



**GOVERNMENT OF INDIA  
MINISTRY OF POWER**



**National Power Training Institute  
Power Systems Training Institute  
Bangalore: 70**

# **Brochure of**

## **‘POST GRADUATE DIPLOMA COURSE IN TRANSMISSION & DISTRIBUTION SYSTEMS (26 Weeks)**

**XXXIV BATCH (July, 2026)**

**NATIONAL POWER TRAINING INSTITUTE**

**(Ministry of Power, Govt. of India)**

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

**Power Systems Training Institute**

**Subramanyapura Road, Near Yarab Nagar Bus Stop,**

**Banashankari II Stage, Bangalore- 560 070**

**(KARNATAKA) INDIA**

**Contact: 080 26713758**

**E-mail : [pstinpti.training@gmail.com](mailto:pstinpti.training@gmail.com)**

**Website: <https://npti.gov.in/en/psti-bangalore>**



**NATIONAL POWER TRAINING INSTITUTE**  
**Power Systems Training Institute**  
 (An ISO 9001:2015 & ISO 14001:2015 Organization)  
 Ministry of Power, Govt. of India  
 BANGALORE-560 070

**26-WEEK POST GRADUATE DIPLOMA COURSE IN  
 TRANSMISSION & DISTRIBUTION SYSTEMS**

**WHY YOU SHOULD JOIN?**

The Indian Power Sector is changing substantially in its institutional arrangements for its regulation as well as the structure. Major changes have been introduced in the Power Sector through private participation, reforms, restructuring, apart from technological, and perception changes that are also taking place simultaneously. It has further created a large demand for the trained persons in Electrical Utilities.

This is a job oriented **Graduate Engineer Program** for those who desire to make a career in the power sector. On successfully undergoing this course the Graduate Engineers will find immense opportunities of employment in Indian Power Sector.

**ABOUT THE COURSE**

The course content complies with the syllabus for Engineers and Supervisors for Operation & Maintenance of Transmission & Distribution Systems as per Safety and Electric Supply Regulations 7(3) of Govt. of India.

The instruction and training methodology comprises 60% theory and 40% practical Sessions. The main objective of the course is to create a technically and professionally trained manpower available for the Power Industry.

**PLACEMENT**

Many of our previous batch trainees are employed with reputed Organizations like Sterlite Grid, Bajaj Electricals, Wind World India Ltd., Arcadis, Toshiba Transmission and Distribution, Khatib and Alami, JVS Electronics, National Contracting Company, Atkins Global, KEC, Kalpataru Power Transmission Co., Adani Power, Kalkitech, Suzlon, Genus Power & Infrastructure Company, Manav Energy Pvt Ltd, Oblum Electric, Vijay Electricals, Teems India Towerlines Pvt. Ltd., Open Systems International, Schweitzer Engineering Lab Pvt. Ltd., Manikaran Power Etc.

**IMPORTANT POINTS**

- ✓ **ELIGIBILITY:** Bachelor of Engineering or equivalent in “Electrical” / “Electrical & Electronics” / “Power Engineering”.
- ✓ **AGE LIMIT:** No age limit.
- ✓ **SELECTION CRITERIA FOR ADMISSION:** Percentage of marks obtained in the B.E. or equivalent examination as per University norms.
- ✓ **NO. OF SEATS:** 60 (Sixty only). 25% seats are reserved for sponsored category. Reservation for SC, ST, OBC & PH will be as per Govt. norms in the non-sponsored category.
- ✓ **FEES:**
  - Rs. 1,45,000 + GST @ 18% (in three installments)
  - Rs.27,000/- is Hostel room charges for residential candidates and canteen charges will be as per actual.
- ✓ **SPONSORED CANDIDATES:** The candidates sponsored by the companies, if fulfilling eligibility requirement, will be admitted directly
- ✓ **HOW TO APPLY**  
Download the Application form from our website and send it as directed in the application along with payment details. Payment should be made through online. The bank details are given in the brochure.

