



NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING & RESEARCH, KOLKATA

(Under Ministry of Education, Government of India)
Block-FC, Sector-III, Salt Lake City, Kolkata-700106
Phone: 033 6625 1919 / 033 2337 4125
Website: www.nittrkol.ac.in

**Vacancy Notification
Advertisement No.05/2021-22**

Online Recruitment Applications are invited for direct recruitment for the following:

S. No.	Name of the post	Pay Level / Consolidated Pay	Tenure	Number of post(s)	Nature of assignment
1.	Assistant Professor	57,700/- + DA	3 Years	08	Contractual
2.	Technical Assistant Grade II (Civil)	29,200/- + DA	3 Years	01	Contractual
3.	Technical Assistant Grade II (Electrical)	29,200/- + DA	3 Years	01	Contractual
4.	Section Officer Grade II (Secretarial)	35,400/- + DA	3 Years	01	Contractual
5.	Section Officer Grade I (Accounts)	Pay matrix Level 7 Rs. 44,900/- to Rs. 1,42,400/-	3 Years, if on deputation	01	Deputation / Direct Recruitment

The candidates willing to apply for the above posts are advised to visit Institute's website www.nittrkol.ac.in. The detailed advertisement along-with Instructions and Additional information to candidates for recruitment has been displayed on Institute's website. The last date of submission of application is 19th July 2021.

The Institute reserves the right to fill-up or not to fill-up any post(s) without assigning any reason. No correspondence shall be entertained in this regard. No interim enquiry of any kind is permissible. The Institute website may please be seen from time to time for information.

Date: 19/06/2021

DIRECTOR

VACANCY NOTIFICATION
ADVERTISEMENT NO.05 / 2021-22

GENERAL INFORMATION

The National Institutes of Technical Teachers' Training and Research (NITTTR) Kolkata, formally known as TTTI (ER), were established on 11th January 1965 by the Ministry of Education, Government of India in Bhopal, Chandigarh, Chennai and Kolkata to improve the quality of Polytechnic education system in the country. These institutes were regional in character and served the technician education in their respective regions of the country. The institutions train technical teachers in educational pedagogy, institutional management, instructional material development and student evaluation. Currently the Institute has 5 departments viz. (1) Civil Engineering (CE), (2) Computer Science & Engineering (CSE), (3) Electrical Engineering (EE), (4) Mechanical Engineering (ME) and (5) Education and Management (E & M) with 25 faculty members. On-going activities of the Institute are given in **Annexure A**.

DETAILS OF THE POSTS

Applications are invited from Indian nationals for the following posts in the various departments of the Institute at Kolkata:

S. No.	Name of the post	Pay Level / Consolidated Pay	Tenure	Number of post(s)	Nature of assignment
1.	Assistant Professor	57700/- + DA	3 Years	08	Contractual
2.	Technical Assistant Grade II (Civil)	29,200/- + DA	3 Years	01	Contractual
3.	Technical Assistant Grade II (Electrical)	29,200/- + DA	3 Years	01	Contractual
4.	Section Officer Grade II (Secretarial)	35,400/- + DA	3 Years	01	Contractual
5.	Section Officer Grade I (Accounts)	Pay Matrix Level 7 (Rs. 44900/- to Rs. 142400/-)	3 Years , if deputation	01	Deputation / Direct Recruitment

MINIMUM QUALIFICATION:

