

PROGRAMME CALENDAR (JANUARY TO MARCH) 2024-25

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**NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH, KOLKATA
(Deemed to be University, Under Ministry of Education, Govt. of India)
Block – FC, Sector – III, Salt Lake City, Kolkata – 700 106**

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.





NATIONAL INSTITUTE OF TECHNICALTEACHERS' TRAINING AND RESEARCH KOLKATA

Registration for STTP – Application Form

1 Prog. Code :

2 (a) Programme Title :

(b) Date : From: To:

(c) Prog. Coordinator(s) :

3 (a) Name (in CAPS) :

First	Middle	Last
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(b) Designation :

(c) Department :

(d) Institution :

(e) Institute Address :

					Pin: <input type="text"/>
State					

(f) Caste : (g) Gender

(h) Contact Number :

Mobile

Email

4 Highest Academic Qualification:

Degree/Diploma	University/Others	Year of Passing	Class Obtained
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

5 (a) Experience (in years) : Teaching Industry/Field

6. Payment of Course Fees Rs. Paid Yes ☐ No ☐,
If yes, Receipt No. _____

I promise to attend the above mentioned training programme, if selected.

Date:

Signature of the Applicant

This is to certify that the applicant will be released to attend the training programme, if selected, without any financial liability on part of the sponsoring authority.

Date:

Signature of the Sponsoring Authority with Seal

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

Scan copy send by Email: academic@nitttrkol.ac.in

Programme Calendar 2024-25

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

Sl. No.	Prog. Code	Programme Title	Fees (Rs.)	Venue	Prog. Mode	Programme Co-ordinator(s)	Date		Week	Target Participant / Group	Programme Outcomes
							From	To			
1	PS73B	Effective Teaching	1000	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 <ul style="list-style-type: none"> • 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
2	CU148C	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 Electronics Engineering, Instrumentation Engineering	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain structure and operating principle of Power Electronics Devices • Describe operation and control of converters • Discuss applications of converters in Electric Drives

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3	CU149C	Highway Materials and Testing	500	Kolkata	Contact	Kunwar R. Singh	06-01-2025	10-01-2025	1	Faculty and support staff from civil and allied branches	After attending the programme, the participants will be able to <ul style="list-style-type: none"> • 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
4	CU150C	Advanced Process Control Using PLC DCS & SCADA	500	Kolkata	ICT	Subrata Chattopadhyay	06-01-2025	10-01-2025	1	Faculty of Electrical, Electronics and Communication, Mechanical, Electronics & Instrumentation disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain closed loop control system • Explain hazardous area classification • Utilize the electrical instruments in hazardous area in process plant • Design the conventional complex control system like ratio, cascade, feed forward, selective, override etc. • Apply the control system in distillation column in industry • Discuss the fundamental of PLC, DCS and SCADA
5	CU151C	Mathematical Foundation of Computer Science	1000	Kolkata	Contact	Samir Roy & Kinsuk Giri	06-01-2025	17-01-2025	2	Any teacher of Science and Engineering Stream	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • explain mathematical/logical foundation of computations • model computational tasks in terms of mathematical formalism • apply appropriate mathematical tools to solve computational problem

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6	CU152B	Power System Protection and Transmission Line parameters	2000	Kolkata	Contact	Sheela Yadav Rai	06-01-2025	17-01-2025	2	Electrical/ Electronics Engg./ Allied	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Discuss various Power Protection methods • Explain the types of Transmission Lines • Calculate the Line Parameters • Compute the various Faults
7	PS74A	Advanced Pedagogy	3000	Kolkata	ICT	Sukanta Kumar Naskar	06-01-2025	17-01-2025	2	Faculty and Instructors from all discipline	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the need for Advanced Pedagogy • Explain different Advanced Pedagogy Approaches • Explain the quality issues in Technical Education and the Role of Teachers • Discuss recent trends in curriculum design • Map outcomes to learning activities • Practice a few active learning techniques • Engage students in complex problem-solving and critical thinking • Design tools for assessing learning • Incorporate technology in teaching to enhance the teaching-learning process • Plan teaching for Education 4.0