**IMPORTANT DATES**

<b>Issue of Prospectus</b>	<b>04.05.2026</b>
<b>Last Date for receipt of application forms in all respect</b>	<b>03.06.2026</b>
<b>Display of merit list in website</b>	<b>01.07.2026</b>
<b>Counseling &amp; Admission</b>	<b>06.07.2026</b>
<b>Commencement of the Course</b>	<b>13.07.2026</b>

**ADDRESS FOR CORRESPONDENCE**

Sh. Sanjay D. Patil: 9480253706  
 Director & Head of Institute  
 National Power Training Institute-PSTI,  
 Subramanyapura Road, Banashankari-II Stage,  
 Near Yarrab Nagar Bus stop, Bangalore-560 070  
 Tel. 080-26713758  
 Email : pstinpti.training@gmail.com  
 Website : <https://npti.gov.in/en/psti-bangalore>

## **ABOUT NPTI, BANGALORE**

Power Systems Training Institute, Bangalore, established in the year 1972 (formerly functioning under CEA) has been brought under the National Power Training Institute (NPTI); the National Apex Body for Training Power Sector Personnel in the country w.e.f. 1<sup>st</sup> April 2002. During the last **53** years, the Institute has trained many power sector personnel in the area of Transmission & Distribution of Power, who are manning various important positions in Power Sector of the Country. It has a self-contained complex with hostel and Institute with all infrastructural and instructional facilities. The PSTI, Bangalore is equipped with the laboratories for Power System Studies, Power System Simulation, Relay Testing and High Voltage Testing. The Hot Line Training Center, also a unit of NPTI in Bangalore, imparts live line maintenance training of High Voltage transmission lines up to 400KV. The Institutes have experienced Faculty members, Trainers, Laboratories, etc.

## **WHY YOU SHOULD JOIN?**

Power Sector is a continuously expanding sector of Indian infrastructure contributing significantly to the GDP. The Indian Electricity Act, 2003 has opened private sector participation in the Transmission & Distribution of Power creating a large demand for the trained persons in Electrical Utilities.

The main objective of the course is to create technically sound and trained manpower readily available for recruitment to the power utilities dealing with Transmission & Distribution of Electrical Power.

This is a job oriented **Graduate Engineer Program** for those who desire to make a career in the power sector. On successful completion of this course, the Graduate Engineers will get their knowledge and skills sharpened, paving the way for better employment opportunity in various power companies.

## **ABOUT THE COURSE :**

The course content complies with the syllabus for Engineers and Supervisors for Operation & Maintenance of Transmission & Distribution Systems as per Safety and Electrical Supply Regulations 7(3) of Govt. of India.

## **PLACEMENT :**

NPTI maintains close linkage with companies. Placement assistant will be provided by the Institute. The previous trainees got placement in Sterlite Grid, Bajaj Electricals, Wind World India Ltd., Arcadis, Toshiba Transmission and Distribution, Khatib and Alami, JVS Electronics, National Contracting Company, Atkins Global, KEC, Kalpataru Power Transmission Co., Adani Power, Kalkitech, Suzlon, Genus Power & Infrastructure Company, Manav Energy Pvt Ltd, Oblum Electric, Vijay Electricals, Teems India Towerlines Pvt. Ltd., Open Systems International, Schweitzer Engineering Lab Pvt. Ltd., Manikaran Power Etc. However, the placement depends on the response from the Industry and performance of the trainees.

## **ELIGIBILITY :**

**Bachelor of Engineering or equivalent in "Electrical" / "Electrical & Electronics" / "Power" Engineering**

## **AGE LIMIT :**

**No age limit.**

## SELECTION CRITERIA FOR ADMISSION:

**Percentage of marks obtained in the B.E. or equivalent examination as per University norms. In case of universities awarding Grade Points (CGPA or equivalent), the same should be converted into percentage and the conversion formula obtained from University/College should be attached.**

### No. OF SEATS:

60 (Sixty) Reservation for SC, ST, OBC & PH will be as per Govt. norms in the non-sponsored category.

### Fee: (Non-sponsored Category)

#### Residential Course Fee

	1st installment	2nd installment	3rd installment	Total Residential Course fee
Course fee	45000.00	50000.00	50000.00	145000.00
GST @ 18%	8100.00	9000.00	9000.00	26100.00
Lodging charges	9000.00	9000.00	9000.00	27000.00
Caution Deposit	15000.00			15000.00
<b>Total installments</b>	<b>77100.00</b>	<b>68000.00</b>	<b>68000.00</b>	<b>213100.00</b>

#### Non Residential Course Fee :

	1st installment	2nd installment	3rd installment	Total Residential Course fee
Course fee	45000	50000	50000	145000
GST @ 18%	8100	9000	9000	26100
Caution Deposit	15000			15000
<b>Total installments</b>	<b>68100</b>	<b>59000</b>	<b>59000</b>	<b>186100</b>

### HOW TO APPLY:

Application form along-with prospectus can be obtained from the Institute by paying cash or at the following address by post sending A4 size self addressed envelope alongwith an online paid receipt towards application fee of Rs. 500/-. The online banking details are as follows:

#### 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 : 9<sup>th</sup> 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

The application form complete in all respects along with the attested copies of documents listed in the application form are to be sent or submitted in person to the address mentioned below latest by **03.06.2026**. NPTI shall not be responsible for any postal delay or loss of mail.