1.	Assistant Professor (Contractual) – 08 Consolidated Pay: Rs. 57,700/-+DA	<p>Essential Qualification: Engineering / Technology B. E. / B. Tech. / B. S. and M. E. / M. Tech. / M. S. or Integrated M. Tech. in relevant branch (CSE/EE/ME and CE) with first class or equivalent in any one of the degrees as per AICTE norms.</p> <p>Desirable:</p> <ol style="list-style-type: none"> 1. Experience in technical teachers' training, in designing curriculum of Engineering and Polytechnic colleges; 2. Integration of Information Technology in the specific area of specialization; 3. Experience of guiding the project work/dissertation of PG/Research (Ph. D) Students or supervising R & D projects in industry; 4. Capacity to undertake/ lead sponsored R & D consultancy and related activities, in Engineering / Education / Management 5. National/International Projects handling; and 6. Any other specialization as decided by the Institute.
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2.	<p>Technical Assistant Grade II - 01 (Civil) Consolidated Pay: Rs. 29,200/-+DA</p>	<p>Essential Qualification: Matriculation or its equivalent (Class 10) Diploma in Civil (3 years) Experience: Minimum of 10 Years of experience Desirable:</p> <ol style="list-style-type: none"> 1. Should have skill and proficiency in construction activities like masonry and concrete work with requisite knowledge of necessary quality control measures. 2. Should have exposure to basic experimentation in the field of structural, geotechnical, transportation and surveying. 3. Should have exposure to basic civil engineering modelling software
3.	<p>Technical Assistant Grade II - 01 (Electrical) Consolidated Pay: Rs. 29,200/-+DA</p>	<p>Essential Qualification: Matriculation or its equivalent (Class 10) Diploma in Electrical (3 years) Experience: Minimum of 10 Years of experience Desirable:</p> <ol style="list-style-type: none"> 1. Should have skill and proficiency in conducting practical experiments in Basic Electrical, electronics, instrumentation and control engineering and assisting faculty, trainees and students in fabrication of model/ project etc. 2. Should have skill and proficiency in application software like PSCAD/MATLAB/LABVIEW etc. 3. Should have skill in working with analog/digital hardware like Operational amplifier, microprocessor/microcontroller/DSP etc. and its programming for real time application development
4.	<p>Section Officer Grade II – 01 (Secretarial) Consolidated Pay: Rs. 35,400/-+DA</p>	<p>Essential Qualification: Graduate in any discipline Experience: Minimum of 6 Years of experience in relevant field in the Pay Level of 5 or its equivalent Desirable: Knowledge</p> <ul style="list-style-type: none"> • Shorthand (speed 100 wpm) and typing (speed 40 wpm) • File Management System • Handling tour of higher officials • Handling of correspondence independently.

5.	Section Officer Grade 1 (UR) Pay Matrix Level 7 (Rs. 44,900/- to Rs. 1,42,400/-)	Essential Qualification: Graduate in any discipline Experience: 5 Years of experience in relevant field in the Pay Level of 6 or its equivalent Desirable: Professional qualification in Finance/Accounts/Auditing

SERVICE CONDITIONS

For the following posts:

- Assistant Professor (contractual)- 08
 - Technical Assistant Grade II (Civil) (contractual)- 01
 - Technical Assistant Grade II (Electrical) (contractual)- 01 and
 - Section Officer Grade II (Secretarial) (contractual)- 01
1. The vacancies are tenure based and shall not confer any right whatsoever upon the candidate for appointment to any post of the Institute, in future.
 2. Only consolidated remuneration mentioned against the post will be given.
 - For Section Officer Grade I (Accounts):
1. The Institute is governed by the rules and regulations of the NITTTR Society in force / amended from time to time and is fully financed by Ministry of Education, Government of India.
 2. Appointment to the posts will be governed by the Institute rules & regulations. Pay and other allowance will be admissible as per rule. The new appointee shall ordinarily be borne under New Pension Scheme(NPS) unless otherwise specified.