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							From	To			
8	PS75B	Thinking Classroom and Life-long Learning	1000	Kolkata	ICT	Urmila Kar	06-01-2025	10-01-2025	1	Faculty members and Technicians from Polytechnics, Engg. Colleges, Degree Colleges, Universities and other HEIs	After completion the programme, the participants will be able to <ul style="list-style-type: none"> • identify features of learning-teaching system in HE • analyse the learning preferences of students • explain the need for Thinking Classroom and Life Long Learning • identify innovative approaches for creating Thinking Classroom • explore the ways to facilitate active learning and life-long learning into HEIs.
9	CU153B	Finite Element Analysis with ANSYS	1000	Kolkata	ICT	Nirmal Kumar Mandal	13-01-2025	17-01-2025	1	Faculty and instructors from all relevant Disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain a mechanical system. • Use of software packages to analyse mechanical system.
10	CU154B	Fundamentals of Machine Learning and Deep Learning	1000	Guw	Contact	Indrajit Saha	13-01-2025	17-01-2025	1	Faculty of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • describe the fundamentals of Machine Learning (ML) and Deep Learning (DL) • apply ML for clustering, classification and regression • explain ML and DL in classroom

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11	CU155C	Digital Manufacturing and Industry 5.0	500	Kolkata	ICT	Deepak Mehra	13/01/25	17/01/25	1	Faculty Members of Technical and Management Institutions of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain digital manufacturing and its transformative effects on careers, business practices, and operational processes across companies of all sizes. • Discuss key concepts including the smart factory, the Internet of Things (IoT), digital twins, and the critical role of data security. • Design integrated manufacturing systems. • Develop cyber-physical systems and explore emerging business models. • Identify essential skills needed for a career in the global manufacturing sector, driven by digital technologies.
12	PS76B	NBA Accreditation and SAR Preparation for Polytechnics and Engineering Colleges	1000	BBSR	Contact	Arpan Kumar Mondal & Ranjan Dasgupta	13-01-2025	17-01-2025	1	Technical teachers from all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the Impact of NBA Accreditation • Prepare Vision, Mission, PEO, and PSO • Prepare CO-PO mapping • Prepare pre-qualifiers and SAR. • Practice the programme-level criteria • Explain the Washington accord • Discuss the essence of CEP and LLL

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13	CU156C	Geotechnical Investigation Laboratory Testing	500	Guw	Contact	Naveen B P	20-01-2025	24-01-2025	1	Faculty and laboratory technicians	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • show how to conduct the various types of tests used for soil testing. • do soil testing experiment is presented with a brief introduction covering the important details of the experiment, the theory, and the purpose for which it is to be performed. • Do a detailed explanation of the apparatus required procedure and specimen calculations.
14	PS77A	Advanced Pedagogy	3000	Kolkata	ICT	Arpan Kumar Mondal	20-01-2025	31-01-2025	2	Technical teachers from all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the need for Advanced Pedagogy • Explain different Advanced Pedagogy Approaches • Explain the quality issues in Technical Education and the Role of Teachers • Discuss recent trends in curriculum design • Map outcomes to learning activities • Practice a few active learning techniques • Engage students in complex problem-solving and critical thinking • Design tools for assessing learning • Incorporate technology in teaching to enhance the teaching-learning process • Plan teaching for Education 4.0

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15	CU157B	Design of Payroll System following SE Principles	2000	Kolkata	Contact	Ranjan Dasgupta	20-01-2025	31-01-2025	2	Teachers of CSE/IT/MCA with interest in SE	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Discuss various aspects of Payroll System • Apply SE design methodologies • Explain a prototype design
16	PS78C	Research Methodology	1000	Kolkata	Contact	Rayapati Subbarao	20-01-2025	31-12-2025	2	Faculty of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify different aspects of research. • Construct the results in a better way. • Derive conclusions from the plots and contours made. • Discover the ways of writing a research paper. • Communicate a paper in their area of research.
17	PS79C	Assessment, Evaluation and Development of question bank	500	BBSR	Contact	Sagarika Pal	20-01-2025	24-01-2025	1	Faculty of all disciplines	After completion of the programme the participants will be able to <ul style="list-style-type: none"> • Define Measurement, Assessment, Evaluation and Test • Construct the test items • Design the table of Specification • Prepare the question paper • Analyse the question paper • Develop question Bank