### Address for Correspondence

Shri. Sanjay D. Patil  
Director & HoI,  
**National Power Training Institute-PSTI,**  
Subramanyapura Road, Banashankari-II Stage,  
Near Yarab Nagar Bus stop, Bangalore-560 070

### Contact Details:

Office	080-26713758
Shri. Sanjay D.Patil, Director	9480253706, sanjay.npti@gov.in
Smt. Piyali Sarkar, Deputy Director	9900097375, piyali.npti@gov.in
Smt. K Madhavi, PS-II	6362609386, pstinpti.training@gmail.com

### IMPORTANT DATES

<b>Issue of Prospectus</b>	<b>04.05.2026</b>
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### GENERAL

**Security Deposit:** An amount of Rs. 15,000/- as Caution Money (Refundable) against use of Library, Hostel, Stores, etc. is to be deposited by the student at the time of joining the Institute.

**Hostel:** No outsiders – known or relatives – shall be permitted to use hostel facilities for whole or part of the day.

### REFUND POLICY :

**Refund on Discontinuation of the course:** In case a selected candidate discontinues from the program for any reason, no part of course fees and lodging charges will be refunded. The security deposit becomes refundable at the time of discontinuation after the dues.

**Refund on Completion of Course:** Only the Security Deposit will be refunded after deduction of dues, if any.

**Late Fee:** If a candidate fails to deposit any installment of course fee by the due date, late fee @ Rs. 100/- per week will be chargeable from the due date.

The right of admission will rest with NPTI. Candidates found irregular in attending training or uninterested shall not be considered for placement and/or their course certification will be reviewed.

### HOW TO REACH THE INSTITUTE:

The Institute is about 10 KMs south of Bangalore City Railway Station/Bangalore City Bus Stand and 45 KMs from Bangalore International Air Port from where Pre-paid taxi / Auto-rickshaw services are available. City buses also ply via Yarab Nagar bus stop (bus route Nos. 15C, 15E, 15H, 210A, 210R and 210E from Bangalore City Bus Station).

## SYLLABUS

### 1. General Introduction

**Power Generation :** Thermal, Hydro, Nuclear and Gas ,Renewable Energy Sources Generation, Transmission & Distribution Scenario of India.

**Types of generation:** Conventional and Renewable, Thermal Power Plant, Hydro Power Plant, Gas Power Plant, Nuclear Power Plant, Co-generation.

#### **Renewable Generation and Grid Integration**

**Overview of Rooftop Solar PV:** Potential of RTS in India, State wise breakup, About Grid Connected SPVRT, Components, Area requirement, Shadow free calculation, Daily energy generation calculation, advantages of RTS, factors affecting RTS generation. Stages of installation

**Safety standards:** Importance of earthing, earthing standards, types of earthing, Anti islanding grid protection, need of SPVRT and lightning arresters as per safety standards, Quality Management and Monitoring, Connections with Net metering connections, Smart meter and Generation/Utility meters./Video Lecture Demonstrations.

**RTS System design:** Technology selection, cost of system and sizing, site survey, Cell parameters, BoQ, Single line diagram and procedure to submit the data to DISCOM.

**Grid connectivity and inspection procedure:** Interconnection technical specifications and requirements (as per IEEE 1574 & CEA regulation 2013), interconnection parameter checklist, component inspection checklist, Grid connection functional checklist, commissioning tests, standards for design of RTS, challenges in integration of RTS with utility during planning, implementation and operational stage. Connected DT capacity.

**Net metering:** Net meter connection application, Connection Site Inspection & Verification report, Consumer Declaration Certificate, Vendor agreement with all related annexures, Safety checks, joint inspection report, Sanction of connection order, Billing and Documentations, periodic check for healthiness of the system, Indicative reward system for rooftop solar promotion.