GENERAL INSTRUCTIONS:

1.	Late date for applying online: 19th July 2021 (Upto 6:15 pm)
2.	Link for online applications: Application form for Teaching post Application form for Non-Teaching posts Sample Form for Teaching post Sample Form for Non-Teaching posts
3.	Application Fee: Application Fee in favour of the Director, NITTTR, Kolkata payable at Kolkata or online payment through NEFT/RTGS in the following SBI Account No. 10836428657, IFSC Code: SBIN0001612 of the Institute. <ul style="list-style-type: none"> ➤ Non-refundable application fee: Rs. 500/- (General / OBC candidates) ➤ Candidate applying for more than one post will have to apply separately for each post and pay the application fee for each post. ➤ Rs. 250/- Application fee for SC/ST/Persons with disabilities candidates. ➤ Applications without fee will be summarily rejected.
4.	Age and Age relaxation: Age Limit (as on 01/05/2021) <ol style="list-style-type: none"> 1. Assistant Professor (contractual) : No age bar 2. Technical assistant Grade II (Civil) (contractual) : 35 Years 3. Technical Assistant Grade II (Electrical) (contractual) : 35 Years 4. Section Officer Grade II (Secretarial) (contractual) : 40 Years 5. Section Officer Grade 1 : 40 Years Relaxation with regard to upper age limit for the posts mentioned in Sl. No. 2, 3, 4 and 5 are as per Government of India rules.
	DA: As applicable from time to time by the Government of India/Institute.

	HRA: Office accommodation will be provided for staying. No house rent allowance will be given.
5.	The eligibility of applicants in respect of age, qualifications, experience will be determined with reference to the last date of applying as specified at Serial 1 above.
6.	Candidates have to apply online ONLY. Candidate should take a printout of the filled application and keep it for record. No need to send hardcopy as no hardcopy will be accepted.
7.	Number of posts as mentioned in advertisement may be increased or decreased depending on the Institute's requirements.
8.	The Director, NITTTR, Kolkata reserves the right to either fill up all the posts or some of the posts or none of them without assigning any reason.
9.	The Director, NITTTR, Kolkata reserves the right to cancel the entire recruitment process for all the posts or partial post(s) without assigning or clarifying any reason.
10.	The link will be closed immediately after 5:00 pm on 15 th June 2021.
11.	Candidate should upload scanned copies of the following: <ol style="list-style-type: none"> 1. Proof of age; 2. Educational Qualification (details marks sheets and Degree / Diploma) 3. Copies of experience certificate(s), if any; 4. Certificate of reservation claimed, if any; 5. Photograph; and 6. NOC from current employer / organization.
12.	There is no need to submit any certificate in original along with the application. The Institute does not take responsibility for returning any certificate. Candidate will be required to bring their original certificates, in case, called for interview / document verification / skill test.
13.	If a candidate is found to have furnished any particulars which are false or to have suppressed information, will be disqualified, and if appointed will be liable to dismissal.

Screening / Selection Process:

14. The Selection process will be as follows:

1. Assistant Professor (contractual)

Only short listed candidates as per the merit list prepared, based on the following criteria, will be called for document verification and interview.

Criteria for Screening and Selection for the post of Assistant Professor:

Scoring Criteria	Weightage
B.E./B.Tech	20%
M.E. / M.Tech	20%
Integrated ME/MTech	40%
Ph.D	10%
Publication in Journal/Patent	10%
Interview after screening	
Interview	40%

2. Criteria for Screening and Selection for Technical Assistant Grade II (Civil), Technical Assistant Grade II (Electrical) (contractual) & Section Officer Grade II (Secretarial) (contractual):

a. Written test followed by trade test.

b. Only shortlisted candidates for each post in merit prepared on the basis of written test will be called for document verification and trade test.

c. Weightage:

Component	Weightage
Post specific	50%
Mental ability, Reasoning and Mathematical skills	15%
Computer Awareness	15%
English Language Proficiency	20%

d. Trade test will be of qualifying nature and will not carry any marks.

e. If a candidate fails to qualify the trade test, his / her name will be removed from the merit list.

