

## **VISION**

NITTTR Kolkata envisions to be the premier multidisciplinary university for promoting quality technical teacher education, training and research for sustainable development.

- ➤ To develop prospective technical teachers and others through Post Graduate, Doctoral and other programmes,
- ➤ To improve the quality of technical teachers and others through training and multidisciplinary, flexible, modular academic programmes,
- ➤ To undertake Educational and Technological Research for developing knowledge driven society,
- ➤ To undertake leadership and capacity building activities for technical teachers, including need based training,
- ➤ To collaborate with other academic and research institutes in both national and international levels,
- ➤ To promote innovation, incubation and entrepreneurship for harnessing technology towards sustainable development.

#### **About Us**

National Institute of Technical Teachers' Training & Research (NITTTR) Kolkata was established in 1965 as Technical Teachers' Training Institute, Calcutta. This was the first of four such Institutes (other three being at Chandigarh, Bhopal and Chennai) established by the Department of Education, Govt. of India as fully centrally funded Autonomous Institution. The primary focus of the Institute is to provide in-service training to the teachers and staff of Degree and Diploma level technical institutions and conduct activities related to the quality improvement of the technical education system of the country. NITTTR, Kolkata has been actively involved in improvement of quality of the technical education system in various states including those in the north-east through innovative academic interventions, providing assistance to policy makers at the national and state levels, in formulation of educational plans, projects and their implementation in the fast changing scenario. By virtue of working closely over the last few decades, this institute has developed a thorough understanding of the technical educational needs of the states in the eastern region including those in the north-east. Govt. of India, in 2003, accorded national status to the Institute, in recognition to the expert services rendered for overall improvement of quality of Technical Education System. NITTTR, Kolkata acts as a catalyst in introducing changes in the various components of technical education system, plays a proactive role in identifying changes in the industry, technology, economy and society and acts as a facilitator in this process of change.

Some of the notable national level projects in which the Institute is associated are Nodal agency to Centrally Sponsored Community Development through Polytechnic Scheme, Designing & conducting AICTE sponsored "Induction Training Programme" for fresh teachers of engineering and polytechnic colleges, Facilitating implementation of Centrally sponsored Scheme for Integrating Persons with Disabilities (PWD) in the mainstream of Technical & Vocational Education etc.

The focal activities of the Institute are Short Term Training, Curriculum Development, Learning Resources Development, Research in the field of Technical Education System, Educational Management and Extension Services. Besides regular activities, the Institute has been offering, since 2003, AICTE approved M. Tech. Degree Programme in Manufacturing Technology, affiliated to WBUT. During 2005-2006 two more M. Tech. Programmes namely Multimedia & Software Systems and Mechatronics Engineering were started. The M. Tech. Programme in Structural Engineering was also started from 2011-12. The Institute has highly qualified faculty members and excellent infrastructural support in the form of well-equipped laboratories, computers, library facilities, Welding Centre, CAD/CAM and other resources. The institute has two Extension Centres one at Guwahati and the other in Bhubaneswar for reaching out to its clients in the North-east and Orissa. At present this Institution is also focusing on others, Teachers' Training through ICT Mode.



## **Preface**

Like previous years, National Institute of Technical Teachers' Training and Research (NITTTR) Kolkata has prepared its Programme Calendar for the year 2024-25.

In order to fulfill the needs of technical teachers of the country, Short- Term Training programmes (STTP) / Faculty Development Program (FDP) in the following modes are planned.

- 1. Contact mode at NITTTR, Kolkata and/or the extension centres
- 2. ICT-based Programmes
- 3. In-House Programmes
- 4. Demand-based Special Programmes (both offline and online)
- 5. Hybrid Mode

The schedules of the trainings planned in this calendar are not exhaustive. The Institute also provides trainings based on specific needs of various stake holders including Private Technical Institutes following the guidelines of the Institute. Further, In-House training may be organized to fulfil the requirement of Faculty Development Programme of various Technical Institutes. It is intended that all Technical Institutes will come up with their needs and take advantage of services provided by NITTTR, Kolkata. This helps to upgrade the learning-teaching system of the institutes and in turn, enriches the education system of the country.





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1		Prog. Code	:					
2	(a)	Programme Title	:					-
	(b)	Date	:	From:	To:			
	(c)	Prog. Coordinator(s)	:					
3	(a)	Name (in CAPS)	:					
	(b)	Designation	:	First	Mi	ddle	Last	
	(c)	Department	:					
	(d)	Institution	:					
	(e)	Institute Address	:					_
				State		Pin:		
	(f)	Caste	:		(g)	Gender		
	(h)	Contact Number	:	Mobile				
4		Highest Academic Qu	ualificat	ion:		Email		
		Degree/Diplom	а	University/Others	Year o	of Passing	Class Obta	ined
5	(a)	Experience (in years)		: Teaching	Industry/I	Field		
6. If y	Paym es, Re	nent of Course Fees R ceipt No	5	Paid Yes	∐No ∐,			
pr	omise	to attend the above n	nention	ed training programme	, if selected.			
Da Γhis	ite: s is to		ant will	be released to attend	Sig	gnature of the gramme, if se		r financial
	ite:	·	-	-	Sian	ature of the S	Sponsoring Authorit	v with Seal

NOTE: Application without Signature & Seal of the Sponsoring Authority will not be considered for selection.

