduct innovative teaching, research, and service

We need teachers with originality for making good graduates/citizens. For better implementation of NEP 2020, the teachers have to become learner just similar to the concept of flipped classroom. If something is not known to him/her, no need to feel uncomfortable in class, just become



Margdarshan (for National Board of Accreditation NBA) (Share and Mentor Institutes Scheme)



Meerut Institute of Engineering and Technology (MIET) Meerut has got NBA Accreditation for its four UG Programmes

Baba Banda Singh Bahadur Engineering College (BBSBEC), Fatehgarh Sahib has got NBA Accreditation for its UG Programme in CSE.

Panipat Institute of Engineering & Technology (PIET), Panipat has got NBA Accreditation for its two UG Programmes.

College of Engineering, Roorkee has successfully submitted SAR for its UG Programme in CSE.

Maharishi Markandeshwar Engg College (MMEC) Mullana has recently submitted NBA SAR for its UG Programmes in CSE, Civil Engg.



Strategic Action Planning for Seamless Implementation of NEP-2020

Encouraging Action Research for handholding of all the stakeholders

Achieving Excellence through Accreditation of the departments and institutes

Developing MOOCs and Study Materials in Indian languages- to address the issue of linguistic diversity

Professional Development, Leadership and Management Skills to the teachers

Supporting DTEs of Haryana, HP, Punjab, Uttrakhand, UP, Rajasthan, Ladakh, J&K for Implementation of National Credit Framework

Faculty Development: Upskilling, Reskilling and Updation in Innovative Pedagogy

- Induction Programmes for Technical Teachers
- Industry oriented courses
- Project based modules
- Field Based Faculty Development Programme (FDP)
- Integration of vocational education
- Conduct Short Term Courses (STC) related to vocational education,

 Identify skill gaps in vocational education, design professional and credit based education system.



Mentoring the Teachers

Empowering the faculty to conduct innovative teaching, research, and service.

01

Excellent faculty
with high
academic and
service
credentials as
well as
demonstrated
leadership and
management
skills

02

Large pool of outstanding senior/retired faculty – who would be willing to provide short and long-term mentoring/profe ssional support.

03

Technological Interventions for Improving Teaching-Learning and Evaluation Processes

- Development of educational products for teaching learning and system management
- All based assessment and evaluation tools.
- Animation based teaching learning for providing equity at every level
- Focus on multilingual aspect of instructional material design.
- Translation of technical books in national languages.
- Curriculum Design: Make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis based learning
- Value-based education to include the development of humanistic, ethical, Constitutional, and universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, and lifeskills.
- Implementation of National Credit Framework

Integrating Indian Knowledge System (IKS), Values and Culture with Present Knowledge System

• A special IKS Committee has been constituted to cater to the various aspects i.e. universal values & ethics, managing ego & emotions, stress management, Preservation of ancient and contemporary rich Indian knowledge systems ranging from art, music, dance, drama, to mathematics, astronomy, science, technology, life sciences, environment and natural sciences, health care, yoga, law, jurisprudence, economics, social sciences, psychology, philosophy, management, linguistics, oral traditions of India, knowledge hidden in Sanskrit, Prakrit,, Tamil, Pali, etc. to integrate IKS into the mainstream education.

Global Outreach of Higher Education

- ➤ Tie-ups with national/international universities for collaborative academic and research programmes
- MoUs with Institutes of repute for Multidiscoplinary research as IIT Roorkee, IIT Ropar, NIT Jalandhar, NIT Jaipur etc.



Enhancing Entrepreneurial Capabilities

- ✓ Addressing Industry Academia Gaps
- ✓ Centres in frontier areas of research
- ✓ Establishment of Industry- Institute Interface Cell, Setting up start-up incubation centres
- ✓ Technical Entrepreneurship Development Programs (TEDPs) in collaboration with various Industries
- ✓ NITTTR can conduct courses on reskilling of retired people or any other willing member of the society and make them as technical entrepreneurs.



From Director's Desk.....

- NITTTR Chandigarh firmly believe in empowering technical teachers and elevating the standards of technical education in line with the NEP 2020.
- With collective efforts and unwavering determination, we envision a brighter and more prosperous future for our students, educators, and nation as a whole.
- Let us embark on this transformative journey together and embrace the power of NEP 2020 education to shape a better tomorrow.

Prof. B R Gurjar







NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH SECTOR – 26, CHANDIGARH –160 019 (INDIA)

(An ISO 9001: 2015 Certified Institute)

Phone: EPABX: (0172) 2759500 | Fax: (0172) 2791366, 2793893 E-mail: director@nitttrchd.ac.in; diroffice@nitttrchd.ac.in