3. Criteria for Screening and Selection for Section Officer Grade 1

a. Written test.

b. Only first (Top) 20 candidates for the post in merit prepared on the basis of written test will be called for document verification.

c. Weightage:

Component	Weightage
Post specific	50%
Mental ability, Reasoning and Mathematical skills	15%
Computer Awareness	15%
English Language Proficiency	20%

15.	All the applicants will be allowed to take the written test. It is in the interest of the candidates that they should satisfy themselves regarding the eligibility requirements before applying for any of the posts. During document verification if the candidate fails to prove his / her eligibility, then his / her name will be removed from the list and all his / her claims will be forfeited and no refund of any kind will be permitted.
16.	Only candidates who qualify the written test and are placed in the merit list and will be called for document verification / trade test, as applicable.
17.	Any candidate, if called by the Institute, fails to appear for the written test / document verification / trade test, he / she will not be considered for appointment and no further correspondence will be permitted.
18.	Only successful candidates will be informed of the results of his / her test / interview / document verification in due course and interim enquires about the result will not be entertained.
19.	Applicants called for interview will be paid travel support as per the Institute norms.
20.	No correspondence will be entertained from the applicant either before or after the selection. The decision of the Institute would be final and binding.
21.	Canvassing in any form will disqualify the applicant.
22.	The proof of education, qualification, age, experience and reservation claimed, etc. will be verified on the date to be notified by the Institute. No shifting of date or change of date is permitted. Candidates applying for the post of Section Officer Grade I (Accounts) on deputation will required to bring copy of the ACRs of last 3 years along with No Objection Certificate.
23.	Anything which is not mentioned will be as per the Institute norms as approved by the Competent Authority.
24.	It is the full responsibility of the candidate to prove the eligibility against the applied post.
25.	Separate application for each post along with application fee is required, if applying for more than one post.
26.	The written test for all the posts will comprise following components: a. The written test for all the posts will be MCQ (Multiple choice Questions) type; b. There will be 100 questions in each test; c. The total duration for the test will be 2 hours; d. There will be separate question papers for each of the posts. e. The minimum qualifying marks will be 50% for the candidates from unserved category and 45% for reserved category candidate.

NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING & RESEARCH, KOLKATA

The National Institute of Technical Teachers' Training & Research (NITTTR), Kolkata, (formerly known as Technical Teachers' Training Institute, Eastern Region, Calcutta) was established in 1965 by the then Ministry of Education, Govt. of India. Its primary focus is to provide in-service training to the teachers and staff of Polytechnic Institutions. In 2003, Ministry of Human Resource Development, Govt. of India, accorded national status to this Institute in recognition to its expert services for overall improvement of the quality of Technical Education System. NITTTR, Kolkata's other focal activities include staff development programmes, development of learning resource materials, curriculum development, research, educational management, and rendering extension services to various academic bodies. At present NITTTR, Kolkata is also offering four AICTE approved regular Postgraduate Programmes. The Institute has two Extension Centers, one at Guwahati and another at Bhubaneswar to cater the training need of the respective regions.

The Institute has 5 academic departments and they are Civil Engineering, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, and Education & Management. All these departments are well established and are equipped with the start-of-art machines in the laboratories. It is a wifi- based and fully green campus. The institute is currently having 25 faculty members with basic qualification in one of the branches such as Civil Engineering, Chemical Engineering, Computer Science & Engineering, Electrical Engineering, Instrumentation & Electronics Engineering, Mechanical Engineering, Management, Production Engineering, Textile Engineering, Biotechnology, Mathematics, Physics and Education. All faculty members are fully dedicated towards the improvement of technical education system in the country and working on various activities of the Institute.

On-line Course Materials Development

NITTTR, Kolkata is actively engaged in design and development of various MOOCs of different durations for more than one year in the area of pedagogy. The proposed programme lays emphasis on the following:

1. Skill: Pedagogy, Communication, Psychomotor
2. STEM Education
3. Research and Development
4. Self-empowerment

Out of the above, the Institute is at present in the process of developing MOOCs related to teaching skills, research and development and self-empowerment. In due course of time other MOOCs will be designed and developed. NITTTRs shall offer the proposed programme in such a way that MOOC courses would be an integral part of delivery system following AICTE guidelines.