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18	PS80B	Institutional Assessment and Autonomy	1000	Kolkata	ICT	Urmila Kar	20-01-2025	24-01-2025	1	Faculty members and Technicians from Polytechnics, Engg. Colleges, Degree Colleges, Universities and other HEIs	After completion the programme, the participants will be able to <ul style="list-style-type: none"> • Develop institutional process and parameters for review as per requirements. • Identify types and dimensions of Autonomy • Assess the institute based on review criteria and guidelines of autonomy. • Prepare the institute for external review. • Prepare action taken report based on review report.
19	CU158B	Artificial Intelligence with Engineering Applications	1000	In-house	Contact	Chandan Chakraborty	27-01-2025	31-01-2025	1	Faculty of Engineering & Science, Allied disciplines	After completion of this programme, the participants will be able to <ul style="list-style-type: none"> • Discuss fundamental concepts of AI framework with various applications, • Explore Machine Learning Models (Supervised and Unsupervised) • Describe Natural Language Processing Models (LLM) and ChatGPT. • Analyse Case studies
20	CU159C	Fundamentals of Image Editing and 2D Animation	500	Kolkata	Contact	Indrajit Saha	27-01-2025	31-01-2025	1	Faculty from all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • edit images • create animation • use various multimedia related software • prepare a computer based training material

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21	CU160C	Groundwater Management	500	Kolkata	ICT	Kunwar R. Singh	27-01-2025	31-01-2025	1	Faculty from civil and allied branches	After attending the programme, the participants will be able to <ul style="list-style-type: none"> • Understand Groundwater Hydrology • Assess Groundwater Resources • Mitigate Groundwater Pollution • Develop Groundwater Management Plans • Promote Community Awareness and Involvement
22	MGT11C	Disaster Risk Reduction and Management (DRRM)	500	BBSR	Contact	Anil Kumar	27-01-2025	31-01-2025	1	Faculty, Disaster Management Professionals, State Government officials from SDMAs, Urban & Housing, Water Resource and Environment Forest & Climate Change Department and others	<ul style="list-style-type: none"> • Knowledge : Participants will be able to recall the fundamental concepts of Disaster Risk Reduction (DRR) and Management. • Understanding: Participants will understand the relationship between risk, hazard, vulnerability, and disaster impacts. • Application: Participants will apply DRRM concepts to real-world scenarios. • Analysis: Participants will critically analyze past disasters and extract lessons learned for future risk reduction. • 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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23	CU161A	Laboratory Experimentation – Drinking Water Quality Parameter & Community Health	1500	Kolkata	Contact	Sailendra Nath Mandal	27-01-2025	31-01-2025	1	Faculty and Staff from any discipline	After completion of the programme the participants will be able to <ul style="list-style-type: none"> • Illustrate knowledge of different drinking water testing parameters, equipment, methods of testing , different standards and impact on human health, • 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)
24	PS81B	NBA Accreditation and SAR Preparation for Polytechnics	1000	Guw	Contact	Arpan Kumar Mondal and Ranjan Dasgupta	03-02-2025	07-02-2025	1	Technical Teachers from all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the Impact of NBA Accreditation • Prepare Vision, Mission, PEO, and PSO • Prepare CO-PO mapping • Prepare pre-qualifiers and SAR. • Practice the programme-level criteria • Explain the Washington accord • Discuss the essence of CEP and LLL

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25	PS82B	Teaching Methodology	1000	Kolkata	ICT	Habiba Hussain	03-02-2025	07-02-2025	1	Teachers of polytechnics, Engg. colleges & all higher educational institutes.	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> Analyse components in teaching Explain different teaching methods Identify the elements of student motivation List the principles of learning Incorporate assessment as an integral part of teaching.
26	CU162A	Fundamental of Power Electronics and Electric vechiles	1500	BBSR	Contact	Soumitra Kumar Mandal	03-02-2025	07-02-2025	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 <ul style="list-style-type: none"> Study operating principle and characteristics of Power Electronics Devices Describe operation and control of converters Identify applications of converters in Electric vechiles
27	CU163B	Theory of Computation	1000	In-House	Contact	Samir Roy	03-02-2025	07-02-2025	1	Any teacher with basic knowledge of Mathematics	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> Explain the principles of the theory of computation Apply theory of computation in real-life problems