Introduction to Floating Solar Technologies, Requirement to Implement A Floating Solar power Plant (Floating structure/Mooring system/Under water Cabling)/ Advantages of Floating Solar PV/ Selection of floating solar power plant site/ Selection of PV module and sizing/ Inverters Selection and Sizing (Grid Connection and Off Grid)/ Connection of PV Module (Series and Parallel Circuit)/ System Losses of Solar Power Plant & Solar Power System Yield Performance.

### 2. Power Transmission Line Engineering

EHV Transmission system in India, Tower types, Conductors, Earth wire, Insulators, Statutory clearances, Surveying, Route Alignment, Tower erection, Tower Testing, Stringing, Transmission Line Commissioning, Maintenance of transmission line, Thermo vision scanning, Hot line Fire fighting-Types of fire, fire fighting/system, fire extinguishers

### 3. EHV Substation Planning & Engineering

Substation Planning, Site selection, Layout of substation & Civil works, Selection of main equipment, Selection of switchgear, Electrical clearances, Instrument transformers-selection & Performance, Control & Instrumentation in Substations, Substation auxiliaries, Substation grounding practices, Demo on grounding.

#### **4. Power System Studies**

Power System Modelling, Load flow studies, Tutorial on load flow studies, Study state fault analysis, Tutorial on Fault Analysis, Transient stability studies, Relay Co-ordination studies, Tutorials, EMTP Studies.

#### **5. Power System Protection**

Overview of Power System Protection, CTs and PTs, Generator Protection, Transformer Protection, Transmission Line Protection – distance schemes, Transmission line protection – unit schemes, Bus Bar Protection, Motor Protection, Over voltages in Power Systems, Protection against over voltages, Insulation Co-ordination

#### **6. Distribution System Engineering**

Distribution systems overview, Planning, Design and selection of pole structures conductors insulators etc., Pole erection, conductors stringing, Layout of earth wire, neutral wire guarding, jointing of conductors, jumpering etc.; Location, construction and erection of pole mounted sub stations; Selection, fixing of switches, fuses etc.; Operation & Maintenance of Distribution Lines.

#### **7. O & M of Distribution Substations and Distribution Metering**

Distribution Substation - types, layouts, bus bar arrangements; Selection of Distribution sub station equipment, Distribution sub station relay schemes, O&M of Relay schemes, Substation Operation overview, Code of practice in Sub Station Operations, Work permits, line clear procedure, Maintenance of log books, Records etc., Distribution Substation Operation - Case studies; Types, design and construction of distribution meters, Failure analysis of Distribution Meters.

#### **8. Communication in Power Systems**

Communication systems: PLCC, Microwave, Leased lines, OPF, Satellite, Power Line Carrier Communication, Optical fibre communication, Satellite communication, Planning and selection of communication systems, Trends in communication, Telemetry, Tele control and Tele protection

#### **9. Power system Operation - Active and Reactive Power Despatch, SCADA, AGC & ED**

Functions of Load Despatch Centres, Supervisor control & Data requisition, Load forecasting, generation scheduling, load management & load shedding, Energy management system functions, Voltage and frequency control, Grid Disturbances-Case Studies, State estimation, Security and contingency analysis, Voltage and frequency control, Automatic Generation Control and economic dispatch, Application of SCADA in power systems, Application of EMS in power systems.

#### **10. Electrical Safety and Statutory Regulations**

Safety Requirement, Hazards, Electrical Accidents and prevention, First Aid, Fire fighting-Types of fire, fire fighting/system, fire extinguishers

#### **11. Labs:** Despatcher Training Simulator, Relay Testing, Power System Studies, HV Testing, Instrumentation, Switchgear Labs

#### **12. Technical Visits:** Sub-stations, Transmission Lines, Power Plants, Manufacturing units, Testing Centres, etc.

## **Application of Data Science in Transmission & Distribution**

13. **Python for Data Science:** Python Basics, Data Structures & Handling, Functions, NumPy, Pandas
14. **Data Base and SQL:** Database Concepts, Data Models and SQL, Sub Queries and Joins, Analytical/Window Functions, Transaction Processing – ACID Properties
15. **Statistical Methods for Decision Making:** Descriptive Statistics, Probability and Distributions, Hypothesis Testing, ANOVA, ChiSquare, Statistical Simulation Techniques
16. **Machine Learning:** Regression Algorithms, Exploratory Data Analysis, Feature Engineering, Linear Regression – Model Building & Fine Tuning, Regularization Techniques, Model Deployment.
17. **Data Visualization:** Structuring Analytic Problems, Analytical Framework, Data Storytelling, Dashboard and Visualization Principles, Tableau, Microsoft Power BI, Dashboard.
18. **Machine Learning:** Classification Algorithms, Logistic Regression, K-Nearest Neighbours, Decision Trees, Ensemble Techniques, Random Forest  
  