The Institute has a well-equipped studio with acoustically treated and up-to-date lighting facilities. The studio has multi-camera full HD recording facility with Sony's XDCAM Video Camera and other professional production equipment i.e. Vision Mixer, Audio Mixer, Light controller etc. with trained technical manpower in the areas of photography and video production. The facilities are under modernization as per latest trends in digital video. The studio has produced a large number of broadcast grade video films and lecture series. The studio also contributed for development of resources for satellite based education.

National Resource Centre

The Ministry of Human Resource Development (MHRD) has launched an initiative of online professional development of 1.5 million higher education faculty using the Massive Open Online Courses (MOOCs) platform SWAYAM. In the first phase, 75 discipline-specific National Resource Centres (NRCs) have been identified which are tasked to prepare online training material with focus on latest developments in the discipline, new and emerging trends, pedagogical improvements and methodologies for transacting revised curriculum. This Institute has been chosen by the Ministry of Human Resource and Development (MHRD), Government of India, as the NRC (Mechanical Engineering). Under this initiative, all in-service teachers, irrespective of their subject and seniority will have an enabling opportunity to keep abreast of the latest developments in their disciplines through the technology based online refresher course. The NRCs will develop the Refresher Module which will include the latest trends in their earmarked discipline by June 15 each year.

Strength of each department of the Institute which is given below may help one to understand more about the Institute.

Civil Engineering

Major departmental activities include, conducting short term training programme (STTP), regular M. Tech programme, Research and others (curriculum development, workshop etc.). Department has offered nearly 200 short term training programme in last two and current academic years in various areas of Civil Engineering, Earthquake Engineering, Civil Engineering Lab, Environmental Science & Engineering and Education Technology. Department also engaged with Curriculum Development of Polytechnic institutes for Eastern and North Eastern region of the country and had organized seminars and workshop in the national level. Department was actively involved in Tech Ed I and Tech Ed II of World Bank project. Department has organized number of workshops on specialized areas of civil engineering for academic and practicing engineers.

Apart from these, department also offers M. Tech in Structural Engineering approved by AICTE and affiliated by Maulana Abul Kalam Azad University of Technology (MAKAUT), West Bengal. Total sanctioned intake for the M Tech programme is 9. Since it's inception of M. Tech programme (i.e. 2011-12) till date, total number of M. Tech students pass out is 33. After attaining higher degrees, some of the M. Tech pass out from the department are working as research scholar at IITs, some of them are working as faculty members at reputed educational institutes, some of them are absorbed in organizations like Indian Railways, PWD, Bentley Systems India etc.

Faculty members in the department are actively engaged in *research* in core and interdisciplinary areas of Civil Engineering, Environmental Science and Engineering as well as in Education Technology. Currently, department has more than 100 reputed national and international journal papers. The department has well equipped Geotechnical Engineering, Transportation Engineering, Structural Engineering, Concrete Technology Earthquake Engineering, Departmental Computer Laboratory and Environmental Pollution Monitoring Laboratories and undertake research and consultancy activities in the specialized areas. The major equipment of Civil engineering lab includes Electro-dynamic Shake Table, Universal testing machine, compressive testing machine, and different non-destructive and semi-destructive testing instruments like USPV tester, Rebound Hammer, core cutter, CAPOTEST etc. Some of the major equipment in Environmental Pollution Monitoring Laboratory is Atomic Absorption Spectrophotometer, UV-VIS Spectrophotometer, Auto Titrator, pH, Conductivity, Turbidity, DO Meter, BOD Reactor, COD Digester, Programmable Jar Tester, Multi-gas Analyzer, Smoke Meter, Stack Monitoring Kit, PM10/2.5 Analyzer, Sound level meter etc.

The department has sophisticated computer laboratory with number of renowned and widely used software to perform modelling, analysis and design of civil engineering structures such as AUTOCAD, STAADPRO, ANSYS with Civil FEM, ETABS etc.