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**National Level Short Term Training Program (STTP) / Faculty Development Programme (FDP)** 

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1	CU105B	Solid Waste	1000	Kolkata	ICT	Naveen BP	07-10-2024	11-10-2024	1	Faculty and	After completion of the programme, the
		Landfill Design								Laboratory	participants will be able to
										Technicians	Explain critical factors of solid waste landfill design, operations, evolving industry
											issues, and economics.
2	PS50B	Digital Tools for	1000	Kolkata	ICT	Arpan Kumar	14-10-2024	18-10-2024	1		After completion of this programme, the
		Teachers and				Mondal and				teachers and Staff	participants will be able to:
		Staff				Kinsuk Giri				from all	Explain the need for online pedagogy
										disciplines	Plan online instruction
											• Explain the concept of online Mode of teaching-learning,
											Understand the use of various ICT tools,
											Apply different online tools for ICT-based teaching and learning
											Apply different online tools for online
											assessment
											Incorporate different principles for effective
											online delivery
3	SPL17C	Mentorship	500	Kolkata	ICT	Sukanta Kumar	14-10-2024	18-10-2024	1	Faculty	After attending the programme, participants will be
		·				Naskar				members and	able to:
										Administrators	Be acquainted with Mentoring process
										from any	Apply the concept of stress Management     Apply the concept of conflict management
										technical	Apply the concept of conflict management  Apply the concept of time Management
										isntitute	117
4	PS69C	Ethics for	500	Kolkata	ICT	Mithu Dey	14-10-2024	18-10-2024	1	Faculty of all	
		Teachers								Disciplines	

5	PS51C	Effective Teaching and Research	500	Kolkata	ICT	Indrajit Saha	21-10-2024	25-10-2024	1	Technical teachers from all disciplines	<ul> <li>After completion of the programme, the participants will be able to</li> <li>conduct classes in active and passive teaching modes</li> <li>apply digital tools in classroom teaching</li> <li>conduct research for academic development</li> </ul>
6	MGT07C	Laboratory Management Issues	500	Guw	Contact	Dipankar Bose	21-10-2024	25-10-2024	1	Faculty memebers of all disciplines from different technical institutions	After completion of the programme, the participants will be able to  • Discuss various management issues of conducting laboratory and workshop classes  • Explain the effective techniques of management of classroom, machines/equipment and manpower  • State different safety aspects
7	PS52C	Classroom communication & student engagement	500	BBSR	Contact	Habiba Hussain	21-10-2024	25-10-2024	1	Teachers of polytechnics, Engg. colleges & all higher educational institutes, also the laboratory technicians	After completion of the programme, the participants will be able to  • Explain components in communication cycle  • Classify communication  • Distingusih between student involvement and engagement  • Incorporate techniques for engaging students

8	PS53B	Digital Tools for Teachers and Staff	600	Kolkata	ICT	Kinsuk Giri	21-10-2024	23-10-2024		Faculty of all Disciplines	After completion of the programme, the participants will be able to  • Explain the need for online pedagogy  • Plan online instruction  • Explain use of various ICT tools,  • Apply different online tools for ICT based teaching learning  • Apply different online tools for online assessment
9	CU106B	Manufacturing Automation	1000	Kolkata	Contact	Nirmal Kumar Mandal	21-10-2024	25-10-2024	1	Mechanical, Production and Industrial	After completion of the programme, the participants will be able to • Explain Automation • Analyse the performance of Automated Manufacturing System
10	CU107C	Critical Discussions on SDLC and Quality issues	500	Kolkata	Contact	Ranjan Dasgupta	21-10-2024	25-10-2024	1	Teachers of CSE/IT/MCA with interest in SE	After completion of the programme, the participants will be able to  Identify Various available software development models  List Pros and Cons of the models  Compare and Contrast different SDLC  Analyse Different quality aspects of software

11	MGT08B	Engineering Laboratory Management	1000	Kolkata	ICT	Sagarika Pal	21-10-2024	25-10-2024	1	Faculty of all disciplines	After completion of the programme, the participants will be able to  • Select the laboratory experiments from curriculum  • Purchase the equipment following appropriate proceedure  • Prepare laboratory manual  • Guide student to perform laboratory experiment  • Evaluate the laboratory performance of students  • Guide students' project work  • Evaluate students' project work
12	CU108B	Applications of 8085 and 8086 Microprocessors	1000	Kolkata	Hybrid	Soumitra Kumar Mandal	21-10-2024	25-10-2024	1	Faculty and Lab Technician of Engineering and Polytechnic Colleges in Electrical Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Instrumentation Engineering	After completion of the programme, the participants will be able to  • Write assembly language programs  • Design interfacing circuits for Microprocessor based systems  • Develop Microprocessor based projects

13	PS54B	Holistic and Multidisciplinary Education	1000	Kolkata	ICT	Urmila Kar	04-11-2024	08-11-2024	1	Faculty members and Technicians from Polytechnics, Engg. Colleges, Degree Colleges,	After completion of the programme, the participants will be able to  Identify the need for and components of Holistic and Multidisciplinary
										Universities and other HEIs	<ul> <li>education</li> <li>Explain the principles of Holistic and</li> <li>Multidisciplinary education.</li> <li>Identify the challenges in implementing Holistic and Multidisciplinary education</li> </ul>
											Explore the strategies in implementing Holistic and Multidisciplinary education in HEIs.
14	CU109C	Concepts of Software Engineering	500	Kolkata	Contact	Ranjan Dasgupta & Samir Roy	04-11-2024	08-11-2024	1	Teachers of CSE, IT, MCA, BCA or equivalent	After completion of the programme, the participants will be able to  • Explain the principles and techniques of Software Engineering  • Apply the principles and techniques of Software Engineering  • Develop software systems using the techniques of software engineering

15	CU110C	Pattern Recognition and its Applications	500	BBSR	Contact	Chakraborty	04-11-2024	08-11-2024	1	Faculty of CSE/ECE/EE/IT and Allied Disciplines	After completion of the programme, the participant will be able to  • Explain fundamental concepts and principles of pattern recognition in respect to object identification from 2D images.  • Explore feature extraction and engineering skills  • Identify feature optimization techniques like compression and ranking  • Design of efficient object recognition algorithms particularly image classification using ML techs.  • Explore performance evaluation and validation techs.
16	CU111C	Guiding Innovative student project work	500	Kolkata	Contact	Dipankar Bose	04-11-2024	08-11-2024	1	Faculty memebers of all disciplines from different technical institutions	<ul> <li>After completion of the programme, the participants will be able to</li> <li>Identify characteristics of innovative projects</li> <li>distinguish between creativity and innovation</li> <li>Explain guiding principles of student projects</li> </ul>