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28	CU164B	Modern Welding Solutions: Techniques and Technologies	1000	Kolkata	Contact	Arpan Kumar Mondal & Deepak Mehra	10-02-2025	14-02-2025	1	Faculty Members of Technical Institutions of mechanical-related branches	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> Identify and define key welding techniques and technologies used in modern welding solutions. Explain the principles and processes underlying various modern welding techniques, including their applications and limitations. Demonstrate the use of modern welding technologies in practical scenarios, including setup and execution of welding operations. Analyse different welding methods to determine their suitability for specific materials and project requirements. Evaluate the effectiveness and efficiency of different welding techniques based on industry standards and project goals. Design innovative solutions for improving existing welding processes using state-of-the-art technologies.
29	CU165A	Engineering Thermodynamics	1500	Kolkata	Contact	Rayapati Subbarao	10-02-2025	14-02-2025	1	Faculty of all Mechanical Engineering and allied disciplines	<p>After completion of the programme, the participants will be able to:</p> <ul style="list-style-type: none"> Paraphrase the basics of thermodynamics. Apply laws of thermodynamics in various problems. Explain entropy and the processes of perfect gases. Identify and analyze thermodynamic air cycles. Discuss basics of fuels and combustion.

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							From	To			
30	PS83C	Utilisation of Instructional Media and CAI in Effective Teaching	500	In-House	Contact	Subrata Chattopadhyay	10-02-2025	14-02-2025	1	Faculty of any disciplines.	<p>After completion of the course the participants will be able to</p> <ul style="list-style-type: none"> • 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
31	CU166B	Environmental Pollution and Health	1000	In-House	Contact	Sailendra Nath Mandal	10-02-2025	14-02-2025	1	Faculty and Staff of any discipline	<p>After completion of the programme the participants will be able to</p> <ul style="list-style-type: none"> • Illustrate knowledge of basic concept of Air pollution, Water pollution, Noise pollution, Light pollution and impact on human health, • 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, • Demonstrate attitude of hands-on-working in the laboratory/field. (Plant Visit)

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32	CU167C	Renewable Energy and Energy Mangement Systems	500	Kolkata	ICT	Soumitra Kumar Mandal	10-02-2025	14-02-2025	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 <ul style="list-style-type: none"> • Describe Renewable Energy sources • Modelling of Solar PV system • Operation and Control of Solar PV system • Energy Management Systems

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33	PS84C	Induction Training	1000	Kolkata	ICT	Subrata Mondal	10-02-2025	21-02-2025	2	Faculty of all disciplines	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> • Interpret the aspects of curriculum for implementation, monitoring and evaluation. • Suggest with justification, ways and means for ensuring ethical behaviour by teachers. • Demonstrate Communication skills for improving effectiveness of teaching learning. • Prepare instructional plan for classroom, laboratory, workshop and industry-based instruction. • Relate the classroom delivery with relevant assignments, tests and other activities for reinforcement of learning. • Create effective learning environment utilizing instructional technology resources, digital tools, online platforms and Social media. • Design Direct and Indirect assessment tools. • Solve problem creatively. • Undertake Research to improve the various sub-components of technical education system. • Prepare action plan for improvement of institutional performance.

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34	PS85C	Assessment, Evaluation and Development of question bank	500	Guw	Contact	Sagarika Pal	10-02-2025	14-02-2025	1	Faculty of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Define Measurement, Assessment, Evaluation and Test • Construct the test items • Design the table of Specification • Prepare the question paper • Analyse the question paper • Develop question Bank
35	CU168B	Sustainable Approaches to Metal Matrix Composites	1000	BBSR	Contact	Deepak Mehra	10-02-2025	14-02-2025	1	Faculty of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the key components and materials used in Metal Matrix Composites (MMCs). • Explain the processes involved in manufacturing Metal Matrix Composites and their applications across industries. • Apply sustainable techniques in the selection, design, and manufacturing of Metal Matrix Composites. • Analyze the performance of various MMCs in terms of strength, weight, and environmental sustainability. • Evaluate different approaches to making Metal Matrix Composites more sustainable, considering factors like recyclability, energy usage, and material sourcing. • Design sustainable Metal Matrix Composite solutions for specific engineering challenges, integrating eco-friendly materials and processes.