Computer Science & Engineering

Since the establishment, the department is engaged in various academic activities including conducting of Short Term Training Program, International and National Seminar, offering advanced level programmes, infrastructural development, research activities etc. The department is actively involved in organizing Short Term Training Program in collaboration with different International and National agencies and institutes. In recent past, Department has organized one TVET program with UNESCO-UNEVOC and four regional programs in collaboration with Colombo Plan Staff College, Manila, Philippines an Inter-Governmental organization involving various countries of Asia and Pacific region. The department has also organized ISTE Summer School for faculties of engineering colleges and polytechnic system regularly. The department has offered various advanced level programme in the area of Machine Learning, Artificial Intelligence, Soft Computing, DBMS, Networking, Software Engineering, Computer Architecture, Multimedia, Internet technology etc. since its inception.



The Department of Computer Science and Engineering, NITTTR, Kolkata is also offering 2-year 4 semester full-time Post Graduate Programme (M. Tech) in the area of Multimedia and Software Systems since 2005. Since 2005, a total of 208 M.Tech theses have been written with more than 35 published articles. A large number of M. Tech pass-outs have opted for academics/ research as career and are now placed in various reputed institutes e.g. NITs, IITs, JU, IIIT as well as abroad. Apart from the routine short-term and long-term programmes, the department has conducted a one year full time Post-Graduate Programme (PGDIM, in collaboration with CMC Ltd.) in the area of Information Management during 1994-2000. The department has a very strong linkage with of IT and allied Industries and Universities and experts from there, are regularly taking part in the multifarious activities of the department like Curriculum Development, organization of Seminar and Workshop, taking lectures in various emerging areas etc. The department was actively involved in World Bank Project on Strengthening Technician Education (Tech Ed - I and Tech Ed - II) Project. Under the Project department has developed a number of IT Curriculum, Instructional Material and facilitated infrastructural and capacity expansion for the polytechnic. The department has acted as resource institution in developing MIS and Satellite Based Instructional Material Program for the World Bank States in Eastern and North Eastern Region.

Academic
Programmes



All the faculty members of the department are actively engaged in research in technical education and different areas of computer science. In this process, more than 500 publications in different National and International Conferences and Journals had been done by the members of faculty in last 3 decades and have represented the Institute in USA, Europe and Asia Pacific region. The total number of 20 PhD scholars awarded, 2 submitted and 3 registered under the guidance of the faculty members of this department. The department is current having DST sponsored bilateral project between India and Poland.



Research

The department is equipped with the state-of-the-art computing resources including more than 250 odd clients with 20 servers in a networked environment. All the servers such as Web Server, DNS, Video Servers, and Application Servers are located in Data Centre. The department also has a NKN leased line for uninterrupted internet connection. The department is equipped with one Integrated Computer Centre and five laboratories viz., (a) Computational Intelligence Laboratory (b) Database Laboratory (c) Cloud Computing Laboratory (d) Multimedia Engineering Laboratory (e) Linux Laboratory. The above five laboratories are equipped with state-of-the-art computing facilities along with relevant software.



Facilities

Electrical Engineering

The department of Electrical Engineering is one of the core department of the Institute & was established to facilitate long term training to the faculty members of the polytechnic system of the eastern region of the country. The department is also pioneer in imparting short term training programmes in the broad areas of Electrical, Electronics, Instrumentation and Biomedical Engineering mitigating the needs of the Polytechnic, Engineering and Pharmacy College teachers of the Eastern region in particular and the Country in general. It started offering M. Tech Programme in Mechatronics Engineering from 2005. The dedicated faculty members of the Department are actively involved in research both in the emerging area of Technology and pedagogy related to Electrical Technology and Technical Education. It has been declared as Quality Improvement (QIP) Centre by AICTE in 2016 to offer Ph.D programme in Engineering and the programme is affiliated by Maulana Abul Kalam Azad University of Technology (MAKAUT), West Bengal. The Department has a very strong linkage with Industries and Universities. Experts are regularly taking part in the diverse activities of the department like Curriculum Development, participation in various Seminars and Workshops, taking lectures in various emerging areas etc. The members of faculty of the department are also invited very frequently to work as experts in different academic activities of Universities and other bodies.