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17	CU112B	Fundamentals of Image Processing	1000	Kolkata	ICT	Indrajit Saha	04-11-2024	08-11-2024	1	Faculty Memebers from CSE, IT, BCA, MCA ECE, EE, ME, CIVIL	After completion of the programme, the participants will be able to  • describe the fundamentals of image processing (IP) in MATLAB  • apply MATLAB commands to do IP  • explain image processing in classroom
18	PS55B	Research Methodology	1000	Kolkata	Hybrid	Niladri Pratap Maity	04-11-2024	08-11-2024	1	Faculty members/Staffs of all disciplines	After completion of the programme, the participants will be able to  • Explain what and why research  • Follow Characteristics of Research  • Appreciate the psychology of research  • Follow Research Integrity and Publication Ethic  • Follow research questions  • Identify four element of research thesis  • Understand the thinking  • Explain the Intelligence and creativity
19	CU142C	Waste to Wealth	500	Guw	Contact	Naveen BP	04-11-2024	08-11-2024	1	Faculty and laboratory technicians	After completion of the programme the participants will be able to support development of modern technologies that can help create a cleaner and greener environment.
20	PS70C	Advanced Teaching for Modern Teachers	1000	Kolkata	ICT	Mithu Dey	04-11-2024	15-11-2024	2	Faculty members/Staffs of all disciplines	<b>U</b> 12 2 2 2 3112

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21	CU141C	Intelligent Control in Industrial Drives and Renewable Energy Systems	1000	Kolkata	ICT	Gayadhar Panda	04-11-24	15-11-24	2	Faculty of Electrical, Electronics and Communication, Electronics & Instrumentation, and other relevant disciplines . Research Scholar/Students of relevant discip	After completion of the programme, the participants will be able to  • Know the foundation of Control System  • Design the Control Architecture for different systems  • Describe Intelligent Control System and its application.  • Develop Intelligent Controller based projects  • Model and Simulate the system with different control techniques.
22	SPL18B	Education for mental well- being of youth	600	Kolkata	ICT	Habiba Hussain	11-11-2024	13-11-2025	D a y s	Research Scholar	<ol> <li>Identify the factors affecting the mental well-being of the youth and young adolescents in the present times.</li> <li>Correlate mental health with the provisions as laid down in ancient Indian education system.</li> <li>Analyse the factors to create a positive learning environment.</li> <li>Suggest ways to students to minimise stress.</li> </ol>
23	CU113C	Problem Solving with R	500	Kolkata	Hybrid	Kinsuk Giri	11-11-2024	15-11-2025	1	Teachers from any Sciene and Engineering Streams	On completion of the programme the participants will be able to  • Discuss the grammars of R language  • apply R to solve problems  • use R for ML and Data Analysis

24	CU114B	Industrial measurement and Control system	1000	Kolkata	Contact	Subrata Chattopadhyay	11-11-2024	15-11-2024	1	Faculty of Electrical, Electronics and Communication, Mechanical, Electronics & Instrumentation disciplines	<ul> <li>After completion of the programme, the participants will be able to</li> <li>Explain the pressure, Temperature, Flow &amp; Level Measurement system in industry</li> <li>Utilize the various measuring instruments in hazardous areas in process plant</li> <li>Design P, PI, PID control system</li> <li>Design the conventional complex control system like ratio, cascade, feed forward, selective, override etc.</li> <li>Apply the control system in distillation column in industry</li> <li>Explain the fundamental of PLC, DCS and SCADA</li> </ul>
25	PS56C	Fundamentals of Outcome based education (OBE)	500	Kolkata	ICT	Habiba Hussain	18-11-2024	22-11-2024	1	Teachers of polytechnics, Engg. colleges & all higher educational institutes, also the laboratory technicians	After completion of the programme the participants will be able to  Identify the essential features of OBE Explain the principles of OBE Write outcomes at different levels Plan instruction for implemnting OBE

26	PS57C	NBA and NAAC Accreditation	500	BBSR	Contact	Rayapati Subbarao	18-11-2024	22-11-2024	1	Faculty of all disciplines	After completion of the programme, the participants will be able to  Identify the impact of accreditation.  Prepare Vision, Missiona and COs.  Identify the criteria for NBA and NAAC.  Categorize different key crietiera and indicators.  Learn how to prepare SAR and SSR.
27	CU115B	AutoCAD for Engineers	1000	Kolkata	ICT	Mithu Dey	18-11-2024	22-11-2024	1	Faculty of all disciplines	After completion of the programme, the participants will be able to  • Use the different commands of the Software  • Draw the 2D and 3D  • Appreciate the use of AutoCAD in Engg. and Science

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28	CU116C	Digital Logic with CMOS IC Design	500	Kolkata	Hybrid	Niladri Pratap Maity	18-11-2024	22-11-2024	1	Faculty members/Scientis ts/ Staffs of ECE/EE/CSE/IT/EE E/E&TC /Physics and related subject	After completion of the programme, the participants will be able to  Explain basic of Digital Logic Design  Design Combinational Circuit  Explain Basic of CMOS Design  Design Digital CMOS Combinational Circuit  Discuss different tools using for Digital Circuit Design  Discuss Overview of VHDL/Verilog  Select alternative Material for IC Technology  Follow recent govt. schemes for CMOS IC Design
29	CU117B	Modelling of Physical Systems	1000	Guw	Contact	Nirmal Kumar Mandal	18-11-2024	22-11-2024	1	Teachers from all Disciplines	After completion of the programme, the participants will be able to  • Model a system.  • Analyse the physical system
30	CU118B	Quality Issues, Software Risk Management and SDLC	1000	Kolkata	Contact	Ranjan Dasgupta	18-11-2024	22-11-2024	1	Teachers of CSE/IT/MCA with teaching/research exposure in SE	After completion of the programme, the participants will be able to  Identify Various available software development models  Discuss the risks associated with each models  Explain Mechanism of mitigation  Discuss different quality aspects of software