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36	CU169A	Biomedical Informatics	1500	Guw	Contact	Chandan Chakraborty	17-02-2025	21-02-2025	1	Faculty of CSE/ECE/EE/IT and Allied Disciplines	After completion of this programme, the participants will be able to <ul style="list-style-type: none"> • Explore medical imaging modalities like Light Microscopy, X-ray, USG, CT, MRI etc, • Discuss applications of imaging techniques in various applications for disease detection. • Describe some topics on medical image processing and disease detection algorithms, • Identify technologies in biomedical imaging applications
37	CU170C	Building Resilient and Sustainable Waste Management Systems	500	Kolkata	Hybrid	Anil Kumar and Kunwar R Singh	17.02.205	21.02.2025	1	Faculty and Professionals from State and Central Government and Public Sectors	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Gain insights into modern waste collection, segregation, treatment, and disposal processes. • Learn innovative methods like waste-to-energy and circular economy approaches. • Familiarize with regulations and frameworks driving sustainable waste management. • Enhance practices for recycling, reuse, and minimizing landfill dependency. • Build skills to manage waste during disasters and ensure environmental safety. • Equip participants with tools for planning and decision-making in waste management.

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38	CU171C	PYTHON Programming	500	Kolkata	ICT	Kinsuk Giri	17-02-2025	21-02-2025	1	Faculty and instructors from all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • explain the different aspects of PYTHON • apply PYTHON to solve problems • use PYTHON for visualizations
39	CU172A	Use of Vibration control for structures to mitigate the response due to dynamic load	1500	Kolkata	ICT	Mithu Dey	17-02-2025	21-02-2025	1	Faculty from civil and allied branches	After completion of the programme, participants are expected to be able to <ul style="list-style-type: none"> • Identify the different vibration control system • Demonstrate the application and principle of vibration control system • Differentiate the active, semi active and passive control system • Develop the numerical model for the passive control system. • Use the software for analysing the structures with vibration control system.
40	CU173B	Applied Machine Learning	1000	Kolkata	ICT	Nirmal Kumar Mandal	17-02-2025	21-02-2025	1	Faculty from all Disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain Design of Experiment • Perform statistical modelling of a engineering systems
41	CU174C	Engineering Hydrology	500	Kolkata	ICT	Kunwar R Singh	17-02-2025	21-02-2025	1	Faculty from civil and allied branches	After attending the programme, the participants will be able to <ul style="list-style-type: none"> • Understand Hydrological Processes • Analyze Hydrological Data • Apply Hydrological Models • Estimate Flood and Drought Risks

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42	MGT12B	Managerial approaches in problem solving and decision making	1000	BBSR	Contact	Sukanta Kumar Naskar	17-02-2025	21-02-2025	1	Faculty and staff from all disciplines	After completion of the programme, participants will be able to: <ul style="list-style-type: none"> Identify approaches in problem solving Identify step by step in decision making Identify tools of problem solving and decision making Apply tools in problem solving and decision making
43	PS86A	Research Methodology	1500	Guw	Contact	Habiba Hussain	24-02-2025	28-02-2025	1	Teachers of polytechnics, Engg. colleges & all higher educational institutes, research scholars.	After completion of this course, the participants will be able to <ul style="list-style-type: none"> Explain the steps in research in technical education Distinguish between research proposal and research report Identify different types of data Include ethical practices in research.
44	CU175C	Environment, Climate Change and Health	500	Kolkata	ICT	Sailendra nath Mandal	24-02-2025	28-02-2025	1	Faculty and Staff of any discipline	After attending the programme the participants will be able to gain and develop <ul style="list-style-type: none"> knowledge of basic concept of Air pollution, Water pollution, Noise pollution, Light pollution and Climate change, Effect of Environmental Pollution on Human Health 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, (Laboratory Visit) attitude of hands-on-working in the laboratory/field. (Industry Visit)

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45	CU176C	Concepts of Software Engineering	500	Kolkata	Contact	Ranjan Dasgupta & Samir Roy	24-02-2025	28-02-2025	1	Teachers of CSE, IT, MCA, BCA or equivalent	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • 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
46	CU177C	Solid Waste Management	500	BBSR	Contact	Naveen B P	24-02-2025	28-02-2025	1	Faculty and laboratory technicians	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Minimize the Production of Waste. • Proper management practices • help minimize the garbage and scraps that need handling.
47	PS87B	Research Ethics and Publication Procedure	1000	Kolkata	Hybrid	Niladri Pratap Maity	24-02-2025	28-02-2025	1	Faculty members/Staffs of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Define research • Identify different aspects of research. • Appreciate the four elements of writing a research thesis. • Follow Research Integrity and Publication Ethic • Follow several ethical issues • Identify Error and Fraud in research • Prepare Database and research metrics • Follow how to publish research outcomes