To keep pace with the development in the frontier areas of Technology especially in the field of system Automation, Control and Cybernetics, the Department has developed well equipped laboratories with state of the art facilities viz. Mechatronics Laboratory, Process Control Laboratory, Measurement & Transducer Laboratory, Electrical Machine Laboratory, Microprocessor Laboratory, Advanced Control Laboratory, Power System Laboratory and Non-Conventional Energy Laboratory etc. to impart appropriate practical skills in Technical Teachers' Training and to support Post Graduate and Research Programmes. Some of the experimental setups are shown below



Automatic Sorting Station in Mechatronics Laboratory



Process Control using DCS



Load Cell in Measurement & Transducer Laboratory



Experimental setup on Electrical Machine



Microprocessor based control system



DC Motor speed & position control system



Experimental setup on Power System Laboratory



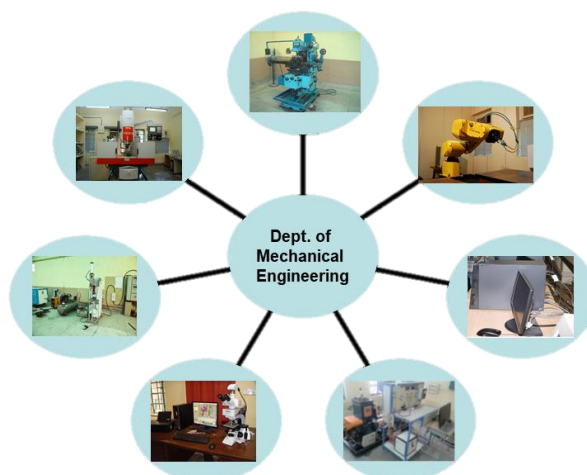
Solar Panel for Non-Conventional Energy sources

Faculty members of the department are actively engaged in research in different areas of interest. In this process, they have already published about more than 100 research papers in different National and International Journals and Conferences and represented the Institute in various International Conferences in different countries.

Mechanical Engineering

Major departmental activities include, conducting short term training programme (STTP), regular M. Tech programme and others (curriculum development, workshop etc.). Department has offered nearly 200 short term training programme in last two and current academic years in various areas of Mechanical Engineering, Advanced Material Engineering and Education Technology. Department also engaged with curriculum development of polytechnic institutes for Eastern and North Eastern region of the country and had organized seminars and workshop in the national level. Department was actively involved in Tech Ed I and Tech Ed II of World Bank project. In recent past, department was actively engaged with 1st National Innovation Talent Contest for Polytechnics (NITCP) in 2015-17. Apart from these, department also offers M. Tech in Manufacturing Technology approved by AICTE and affiliated by Maulana Abul Kalam Azad University of Technology (MAKAUT), West Bengal.

The department is well equipped with **major facilities** in traditional and non-traditional Mechanical Engineering and Material Science & Engineering. The department has seven major Research Centres/Laboratories *viz.* Welding Centre, CAD/CAM Centre, Materials Characterization Laboratory, Conventional Machining Laboratory & Workshop, Thermal Engineering Laboratory, Departmental Computer Laboratory and Robotics Laboratory. The major facilities of Welding Centre include TIG welding, MIG welding, submerge Arc welding, pulse TIG welding, spot welding machine, welding simulator, plasma cutting machine. CNC milling machine, CNC turning machine and CNC wire cut EDM are the key facilities of CAD/CAM Centre. Materials Characterization Laboratory is equipped with the state-of-the-art facilities including tool maker's microscope, conventional metallurgical microscope, stereo metallurgical microscope, dish polishing machine, hardness testing machine, impact testing machine, and universal testing machine. All geared high speed lathe, combined universal cum vertical milling machine, high temperature vacuum furnace for powder technology, hydraulic trainer, pneumatic trainer, C-type hydraulic press, shearing machine are the major facilities of Conventional Machining Laboratory and Workshop. Thermal Engineering Laboratory of the department having facilities like computerized variable compression ratio multi-fuel engine test rig, multi cylinder petrol engine test rig, variable compressor ratio (VCR) dual fuel engine test rig. ANSYS, MATLAB, AUTOCAD, EDGE CAM are software resources available for the Departmental Computer Laboratory. Further, industrial robot is the major resource facility in the Robotics Laboratory.