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31	CU119C	Drinking Water Quality and Public Health	1000	Kolkata	Contact	Sailendra Nath Mandal	18-11-2024	29-11-2024	2	Faculty and Staff of any discipline	After completion of the programme the participants will be able to acquire –  • Illustrate knowledge of different drinking water testing parameters, equipment, methods of testing, different standards and impact on human health,  •Demonstrate skill of online demonstration of different device, performing experiments, interpreting results, preparing test report, providing laboratory instructions to develop inquiring attitude among the student and evaluation of laboratory performance in related to drinking water testing laboratory,  • Demonstrate attitude of hands-on-working in the laboratory/field. (Plant Visit)
32	CU120B	Introduction to Neuro-Fuzzy- Genetic Algorithms	2000	Kolkata	Contact	Samir Roy	18-11-2024	29-11-2024	2	Any teacher with basic knowledge of Mathematics and computer programming	After completion of the programme, the participants will be able to  • Explain the basic Neuro-Fuzzy-Genetic Algorithms  • Apply Neuro-Fuzzy-Genetic Algorithms to build intelligent systems  • Develop Neuro-Fuzzy-Genetic computational systems

33	MGT09B	Institutional Administration and Management	1000	Kolkata	Hybrid	Sukanta Kumar Naskar	25-11-2024	29-11-2024	1	Faculty from all disciplines	After completion of this programme, the participants will be able to  Identify the components of institutional management  Apply the institutional management components effectively  Correlate the institutional management components with institutional objectives  Identify the administrative procedures to manage department / institute
34	CU143C	Geotechnical Investigation Field and Laboratory Testing	500	BBSR	Contact	Naveen BP	25-11-2024	29-11-2024	1	Faculty and laboratory technicians	After completion of the program, the participants will be able to  Demonstrate how to conduct the various types of tests used for soil testing.  Demonstrate experiment of soil testing with a brief introduction covering the important details of the experiment, the theory, and the purpose for which it is to be performed,  Explain in detail the apparatus required procedure and specimen calculations.

35	PS58B	Teaching Methodology & Digital Tools for Education	1000	Kolkata	Hybrid	Chandan Chakraborty	25-11-2024	29-11-2024	Faculty from all disciplines	<ul> <li>After completion of this programme, the participants will be able to</li> <li>Explore pedagogical theories and frameworks to enhance instructional design</li> <li>Use variety of digital tools and technologies for educational purposes.</li> <li>Explore applications such as learning management systems, interactive whiteboards, educational apps, and multimedia resources.</li> <li>Discuss he benefits and challenges of technology integration in the educational context.</li> </ul>

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36	PS59C	Induction Training	1000	Kolkata	Hybrid	Habiba Hussain	25-11-2024	06-12-2024	2	Teachers of polytechnics, Engg. colleges & all higher educational institutes, also the laboratory technicians	<ul> <li>After completion of the programme, the participants will be able to</li> <li>Interpret the aspects of curriculum for implementation, monitoring and evaluation.</li> <li>Suggest with justification, ways and means for ensuring ethical behaviour by teachers.</li> <li>Demonstrate Communication skills for improving effectiveness of teaching learning.</li> <li>Prepare instructional plan for classroom, laboratory, workshop and industry-based instruction.</li> <li>Relate the classroom delivery with relevant assignments, tests and other activities for reinforcement of learning.</li> <li>Create effective learning environment utilizing instructional technology resources, digital tools, online platforms and Social media.</li> <li>Design Direct and Indirect assessment tools.</li> <li>Solve problem creatively.</li> <li>Undertake Research to improve the various sub-components of technical education system.</li> <li>Prepare action plan for improvement</li> </ul>
37	CU121C	Introduction to	500	Kolkata	ICT	Indrajit Saha	25-11-2024	29-11-2024	1	Faculty from all	of institutional performance.  After completion of the programme, the
		Machine								disciplines	participants will be able to

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38	PS60B	Learning and Deep Learning  Active learning — An innovative technique for teaching learning system	1000	Kolkata	ICT	Sagarika Pal	25-11-2024	29-11-2024	1	Faculty from all disciplines	<ul> <li>describe the fundamentals of Machine Learning (ML) and Deep Learning</li> <li>apply ML for clustering, classification and regression</li> <li>explain machine learning in classroom</li> <li>After completion of the programme, the participants will be able to</li> <li>Differentiate conventional and active learning system</li> <li>Incorporate strategy in teaching to enhance the learning process</li> <li>Plan teaching for Problem Based / Project Based Learning</li> <li>Engage students in complex problem solving and critical thinking</li> <li>Design tools for assessment of active</li> </ul>

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39	CU122C	Industrial Automation and	500	Kolkata	Hybrid	Soumitra Kumar Mandal	25-11-2024	29-11-2024	1	Faculty and Lab Technician of	After completion of the programme, the participants will be able to
		LABVIEW				. Manadi				Engineering and Polytechnic Colleges in Electrical Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Instrumentation Engineering	<ul> <li>Describe the architecture of Industrial Automation</li> <li>Apply PLC in Industrial Automation</li> <li>Familiarization with SCADA</li> <li>Understand LABVIEW Applications in Automation</li> </ul>
40	CU123C	Bio-Medical Instrumentation	500	Guw	Contact	Subrata Chattopadhyay	25-11-2024	29-11-2024	1	Faculty of all disciplines	After completion of the programme, the participants will be able to  • Discuss Cells, Digestive System, Excretory System, Endocrinology  • Describe Origins of electrophysiological signal and their characteristics  • Design practical clinical sensors and transducers  • Explain the operation of X-ray, Fluoroscopy and Radiography, Pacemaker, Magnetic Resonance Imaging etc.  • Explain Electric shock hazards and safety devices