Unsupervised Algorithms, Clustering Techniques, K-means Algorithm, Dimensionality Reduction, Recommender System
19. **Natural Language Processing:** Text Analytics – Basics, Document Summarization and Classification, Sequential Modeling, Transformers, Introduction to Generative AI, Introduction to Large Language Models (LLMs), Popular LLMs (GPT, LLaMA etc., Prompt Engineering, Fine-tuning LLM LLM Application Development (using Lang Chain)
20. **Deep Learning :** Neural Networks, Tensor Flow and Keras, Computer Vision, CNN and Applications, Transfer Learning and Applications, Object Detection, Siamese Networks, and GANs
21. **Big Data :** Hadoop, HDFS and Map Reduce, NoSQL and MongoDB, Batch Processing (Hive, HBase), Real Time Processing (Spark, Kafka)
22. **Cyber Security in Critical Infrastructure:** Introduction to ICS (Industrial Control System) and SCADA, Government of India Guidelines of MoP, Worldwide Case Studies of Critical Infrastructure Cyber Attack, Evolution of Communication System, Evolution of Automation and Digitalization, Perdue Model for Industrialization 5.0. Introduction to Vulnerability Assessment (Weakness) and Penetration Testing (Exploitation). Segmentation/Zoning of the Network as per the Guidelines and Mitigation Techniques.



10. Educational Qualifications (Starting from highest qualification)

Sl. No.	Examination passed	Branch/ Subject	Year of passing	College/ University	Percentage of marks/class (as per University norms)
1.					
2.					
3.					
4.					

Self Attested photocopy of qualifying degree, mark sheet and proof of date of birth are to be sent along with application form.

11. Experience after Graduation (if any)

Sl. No.	Designation	Name of organization	Period of Employment		Nature of duties
			From	To	
1.					
2.					

12. Are you a Sponsored Candidate?

Yes	No
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If Yes, please furnish the certificate given below:

**Certificate of Sponsorship ( In Company's Letter Head)**

This is to certify that Mr./Ms. \_\_\_\_\_, working in this concern/organization from \_\_\_\_\_ as \_\_\_\_\_, will be sponsored by us in case he/she is selected for admission to the 26 weeks PGDC in "Transmission & Distribution Systems" for the session of **July, 2026**.

Signature of Employer  
Name  
Designation  
Address

Place:  
Seal:

13. Proof of Identity (attach copy)

(Employer ID/Passport/Driving License/PAN Number, etc)

14. Any other information:

(Offer of job in hand, continuing education, bond/liability/commitments etc.)

15. **List of Documents to be attached with the application:**

- Payment proof towards Application fee of Rs. 500/-
- One Passport size photo
- Self Attested photocopy of qualifying degree and age
- Self Attested photocopy of Mark sheet of the qualifying degree & conversion formula obtained from university in case of Grade Points.

- e) Sponsorship Certificate, Experience Certificate, Salary Slips/Bank Statement (if applicable)
- f) Community Certificate (if applicable)

### **DECLARATION**

The above furnished information are true to the best of my knowledge and belief. In case of anything found misleading or wrong or incomplete I agree that my candidature is liable to be rejected without any notice.

Signed on this \_\_\_\_\_(day) of \_\_\_\_\_(month) \_\_\_\_\_( year)

Place:  
Date :

Signature of Candidate \_\_\_\_\_  
Name (in full ) \_\_\_\_\_

**Note: Application complete in all respects along with the self attested copies of the documents indicated must reach:**

**To  
The Director & Head of Institute,  
National Power Training Institute,  
Power Systems Training Institute,  
Near Yarabnagar Bus stop,  
Banashankari II stage,  
Bangalore 560 070**

**on or before 03.06.2026 by 6.00 PM.**

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### **FOR OFFICE USE ONLY**

**Enrolment No:**

**Application Fee for Rs. 500/- Online Transaction No.**

**Date**

**Type of Candidature**

**Sponsored**

**Non-Sponsored**

**Certificate Proof attached :**

**Age**

**Qualification**

**SC/ST/OBC**

**Sponsorship**

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