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48	CU178B	Power Generation from Energy Resources and Estimating and Costing of Non-conventional Energies	2000	Kolkata	Contact	Sheela Yadav Rai	24-02-2025	07-03-2025	2	Faculty from Electrical Engineering and allied Disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify potential sources of conventional energies for power generation • Describe potential sources of non-conventional energies for power generation • Explain environmental aspects of power generation • Appreciate about various power projects • Suggest Estimation & costing of various energies
49	PS88B	Academic Leadership	1000	Kolkata	ICT	Urmila Kar	24-02-2025	28-02-2025	1	Faculty members and Technicians from Polytechnics, Engg. Colleges, Degree Colleges, Universities and other HEIs	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Identify the role of a teacher-leader • Identify the key competencies needed for an academic leader. • Assess quality of academic leadership for improvement • Develop personal action plan
50	CU179C	Cloud Computing and HPC	500	Kolkata	Hybrid	Kinsuk Giri & Ranjan Dasgupta	24-02-2025	28-02-2025	1	Any Science and Engineering Stream	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Discuss different hardware components of modern computer • Identify the limitation of modern computer in context of HPC • Discuss HPC and Cloud Computing

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51	CU180B	Applied Thermodynamics	1000	Kolkata	ICT	Rayapati Subbarao	03-03-2025	07-03-2025	1	Faculty of all Mechanical Engineering and allied disciplines	After completion of the programme, the participants will be able to: <ul style="list-style-type: none"> • Paraphrase the basics of thermodynamics. • Apply laws of thermodynamics in various problems. • Interpret the working principle and features of steam engines, turbines and condensers. • Explain the basics of i.c. engines and analyze the performance of gas turbines. • Review the processes of a steam power plant.
52	PS89C	Application of Instructional Media in Teaching Learning Process	500	In-House	Contact	Subrata Chattopadhyay	03-03-2025	07-03-2025	1	Faculty of any disciplines.	After completion of the course the participants will be able to <ul style="list-style-type: none"> • 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

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53	PS93C	Disaster Risk Resilience	500	Guw	Contact	Anil Kumar	03-03-2025	07-03-2025	1	Faculty, Disaster Management Professionals, State Government officials from SDMAs, Urban & Housing, Water Resource and Environment Forest & Climate Change Department and others	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> • Participants will be able to recall the fundamental concepts of Disaster Risk Reduction (DRR) and Management. • Participants will understand the relationship between risk, hazard, vulnerability, and disaster impacts. • Participants will apply DRRM concepts to real-world scenarios. • Participants will critically analyze past disasters and extract lessons learned for future risk reduction. • Participants will assess the effectiveness of different DRR strategies and plans.
54	CU181B	Introduction to Machine Learning and Deep Learning	1000	BBSR	Contact	Indrajit Saha	10-03-2025	14-03-2025	1	Faculty members and Instructors from all disciplines	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> • describe the fundamentals of Machine Learning (ML) and Deep Learning (DL) • apply ML for clustering, classification and regression • explain ML and DL in classroom

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55	PS90C	Innovations in Human Resources: Strategies for Success	500	Kolkata	ICT	Deepak Mehra	10-03-2025	14-03-2025	1	Faculty Members of Technical and Management Institutions of all disciplines	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> • Identify key concepts and trends in modern human resource management. • Explain how innovative HR strategies can enhance employee engagement, retention, and organizational performance. • Apply innovative HR practices, such as talent management, employee well-being, and diversity initiatives, to improve workforce performance. • Analyze the impact of emerging technologies, like AI and machine learning, on HR processes and decision-making. • Evaluate the success of HR innovations in improving organizational culture, employee satisfaction, and productivity. • Design innovative HR strategies that address current workforce challenges and support long-term organizational success.