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41	PS62A	Outcome Baseed curriculum design in line with NEP 2020 for autonomous higher educational institutes(HEIs).	1500	Kolkata	Hybrid	Urmila Kar	25-11-2024	29-11-2024	•	<ul> <li>After completion the programme, the participants will be able to</li> <li>Demonstrate curriculum development process</li> <li>Identify the Features of Outcome Based Education System.</li> <li>Explain the components and Features of Outcome Based Curriculum.</li> <li>Identify attributes of Curriculum for HEIs as per NEP2020 and National Credit Framework</li> <li>Develop Content details of Outcome Based Curriculum</li> </ul>

42	CU140C	State-Of-The-Art Manufacturing Technologies	500	Kolkata	ICT	Deepak Mehra	25-11-2024	29-11-2024	1	Technical and Management Institutions of all disciplines	After attending the programme, the participants will be able to  Explain key concepts, terminology, and the latest advancements in manufacturing technologies and their applications  Explain the principles behind advanced manufacturing technologies, such as additive manufacturing, automation, and robotics.  Utilize modern manufacturing tools and technologies to solve practical problems in manufacturing processes.  Analyse Differences between various manufacturing technologies based on their suitability for specific applications.  Evaluate the effectiveness of different manufacturing technologies in terms of cost, efficiency, and sustainability.

43	CU144C	Groundwater Management	500	Kolkata	ICT	Kunwar R. Singh	25-11-2024	29-11-2024	1		After attending the programme, the participants will be able to  • Understand Groundwater Hydrology  • Assess Groundwater Resources  • Mitigate Groundwater Pollution  • Develop Groundwater Management Plans  • Promote Community Awareness and Involvement
44	CU124C	Object Oriented Software Design usung C++	500	Kolkata	Contact	Rajeev Chatterjee & Samir Roy	02-12-2024	06-12-2024	1	Faculty of CSE, IT Computer Application, Electronics, discipline	After participating in this programme, the participants will be able to  • Create an Object-Oriented Model of a software,  • Use of UML for Software Design  • Write a Program in C++ to solve a computational problem  • Compile, debug and execute a program in C++  • Apply objects, classes, inheritance, polymorphism etc. to implement object oriented programming.
45	PS61A	Developing life skills	1500	Kolkata	ICT	Sukanta Kumar Naskar	02-12-2024	06-12-2024	1	Faculty and support staff from all disciplines	After completion of the programme, the participants will be able to:  • Identify essentials of life skills Apply some of the Life Skills

46	CU139C	Additive Manufacturing of Polymers for Biomedical Applications	500	Kolkata	Contact	Subrata Mondal	02/12/24	06/12/24	1	Chemical Engg. Mechanical Engg., Science, Textiles Engg., Materials Sci. & Engg., Polymer Engg. and allied disciplines	After attending this program, participants will be able to:  • explore the state-of-the-art additive manufacturing research; • describe different types of additive manufacturing processes; • identify property requirements of materials for the biomedical applications; • describe advantages of polymer for the biomedical applications; fabricate various biomedical implants by using 3-D printing process etc.
47	MGT11C	Disaster Risk Reduction and Management (DRRM)	500	BBSR	Contact	Anil Kumar	02/12/24	06/12/24	1	Faculty, Disaster Managment Professionals, State Government officials from SDMAs, Urban & Housing, Water Resource and Environment Forest & Climate Change Department and others	1. Knowledge: Participants will be able to recall the fundamental concepts of Disaster Risk Reduction (DRR) and Management.  2. Understanding: Participants will understand the relationship between risk, hazard, vulnerability, and disaster impacts.  3. Application: Participants will apply DRRM concepts to real-world scenarios.  4. Analysis: Participants will critically analyze past disasters and extract lessons learned for future risk reduction.  5. Evaluation: Participants will assess the effectiveness of different DRR strategies and plans.  6. Creation: Participants will design a comprehensive DRRM plan tailored for their local context, integrating all learned components (risk analysis, mitigation, preparedness, and response).

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48	CU125B	MATLAB & LABVIEW applications in engineering	2000	Kolkata	Contact	Sagarika Pal	02-12-2024	13-12-2024	2	Faculty of Electrical, Electronics and Communication, Mechanical, Electronics & Instrumentation disciplines	After completion of the programme the participant will be able to  • Use MATLAB commands, SIMULINK, Control system tool Box  • Develop GUI files for interaction with MATLAB Toolbox  • Explain features of LABVIEW  • Create VI files  • Apply VI files in various fields  • Apply Data Acquisition System in LABVIEW  • Develop LABVIEW programming in various real time applications
49	CU126B	Earthquake resistant structures (special emphasis will be given on FEMA- 356, IS 1893- 2016 and IS 13920-2016)	1000	Kolkata	ICT	Mithu Dey	02-12-2024	06-12-2024	1	Faculty from civil and allied branches	<ul> <li>After completion of the program, participants are expected to be able to</li> <li>Expalin the earthquake effect on structures.</li> <li>Explain the different methods of analysis using software</li> <li>Use different codal provisions for analysis and design of structures</li> <li>Use advanced technology to make the earthquake resistant structures</li> </ul>
50	CU127B	Estimating and Costing of Non- conventional Energies	1000	Guw	contact	Sheela Yadav Rai	02-12-2024	06-12-2024	1	Faculty and Instructors from all disciplines	After attending the programme the participants will be able to  • Describe potential sources of Nonconventional energies  • Discuss various Energies  • Describe about solar energy, wind energy  • Prepare estimation and costing of various Non-conventional energies

Prog. Code: CU – Contant Update, PS – Professional Skill, MGT – Management Prog. Mode: Contact - Offline, ICT – Online, Hybrid – Both online and offline

Venue: Kolkata Main Campus, BBSR – Bhubaneswar, Odisha Extension Centre, Guw – Guwahati, Assam Extension Centre.

