



Training Calendar

July to September, 2024

"एनपीटीआई के साथ, पावर सेक्टर का सुनिश्चित सम्पूर्ण विकास"



Fifty Years of Service to the Power Sector



राष्ट्रीय विद्युत प्रशिक्षण प्रतिष्ठान
National Power Training Institute
विद्युत प्रणाली प्रशिक्षण संस्थान

Power Systems Training Institute

(Ministry of Power, Govt. of India)

(An ISO 9001: 2015 & ISO 14001: 2015 Organization)

Bangalore- 560070



Tele Fax: 080-26713758

Website: www.nptibangalore.com
Email: pstinpti.training@gmail.com

Circular Letter

Sir,

Sub: Circular letter inviting nominations for the training courses - reg.

National Power Training Institute, Power Systems Training Institute (PSTI), Bangalore invites nominations for the following courses proposed to be conducted during the **July - September, 2024** quarter. Further Details of Courses and General Information are enclosed herewith.

Sl. No.	Course	Period	Course fee for Indian participants in Rupees including GST@18%	
			Non-Residential	Residential
1	Gas Insulated Substation	01.07.2024 to 05.07.2024	21,240/-	30,385/-
2	Wide Area Monitoring, Protection & Control (WAMPAC) & PMU Applications	08.07.2024 to 12.07.2024	21,240/-	30,385/-
3	Applications of Artificial Intelligence & Machine Learning in Power Sector	10.07.2024 to 12.07.2024	15,340/-	21,063/-
4	Substation Planning & Engineering	22.07.2024 to 26.07.2024	21,240/-	30,385/-
5	Distribution Transformers - Failures - Trends in O&M	29.07.2024 to 02.08.2024	21,240/-	30,385/-
6	Power System Communications SCADA & EMS	05.08.2024 to 09.08.2024	21,240/-	30,385/-
7	Big Data Management in Power Sector	07.08.2024 to 09.08.2024	15,340/-	21,063/-
8	High Voltage Testing of Power System Equipment	19.08.2024 to 23.08.2024	21,240/-	30,385/-
9	Renewable Energy: Economics, Policy and Regulation	21.08.2024 to 23.08.2024	15,340/-	21,063/-
10	O & M, Testing of Power Transformers and HT Circuit Breakers	02.09.2024 to 06.09.2024	21,240/-	30,385/-
11	Battery Energy Storage Systems for Grid Ancillary Services	05.09.2024 to 06.09.2024	10,620/-	14,632/-
12	Electrical Safety & Inspection of electrical Installations, accidents, Prevention & Recent Trends	02.09.2024 to 06.09.2024	21,240/-	30,385/-
13	Power Sector Regulation & Reforms	23.09.2024 to 24.09.2024	10,620/-	14,632/-
14	Power System Protection	23.09.2024 to 04.10.2024	38,940/-	60,180/-
15	Advanced Power System Protection	30.09.2024 to 04.10.2024	21,240/-	30,385/-

It is requested that the nominations for these courses may please be sent so as to reach this office at least 14 days before the commencement of the course by Post/Fax/Email.

It is also requested to furnish the fax, email addresses and telephone Nos. of the sponsoring authorities and the sponsored candidates for convenient communication. All payments in respect of the above short term courses shall be done in advance as given in general information enclosed.

Sanjay D Patil
Director / HoI

Encl.: As above

JULY, 2024

1. Gas Insulated Substation

Duration: 05 days

Duration: 05 days

Duration: 05 days

Schedule: 01-05.07.2024

Rs. 21,240/-

Rs. 30,385/-

Course Outline:- Overview of a GIS System, Hybrid GIS Substations, Advantages and Disadvantages of GIS Systems, SF6 gas, leak detection, and gas monitoring systems, Physical arrangements used in GIS, International Standards on GIS, Economics of GIS vs AID, Contaminants and Oxidation in the Gas, Enclosure Modules for a GIS System, Conductors in a GIS System, Circuit Breakers and Transformers used in GIS Systems, Switching and Arrester Devices used in GIS Systems, Connections in a GIS Systems, The Control System of a GIS, Testing and Installation and Operational Procedures for a GIS.

2. Wide Area Monitoring, Protection & Control (WAMPAC) & PMU Applications

Duration: 05 days

Non-Residential course fee inclusive of GST per participant (INR)

Residential course fee inclusive of GST per participant (INR)

Schedule: 08-12.07.2024

Rs. 21,240/-

Rs. 30,385/-

Course Outline: WAMPAC involves the Monitoring, Protection & control of large scale network over a wide geographical area, PMU Applications like Operation, Planning & Maintenance, Voltage Stability assessment, Transient Stability Analysis, Oscillation Damping, Grid Congestion Management & Post event Analysis. Synchrophasor Data: Data Collection from PMU & analysed in real time. Data use to monitor dynamic behaviour of the Grid & detect potential problems such as voltage instability, oscillation & grid disturbance.