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56	CU182B	Machine Learning with Python	1000	Kolkata	Hybrid	Kinsuk Giri & Chandan Chakrabarty	10-03-2025	14-03-2025	1	Any Science and Engineering Sytream	After completion of the programme, the participants will be will be able to <ul style="list-style-type: none"> • Explain the notion of Machine Learning and its impact on future employment • Discuss the overview of Python programming • Explain supervised and unsupervised ML techniques • Demonstrate (Hands-on-practice) of ML algorithms implementation using Python • Explore for problem solving
57	CU183A	VLSI Design	1500	Kolkata	Hybrid	Niladri Pratap Maity	10-03-2025	14-03-2025	1	Faculty members/Scientists/ 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 <ul style="list-style-type: none"> • Discuss basic of VLSI Design and device fundamentals • Follow Electron Device Modeling • Follow VLSI circuit Design Methodology • Prepare Digital VLSI Design • Use basic VLSI Design Tools • Discuss overview of VHDL/Verilog • Identify different CAD tools • Follow recent govt. schemes for VLSI Design • Explain High-k Dielectric Materials Selection of IC technology

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58	CU184A	Logic, Philosophy and Artificial Intelligence	1500	Kolkata	Contact	Samir Roy	10-03-2025	14-03-2025	1	Faculty from any Discipline	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • Explain various aspects of Logic, Philosophy and Artificial Intelligence as well as their interrelations.
59	CU185A	Fundamental of Power Electronics and Electric vehicles	1500	Kolkata	ICT	Soumitra Kumar Mandal	17-03-2025	21-03-2025	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 <ul style="list-style-type: none"> • Study operating principle and characteristics of Power Electronics Devices • Describe operation and control of converters • Identify applications of converters in Electric vehicles

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60	CU186B	Laboratory Practice in Wastewater Analysis	1000	Kolkata	Contact	Sailendra Nath Mandal	17-03-2025	21-03-2025	1	Faculty and Staff of any discipline	After completion of the programme the participants will be able to <ul style="list-style-type: none"> • Illustrate knowledge of basic concept of different parameter of wastewater, sampling, preservation, analysis, standards, interpretation of result and impact on human health , • Demonstrate skill of handling equipment, 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 solid waste, wastewater analysis/ treatment laboratory, • Demonstrate attitude of hand-on working in the laboratory/field (Plant Visit)
61	CU187B	Earthquake resistant structures (special emphasis will be given on FEMA-356, IS 1893-2016 and IS 13920-2016)	1000	BBSR	Contact	Mithu Dey	17-03-2025	21-03-2025	1	Faculty from civil and allied branches	After completion of the programme, participants will be able to <ul style="list-style-type: none"> • explain the earthquake effect on structures. • Use the different methods of analysis • Use different codal provisions for analysis and design of structures Demonstrate the advanced technology to make the earthquake resistant structures.

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							From	To			
62	CU188B	Data Analysis with MATLAB	1000	In-House	Contact	Nirmal Kumar Mandal	17-03-2025	21-03-2025	1	Faculty from all Disciplines	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> • Perform linear and non-linear regression of an engineering system • Use MALAB in modelling <p>Classify data</p>
63	MGT13B	Managerial approaches in problem solving and decision making	1000	Guw	Contact	Sukanta Kumar Naskar	17-03-2025	21-03-2025	1	Faculty and staff from all disciplines	<p>After completion of the programme, participants will be able to:</p> <ul style="list-style-type: none"> • Identify approaches in problem solving • Identify step by step in decision making • Identify tools of problem solving and decision making • Apply tools in problem solving and decision making

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.

Programme Calendar 2024-25

Application Form Link: <http://www.nitttrkol.ac.in/download/Application%20Form.pdf>

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Sl. No.	Prog. Code	Programme Title	Fees (Rs.)	Venue	Prog. Mode	Programme Co-ordinator(s)	Date		Week	Target Participant / Group	Programme Outcomes
							From	To			
64	PS91B	Universal Human Values and Ethics	1000	Kolkata	ICT	Urmila Kar	17-03-2025	21-03-2025	1	Faculty members and Technicians from Polytechnics, Engg. Colleges, Degree Colleges, Universities and other HEIs	After completion of this programme, the participants will be able to <ul style="list-style-type: none"> Analyse the essentials of human values and skills, self exploration, happiness and prosperity. Evaluate coexistence of the “I” with the body. Identify the role of harmony in family, society and universal order. Explain the holistic perception of harmony at all levels of existence. Develop appropriate technologies and management patterns to create harmony in professional and personal lives.
65	CU189C	R Programming for Engineering Problem Solving	500	Kolkata	Contact	Chandan Chakraborty	24-03-2025	28-03-2025	1	Faculty of CSE/ECE/EE/IT and Allied Disciplines	After completion of the programme, the participant will be able to <ul style="list-style-type: none"> Use Basic Syntax and Libraries of R Programming Write R Coding for Statistical Analysis of Data Solve real-life classification and clustering problems.