Faculty members in the department are actively engaged in **research** in core and interdisciplinary areas of Mechanical Engineering and Material Engineering as well as in Education Technology. Currently, department has more than 110 reputed national and international journal papers with total SCI impact point of more than 130 (total citation over 2000), 85 national and international conferences, 6 book chapters, 2 books and 2 USA patents. With its strong faculty profiles, excellent infrastructure facilities, having a strong Technical Education and Management Department in the Institute with several well-known faculty members in the domain area of Pedagogy and Education Technology, the experience of the Director as the NPTEL Coordinator of IIT Kanpur and above all the geographical location advantage of Kolkata, Department of Mechanical Engineering of this Institute is a good choice for the National Resource Centre in the domain of Technical Teachers' Training (Mechanical Engineering)

Education & Management

The department is actively involved in training technical teachers since its inception. As a result of merger of three departments and centre stated above, the department of Education & Management has become a veritable forte of expertise in important areas of Pedagogy & Educational management. The department being the foundation of the Institute feels proud in serving & contributing towards conduct of a greater share of training programmes both in the Institute & in-house. The training programmes are designed on the basis of training needs analysis report and therefore, are highly customized as per the need of the clientele. Design / revision and implementation of courses under Diploma & Degree programs is a regular activity of the department. The department has offered various new programmes for teachers in the areas of Pedagogy, Student performance evaluation, NBA, Outcome based education & assessment, Strategic management & planning, Emotional intelligence, Problem solving and decision making, Student mentorship. Besides developing learning resources, this department is constantly contributing towards preparing video programmes for Gyan Darshan Channel. The department has coordinated vetting of equipment under upgradation of existing polytechnic scheme, Govt. Of India.

Faculty members of the department were actively involved in World Bank Project on Strengthening Technician Education (Tech Ed –I, –II & -III) System. Under the Project, the department has coordinated the monitoring & implementation of academic components, preparing DPRs etc.

In addition to its pivotal activities of training & research, the faculty members of the department, in their own capacity, are also involved in delivering invited talks/ keynote addresses at national and international forums besides participating in national & international conferences and seminars. Some of them have also been contributing as members of various internal and external committees and academic bodies.

Though the department has contributed in the key areas of training, curriculum revision, research, extension services & learning resource development, its contribution in the last five years is noteworthy. Education & Management has made efforts in designing the UNESCO-UNEVOC supported International Capacity Development Programme on Training of Trainers. Besides contributing in several training & assessment sessions of the said programme, the department has also made academic contribution in the Regional Program on Quality and Sustainability in TVET in collaboration with CPSC, Manilla in the year 2017.

Several need-based workshops related to NBA and Outcome based education have been conducted in different parts of the country. Regional Workshops for improving Technical Education in the North-Eastern states have also been organized by the department. The department has also assisted the states particularly those of the eastern and north-eastern regions in successful conduct of the skill development programmes under TVET. In the recent past Training of Trainers under West Bengal NSDI Pilot training project was successfully conducted.

The department has made sustained endeavours in proposing various research activities in the last three years. To name a few are, 'Evidence based research to study training impact', 'Management of academic quality', 'Action research especially at Diploma level of Engineering', 'Professional development of teachers in core pedagogical areas', 'Technology enabled teaching '.