3. Applications of Artificial Intelligence & Machine Learning in Power Sector

Duration: 03 days

Non-Residential course fee inclusive of GST per participant (INR)

Residential course fee inclusive of GST per participant (INR)

Schedule: 10-12.07.2024

Rs. 15,340/-

Rs. 21,063/-

Course Outline: Energy Systems, Machine Learning & Models – Concepts, Deep Learning or Advanced Machine Learning for Power Quality Disturbances, Waste Minimization Technique, Electricity market price prediction using advanced machine learning, Power Sector – Overview, Power Distribution Sector – Era of Reforms, Role of IT – Implementation & Impact in Power Distribution Sector and Smart Metering Tech. In Distribution Reforms.

4. Substation Planning & Engineering

Duration: 05 days

Non-Residential course fee inclusive of GST per participant (INR)

Residential course fee inclusive of GST per participant (INR)

Schedule: 22-26.07.2024

Rs. 21,240/-

Rs. 30,385/-

Course Outline:- Planning of Substation & Preparation of Project Report, Layout of Substation, Choice of Switching Schemes and Bus Bar /Bay Design, Selection of Substation Main Equipment, Design considerations of Substation equipment and Earthing, Cost estimates of Sub-Station and case studies, Electrical Clearances and pre-commissioning inspection, Over Voltages & Selection of Surge Arrestors, Engineering of Protection System for Substation, Measurement of Soil Resistivity, Metering in Substation, Substation Automation, Field visits, Case studies

5. Distribution Transformers - Failures - Trends in O&M		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 29.07-02.08.2024	Rs. 21,240/-	Rs. 30,385/-
Course Outline:- Design and Manufacturing of Distribution Transformers, Erection, Testing and Commissioning of Distribution Transformers, Transformer Oil Characteristics, Filtration and Reclamation Techniques, Maintenance of Distribution Transformers, Protection and Failure Analysis of Distribution Transformers and Field Visits		

AUGUST, 2024		
6. Power System Communications SCADA & EMS		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 05-09.08.2024	Rs. 21,240/-	Rs. 30,385/-
Course Outline: Data Acquisition System, Supervisory Control, Communications – VSAT, Microwave, Optical fibre, Communication networks & Protocols, SCADA in Transmission and Distribution, EMS Hardware: SCADA, control centre, EMS Software: SCADA & Database, EMS Software: Generation applications, EMS Software: Network applications and Field Visits		
7. Big Data Management in Power Sector		
Duration: 03 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 07-09.08.2024	Rs. 15,340/-	Rs. 21,063/-
Course Outline: Analytics Introduction, Role of Data Management, Role of Descriptive Analytics in Power Sector, Predictive Analytics in Power Sector, Predictive Analytics-Advanced with Machine Learning, Case Analysis		
8. High Voltage Testing of Power System Equipment		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 19-23.08.2024	Rs. 21,240/-	Rs. 30,385/-
Course Outline:- High voltage technology, Solid insulating media, liquid insulation media, Gas & Vacuum Insulation, Generation of high voltages for testing, High voltage measurements, High voltage testing of transformers, Testing of Circuit Breakers, Testing of Surge Arrestors, Testing of Insulators, Cables, Capacitors, High Power Testing of switchgear, Partial Discharges and Field visits.		

9. Renewable Energy: Economics, Policy and Regulation		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 21-23.08.2024	Rs. 15,340/-	Rs. 21,063/-
Course Outline:- RE Development – Global and Local Context, RE Policy and Regulation, Tariff Determination of Renewable Energy, Framework for RPO and its Compliance, Competitive Bidding for RE, Gross/Net Metering and DERs, Solarization of Agriculture Pump Sets, REC Structure and Pricing Mechanism, Market for RECs and ESCerts, Forecasting, Scheduling and Deviation Settlement, Green Hydrogen: Technology, Mission, Standards and implementation Roadmap, Green Hydrogen: Economics and Policy and Current Trends and Future Prospects of Renewable Energy		