51	PS63A	Advanced Pedagogy	3000	Kolkata	ICT	Urmila Kar	02-12-2024	13-12-2024	2	Technicians from Polytechnics, Engg. Colleges, Degree Colleges, Universities and other HEIs	<ul> <li>Pedagogy</li> <li>Explain different Advanced Pedagogy Approaches</li> <li>Explain the quality issues in Technical Education and the Role of Teachers</li> <li>Discuss recent trends in curriculum design</li> <li>Map outcomes to learning activities</li> <li>Practice a few active learning techniques</li> <li>Engage students in complex problemsolving and critical thinking</li> <li>Design tools for assessing learning</li> <li>Incorporate technology in teaching to enhance the teaching-learning process</li> <li>Plan teaching for Education 4.0</li> </ul>
52	CU133C	Optimization with MATLAB	500	BBSR	Contact	Nirmal Kumar Mandal	09-12-2024	13-12-2024	1	Faculty from all disciplines	<ul> <li>After completion of the programme, the participants will be able to</li> <li>Explain linear and nonlinear regression</li> <li>Optimise a function using GA, PSO</li> <li>Use MATLAB</li> </ul>

53	CU129B	Application of Green Design and Manufacturing in Mechanical Engineering	1000	Kolkata	Contact	Arpan Kumar Mondal & Dipankar Bose	09-12-2024	13-12-2024	1	Faculty members of Technical Institutions with specialization ME, AE and Production Engineering	After completion of the programme, the participants will be to  • Explain the concept and goals of green manufacturing  • Describe life cycle approaches to product design  • integrate green design and manufacturing concepts of Mechanical Engineering (both theoretically and practically)
54	PS64A	Fundamentals of Problem Based Learning	3000	Kolkata	e-STTP	Arpan Kumar Mondal, Indrajiat Saha, Kinsuk Giri, Sagarika Pal	09-12-2024	20-12-2024	2	Technical teachers from all disciplines	After completion of the programme, the participants will be able to  • Explain the basic problem-solving strategies in the classroom  • Identify specific problems covering a particular area of learning  • Solve problems in various branches of Engineering through PBL  • Analyze the benefits associated with PBL compared to conventional learning

55	PS65B	Writing Skills on Project and Scientific Paper	1000	Kolkata	Hybrid	Chandan Chakraborty	09-12-2024	13-12-2024	1	Faculty of Engineering & Science, Allied disciplines	After completion of this programme, the participants will be able to  articulate research findings, hypotheses, and methodologies in a clear and concise manner.  write effective project proposals, outlining the objectives, scope, methodology, and expected outcomes.  prepare comprehensive project reports, summarizing the entire project lifecycle, results, and conclusions.  demonstre proper citation techniques with an understanding of the importance of academic integrity in scientific writing.

56	CU130B	Laboratory Practice in Engineering Chemistry	1000	Kolkata	Contact	Sailendra Nath Mandal	09-12-2024	13-12-2024	1	Faculty and Staff of any discipline	After completion of the programme the participants will be able to gain and develop— • Illustrate knowledge of 'modern principles of laboratory experimentation' in engineering chemistry, • Demonstrate skill of handling conventional and modern sophisticated equipment, preparation of laboratory instruction sheets, interpreting experimental results, providing laboratory instruction such as to develop in enquiring attitude among students, preparing related test reports, related to engineering chemistry, • Demonstrate attitude of hands-on-working in the laboratory/field. (Plant Visit)

57	PS72B	Digital Supply Chain and Logistics Management	1000	Kolkata	ICT	Deepak Mehra	09-12-2024	13-12-2024	of Technical and Management	After completion of the programme, the participants will be able to  Identify the key components of supply chain and logistics processes.  Explain the various supply chain and logistics processes  Explain the roadmap for developing sustainable and industry 4.0 perspective of supply chain and logistics management  Analyse the role of digital transformation and effectiveness in the supply chain and logistics processes.  Evaluate the impact of digital technologies on supply chain and logistics effectiveness in the modern business environment.  Develop a strategic plan for integrating sustainable practices and Industry 4.0 principles into supply chain and logistics management.

58	CU131C	MATLAB and SIMULINK	1000	Kolkata	Hybrid	Soumitra Kumar Mandal	09-12-2024	20-12-2024	2	Faculty and Lab Technician of Engineering and Polytechnic Colleges in Electrical Engineering, Electronics and Communication Engineering, Electrical and Electrical and Electronics Engineering, Instrumentation Engineering	After completion of the programme, the participants will be able to  Discuss fundamentals of MATLAB  Implement MATLAB Applications to design Electrical and Electronics Circuits  Explain the different aspect of MATLAB & Simulink  Develop simple model using Simulink  Use MATLAB in analysis, design and simulation of Power Electronics
59	CU132B	Laboratory Practice on cvil concrete Materials	1000	Kolkata	Contact	Mithu Dey	16-12-2024	24-12-2024	1	Faculty from civil and allied branches	After completion of the programme, participants are expected to be able to  • Explain the physical significance of laboratory tests on Concrete Materials.  • Demonstrate to the students on different tests of Concrete Materials  • Illustrate the concrete mix design

60	CU128C	Bio-Medical Instrumentatio n	500	BBSR	Contact	Subrata Chattopadhyay	16-12-2024	20-12-2024	1	Faculty from all disciplines	<ul> <li>After completion of the programme, the participants will be able to</li> <li>Explain Cells, Digestive System, Excretory System, Endocrinology</li> <li>Describe Origins of electrophysiological signal and their characteristics</li> <li>Design practical clinical sensors and transducers</li> <li>Discuss the operation of X-ray, Fluoroscopy and Radiography, Pacemaker, Magnetic Resonance Imaging etc.</li> <li>explain Electric shock hazards and safety devices</li> </ul>