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Programme Calendar 2024-25

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Sl. No.	Prog. Code	Programme Title	Fees (Rs.)	Venue	Prog. Mode	Programme Co-ordinator(s)	Date		Week	Target Participant / Group	Programme Outcomes
							From	To			
66	CU190C	Ergonomics & Product Design: Bridging Usability and Innovation	500	Kolkata	ICT	Deepak Mehra	24/03/25	28/03/25	1	Faculty Members of Technical and Management Institutions of all disciplines	<p>After completion of the programme, the participants will be able to</p> <ul style="list-style-type: none"> Identify key principles of ergonomics and their relevance in product design. Explain the relationship between ergonomic factors and product usability. Apply ergonomic principles to the design of products, ensuring user comfort, safety, and efficiency. Analyze the effectiveness of ergonomic design choices in improving user satisfaction and performance. Evaluate the impact of ergonomic considerations on the overall success of product design, including innovation and user experience. Design innovative products that integrate ergonomic principles to enhance usability, safety, and efficiency.

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Prog. Mode: Contact - Offline, ICT – Online, Hybrid – Both online and offline

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Programme Calendar 2024-25

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Sl. No.	Prog. Code	Programme Title	Fees (Rs.)	Venue	Prog. Mode	Programme Co-ordinator(s)	Date		Week	Target Participant / Group	Programme Outcomes
							From	To			
67	CU191C	Water and Wastewater Management – Challenges and Solutions	500	BBSR	Contact	Sailendra Nath Mandal	24-03-2025	28-03-2025	1	Faculty and Staff of any discipline	After attending the programme the participants will be able to acquire – <ul style="list-style-type: none"> • knowledge of different drinking water and Wastewater testing parameters, equipment, methods of testing , different standards, treatment techniques and impact on human health, • skill of 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 and wastewater testing laboratory. (Laboratory Visit) • attitude of live demonstration in the laboratory/field (Industry Visit).
68	CU192C	R Programming	500	Guw	Contact	Kinsuk Giri	24-03-2025	28-03-2025	1	Faculty of all disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> • explain the different aspects of R • apply R to solve problems • use R for visualizations

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Programme Calendar 2024-25

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Sl. No.	Prog. Code	Programme Title	Fees (Rs.)	Venue	Prog. Mode	Programme Co-ordinator(s)	Date		Week	Target Participant / Group	Programme Outcomes
							From	To			
69	CU193B	Vibration and Its Effects on Engineering Systems	1000	Kolkata	Contact	Nirmal Kumar Mandal	24-03-2025	28-03-2025	1	Faculty of Engineering with preference to Mechanical, Civil, Architecture & allied disciplines	After completion of the programme, the participants will be able to <ul style="list-style-type: none"> Describe different types of vibrations Explain the importance of vibration analysis in Mechanical and Civil Engineering Identify the application of vibration analysis in design of machines Identify the major design and detailing considerations of structures subjected to vibrations
70	PS92B	NAAC Accreditation	1000	Kolkata	Contact	Rayapati Subbarao	24-03-2025	28-03-2025	1	Faculty of all disciplines	After completion of the programme, the participants will be able to: <ul style="list-style-type: none"> Identify the impact of accreditation. Prepare Vision, Mission and COs. Identify the criteria for NAAC. Categorize different key indicators. Explain how to prepare SSR.
71	CU194C	Construction Planning and Management	500	Kolkata	Contact	Kunwar R Singh	24-03-2025	28-03-2025	1	Faculty from civil and allied branches	After attending the programme, the participants will be able to <ul style="list-style-type: none"> Understand Construction Project Lifecycle Develop and Interpret Project Schedules Manage Project Resources Identify potential project risks

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Programme Calendar 2024-25

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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: <http://www.nitttrkol.ac.in>) **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 Assessment.
- 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 3rd 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

Programme Calendar 2024-25

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➤ Course Fee Details:

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

- 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.

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