SEPTEMBER, 2024		
10. O & M, Testing of Power Transformers and HT Circuit Breakers		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 02-06.09.2024	Rs. 21,240/-	Rs. 30,385/-
Course Outline: Transformers – construction, connections, Tap changing mechanism & parallel operation, Selection & sizing of transformers, transformer neutral earthing & substation earthing practices, Testing of transformers, Condition monitoring of transformers, Protection of Transformers, Maintenance of transformers, Application & design of Air & Gas Insulated circuit breakers, Selection & sizing, performance analysis of circuit breakers, O&M testing, condition monitoring of circuit breakers and Field Visits		
11. Battery Energy Storage Systems for Grid Ancillary Services		
Duration: 02 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 05-06.09.2024	Rs. 10,620/-	Rs. 14,632/-
Course Outline: Introduction to battery energy storage systems, BESS as a leverage to reduce thermal must-run power station, System structure & Inclusion of BESS in a hybrid power plant (HPP) or virtual power plant (VPP), BESS advantages for ancillary services, BESS sizing for ancillary services, BESS economics in ancillary services, BESS performance, Outlook for sizing methodology and Outlook for BESS economics		
12. Electrical safety and Inspection of Electrical Installations, Accidents Prevention & Recent trends		
Duration: 05 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 02-06.09.2024	Rs. 21,240/-	Rs. 30,385/-
Course Outline:- Legal and Statutory Requirements on Electrical Safety, Powers of EIs, Supplier and CESEs, Safe Work Practices, Earth Resistance & Earth Fault Loop Impedance, Voltage Classification and Interpretations of Regulations, Various Types of Earthing Arrangements and Design, Protection against Overvoltage, Lightning Arresters, Lightning Protection System, Relays, Protection & Coordination, Selection of Cables and Conductors, Transformers and DG Installations, Protection of Sensitive Devices against Conducted and Radiated Emissions, Case Study-An Integrated approach to Earthing Design, Verification & Testing and Fire Safety Measures		

13. Power Sector Regulation & Reforms		
Duration: 02 days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 23-24.09.2024	Rs. 10,620/-	Rs. 14,632/-
Course Outline:- Fundamental and applied learning of the regulatory process of tariff determination, comprehensive overview the Electricity Act 2003, Policies & Rules, Comprehend legal and policy development in the power sector, Understand the relevance of competition in power sector, Opportunity to learn best practices from National and International experts.		
14. Power System Protection		
Duration: 02 weeks	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 23.09-04.10.2024	Rs. 38,940/-	Rs. 60,180/-
Course Outline: Fault analysis, Relay input sources, Protection of Generators & motors, Protection of bus bars, Protection of Transformers, Protection of EHV lines, Protection of Distribution systems, Protection against over voltages, Insulation co-ordination, Testing of Surge Arrestors, Testing & commissioning of relays, Integrated Protection, Control & Monitoring, Intelligent Electronic Devices in system protection, Software Architecture and performance characteristics of numerical relays, Wide Area Protection, Present trends in protection, Case studies, Laboratory sessions, Tutorials and Field visits		
15. Advanced Power System Protection		
Duration: 05 Days	Non-Residential course fee inclusive of GST per participant (INR)	Residential course fee inclusive of GST per participant (INR)
Schedule: 30.09-04.10.2024	Rs. 21,240/-	Rs. 38,385/-
Course Outline:- Overview of System Protection, Numerical Relays, Protection of Transformers, Transmission lines, Bus bars, Feeders, Integrated Protection, Control & Monitoring, Intelligent Electronic Devices in system protection, Software Architecture and performance characteristics of numerical relays, Wide Area Protection, Video Sessions and Field Visits		

General Information

1. Entry requirements:

- Engineers / Supervisors / Faculty of Private and Government Institutions/ Power Corporations / Utilities / Companies and Technical Educational Institutions may participate in the programs. The TA & DA of the participants have to be borne by the sponsoring authorities.
- The participants shall report at 9:30am on the first day of training program at PSTI.

2. Mode of Payment:

- Payments must be made in the form of **e-transfer**. The bank account details are given below.
- The bank transaction details should be sent by mail to pstinpti.training@gmail.com.

Bank Details in case of e-transfer:

- Name of the Beneficiary : Power Systems Training Institute, Bangalore
- Name of the Bank & Branch : State Bank of India, Banashankari II Stage Branch
- Address of the Branch : 9th Main Road, Banashankari-II Stage, Bangalore: 560070
- NEFT IFSC Code : SBIN0006767
- Account Type : Current
- Account No. : 10031210203
- MICR No. : 560002008
- RTGS IFSC Code : SBIN0006767
- GSTN: : 29AACAN2698A4ZG
- Pan No.: : AACAN2698A
- Tan No: : BLRP00338C
- SAC (Service Accounting Code) : Commercial Training 999293

Note: NPTI (PSTI) is a non-profit making educational institute. It does not come within the purview of I.T Act for deduction of tax at source vide 10(23C) (iii ab) of I.T Act 1961. Hence no tax deductions at source shall be done against PSTI payments.

4. Address for correspondence:

Nominations shall be sent at least 14 days before commencement of the course/workshop.
Contact Person: Sh. Sanjay D. Patil, Director & HoI: 9480253706; sanjay.npti@gov.in

Other Contact Details:

Office	080-26713758
Smt. Piyali Sarkar , Deputy Director (Trg.)	9900097375; piyali.npti@gov.in
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