61	CU147B	Resilient Futures: Mastering Climate Mitigation and Adaptation	1000	Kolkata	Contact	Anil Kumar and Kunwar R Singh	16-12-2024	20-12-2024	1	Faculty, Climate Professionals, State Government officials from SDMA, Urban & Housing, Water Resource and Environment Forest & Climate Change Department and others	1. Understand the fundamental concepts of climate resilience, mitigation, and adaptation (Knowledge) 2. Analyze the impacts of climate change on various sectors, including infrastructure, energy, and water systems (Analysis) 3. Apply resilience engineering principles to real-world scenarios. (Application) 4. Evaluate different global and national climate policies, including the Paris Agreement and (NAPCC). (Evaluation) 5. Create resilience-focused project proposals for climate mitigation and adaptation. (Synthesis) 6. Develop skills to collaborate and communicate effectively about climate resilience. (Comprehension & Communication)

62	PS71C	Best Practices for Effective Teaching Learning	500	In-house	Contact	Gayadhar Panda and Subrata Chattopadhyay	As Demanded	-	1	Faculty of any disciplines.	After completion of the course the participants will be able to  Utility of Instructional Objectives in TL process  Design of Lesson Planning in teaching  Apply Measurement and Evaluation in assessment  Explain the utility and types of instructional media & its advantages  Use computer as instructional media and its advantages and limitations  Describe the courseware and its classification  Apply Computer assisted instruction  Identify and Explain the features and  different types of CAI  Explore a model class with CAI
63	CU134C	Cyber Security	500	Kolkata	Contact	Rajeev Chatterjee	16-12-2024	20-12-2024	1	Faculty of CSE, IT Computer Application, Electronics, discipline	After completion of this programme, the participants will be able to:  • Explain the concept of Network and Internetwork security  • Illustrate Principles of Security  • Describe ISO27001: 2013  • Demonstrate Network infrastructure elements  • Explain Infrastructure level security  • Enlighten Application level security  Demonostrate best practices in the cyber world.

64	PS66B	NBA Accreditation for polytechnic institutes	1000	Kolkata	ICT	Rayapati Subbarao	16-12-2024	20-12-2024	1	Faculty of all disciplines	After completion of the programme, the participants will be able to  Identify the Impact of NBA Accreditation Prepare Vision, Mission, Program Educational Objectives Prepare Outcomes and Program Outcomes Illustratehow to prepare SAR. Practice Criteria i to ix.
65	CU145C	Environmental Impact Assessment Of Infrastructure Projects	500	Kolkata	ICT	Kunwar R. Singh	16-12-2024	20-12-2024	1	Faculty from all disciplines	After attending the programme, the participants will be able to • Understand the EIA Process • Conduct Scoping and Screening • Evaluate Environmental Impacts • Prepare EIA Reports
66	MGT10B	Institutional Management	1000	Kolkata	ICT	Sukanta Kumar Naskar	16-12-2024	20-12-2024	1	Faculty and support staff from all disciplines	After completion of the programme, participants will be able to:  • Identify the components of institutional management  • Apply the institutional management components effectively  • Correlate the institutional management components with institutional objectives

67	CU136C	Formal Languages and Automata	500	Guw	Contact	Samir Roy	23-12-2024	27-12-2024	1	Any teacher with basic knowledge of Mathematics	After completion of the programme, the participants will be able to  • Explain the theory of Formal Languages and Automata  • Apply the theory of Formal Languages and Automata in problem solving  • Implement Formal Languages and Automata
68	CU137C	R Programming	500	BBSR	Contact	Kinsuk Giri	30-12-2024	03-01-2025	1	Faculty from all disciplines	On completion of the programme the participants will be able to  • explain the different aspects of R  • apply R to solve problems  • use R for visualizations
69	PS67C	NBA and SAR preparation	500	Guw	Contact	Rayapati Subbarao	30-12-2024	03-01-2025	1	Faculty from all disciplines	After completion of the programme, the participants will be able to  Identify the Impact of NBA Accreditation.  Prepare Vision, Mission, Program Educational Objectives.  Prepare Outcomes and Program Outcomes.  Explain how to prepare SAR.  Practice Criteria i to x.

70	CU135A	Advanced Materials Science and Engineering	1500	Kolkata	Contact	Subrata Mondal	30-12-2024	03-01-2025	1	Faculty of Chemical Engg. Mechanical Engg., Science, Textiles Engg., Materials Sci. & Engg., Polymer Engg. and allied disciplines	<ul> <li>After completion of this programme, participants will be able to:         <ul> <li>explain the structure sensitive properties of polymers, metals and alloys;</li> <li>explain the fundamental of nanomaterials, types of nanomaterials, principle methods of nanomaterials preparation, properties and applications;</li> <li>explain types, manufacturing process, properties and applications of metal matrix, ceramic matrix and polymer matrix composites/nanocomposites; explain biocompatible and biodegradable materials, characteristics and applications for various biomaterials etc.</li> </ul> </li> </ul>
71	PS68B	Effective Teaching	500	Kolkata	ICT	Habiba Hussain	06-01-2025	10-01-2025	1	Teachers of polytechnics, Engg. colleges & all higher educational institutes.	On completion of the programme, the participants will be able to  Characterise effective teaching  Explain innovative teaching methods  Identify the parameters for teaching assessment  Plan a lesson using experiential strategy  Analyse the components for effective delivery

72	CU138C	Power Electronics and Electric Drives	500	Kolkata	Hybrid	Soumitra Kumar Mandal	06-01-2025	10-01-2025	1	Faculty and Lab Technician of Engineering and Polytechnic Colleges in Electrical Engineering, Electronics and Communication Engineering, Electrical and Electrical and Electronics Engineering, Instrumentation	After completion of the programme, the participants will be able to  • Explain structure and operating principle of Power Electronics Devices  • Describe operation and control of converters  • Discuss applications of converters in Electric Drives
73	CU146C	Highway Materials and Testing	500	Kolkata	Contact	Kunwar R. Singh	06-01-2025	10-01-2025	1	Engineering Faculty and support staff from civil and allied branches	After attending the programme, the participants will be able to •Understand the Properties of Highway Materials •Select Appropriate Materials for Highway Projects •Conduct Standardized Laboratory Tests •Understand Material Specifications and Standards •Evaluate Pavement Design and Construction Materials

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#### **GENERAL INSTRUCTIONS TO THE PARTICIPANTS**

- ➤ Please send your application 20 days (for Contact Mode FDP) and preferably 7 days (for ICT/Online mode FDP) before the commencement of the programme.
- > Applicants may send their applications by email/Post/Application Link (see institute's website: <a href="http://www.nittrkol.ac.in">http://www.nittrkol.ac.in</a>) along with payment details for each programme.
- > Participants are requested to submit only one application for a particular Faculty Development Programme (FDP)/ Short Term Training Programme (STTP).
- > Selected participants will be received confirmation mail from the Academic Affairs. **Without prior** confirmation nobody will be allowed to attend the training programme.
- ➤ Participants are advised to complete the registration formalities before 9:30 a.m. on the first day of the programme at the Academic Affairs of NITTTR, Kolkata for offline programmes.
- > After completing the registration formalities, you need to report to the respective coordinator(s). Necessary guidance from the Academic Affairs will be given in this respect.
- Last day of the training programme, certificates will be distributed by the coordinator(s) along with a release letter in case of offline courses and to be sent by mail in case of online courses.
- > No leave(s) permissible during the training programme, except in case of emergency with submission of evidence of reason.
- > The participants will be relieved only on the last day of the programme at 5.30 pm. If participants do not attend the full programme, neither certificate nor TA will be paid to them.
- > The participants willing to attend the programmes at Extension Centers should contact the respective Consultant, Extension Centre / Academic Affairs for accommodation confirmation and food facility.
- **Essential Requirements for Certification:** i) Minimum 80% Attendance ii) Achievement of Minimum 40% of Total Assesment.
- > Training programmes scheduled at extension centres are state specific and open only for respective state participants.
- > Participants only from the Government and Government Aided / Government sponsored Institutes will be reimbursed TA as per Institute's rules.
- Participants from North Eastern (NE) States and A&N Islands are entitled to travel by air (economy class) and the same will be reimbursed on production of proof of to and fro travel ticket(s). Tickets are to be purchased from the authorized travel agent of Govt. of India as announced time to time.
- The participants from the provinces other than N.E. states will be reimbursed 3<sup>rd</sup> AC train or equivalent fare.
- > Boarding and Lodging facilities are provided on a sharing basis. Family members are not allowed to stay in the Guest Houses.
- Course Fees will be charged as per the Category of the Training Programme and it can be remitted through NEFT, Bank Transfer or through demand draft drawn in favour of Director, NITTTR, Kolkata payable at Kolkata.

#### **Bank details:**

Name of the Bank: State Bank of India, Sector – 1, Salt Lake Branch, Bank Holder: NITTTR, Kolkata, Bank A/c No.: 00000034181726656,

IFSC Code: SBIN0001612

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#### Course Fee Details:

Category of FDP	Category - A	Category - B	Category - C
Fees per participant	Rs. 1500/-	Rs. 1000/-	Rs. 500/-
per week			

➤ Participants from Private and Self Financed Institutes will not be paid TA. These participants can avail Boarding and Lodging facilities in Executive Hostels, by paying fees Rs. 300/- per bed/day for Accommodation Charge and Meal Charge of Rs. 250/- per day per participant (rate may vary from time to time), working lunch is free.

#### Processing TA:

- > Those who are eligible to reimburse TA should apply in the prescribed form available in the Academic Affairs along with all supporting documents with signature from the course coordinator(s) and submit to the academic section.
- > TA will be reimbursed directly to the bank account of the trainee.

#### Instructions to participants from NE States and A&N Islands regarding purchase of Air Ticket:

Air tickets shall be purchased positively only from the three Authorized Travel Agents (ATAs), namely:

- (a) M/s. Balmer Lawrie & Company Limited (BLCL),
- (b) M/s. Ashok Travels & Tours (ATT),
- (c) Indian Railways Catering and Tourism Corporation Ltd. (IRCTC)

The choice of the travel agent for booking of ticket from the three-authorized travel agents is left open to the Govt. official in case of self-booking, based on convenience and service quality. No agency charges / convenience fees will be paid to these ATAs.

Participants are to choose flight having the **Best Available Cheapest Fare**, where possible for Non-stop flight in a given slot, mentioned below, at the time of booking. They are to retain the print-out of the concerned webpage of the ATAs having flight and fare details for the purpose of the settlement claims.

- (a) On the day of travel in the desired 3 hours' slot of following time band 00:00 hours to 03:00 hours, 03:00 hours to 06:00 hours, 06:00 hours to 09:00 hours, 09:00 hours to 12:00 hours, 12:00 hours to 15:00 hours, 15:00 hours to 18:00 hours, 18:00 hours to 21:00 hours, 21:00 hours to 24:00 hours
- (b) With provision of optimizing within 10% price bank, for convenience and comfort.

# Henceforth relaxation on account of ignorance/unawareness of these guidelines will not be considered under any condition.

#### **How to Reach NITTTR, Kolkata:**

The Institute is located in FC Block, Sector-III in Salt Lake City (near Labony Island). It is well communicated by road with Howrah Railway Station (about 8.1 km via Maniktala Main Road), Sealdah Railway (7.4 km) via Beliaghata Main Road and Broadway Road), Kolkata Railway Station (4.8 km) via Canal Circular Road, Shalimar Station (18.8 km) via Parama Island Maa Flyover, Netaji Subhas Chandra Bose International Airport (11.5 km) via Kazi Nazrul Islam Sarani/VIP Road.