

## NATIONAL POWER TRAINING INSTITUTE

### COURSE CONTENTS

#### ONE YEAR POST GRADUATE DIPLOMA COURSE (PGDC) IN POWER PLANT ENGINEERING

Contents	Hours
<b>First Semester</b>	
Business Communication & Personality Development, Power Sector Legislative & Regulatory framework.	120
Power Plant Familiarizations & Industrial safety/Renewable Sources Technology	150
Power Plant Briefing & Scheme Tracing work visit/Renewable visits. ( NTPC Badarpur, NTPC Faridabad, NTPC Dadri and Substation)	30
Advanced Steam Generation & Technology-Supercritical and FBC/ Solar PV system	30
Renewable Energy resources and Renewable Energy Grid integration	30
Solar Thermal Technologies	30
CCGT, Co-Generation & Hybrid Systems	30
Power Plant Performance & Efficiency Calculation	30
Nuclear Power Plants and Concept of Smart Grid	30
Power Plant Chemistry, Metallurgy, NDT & Welding	30
ROJ (Operation- NTPC Dadri, NTPC Faridabad, NTPC Badarpur)	60
Power Plant Operation	60
500 MW Simulator	60
ROJ (Operation- NTPC Dadri, NTPC Faridabad, NTPC Badarpur)	60
First Semester Examination	30
<b>Second Semester</b>	
Power Plant Protection	30
Wind Energy Technology and Hydro power generation	60
Control & Instrumentation	30
Maintenance Planning & Cost Control , Procurement Process Material Management, Project Financing	60
Power Reforms and regulations and Load Dispatch	30
Renewable Energy Grid Interface Technologies	30
Maintenance Practice & Inspection of Mechanical Equipment Like, Valves, Pumps, Turbine, Bearing, Boiler & Auxiliaries, Turbine & Auxiliaries, etc./Renewable Energy Project .	60
Maintenance Practice & Inspection of Electrical Equipment Like, Motors, MOV, Switchyard equipment, Transformers, Switchgear, etc. Maintenance Practice & Inspection of C& I Equipment Like, Control Valves, Actuators, SCADA, and Fields Equipments etc. /Renewable Energy Project.	30
Erection, Commissioning & Construction Management/ Renewable Energy Project.	30
Energy Storage Technologies	30
Energy Recovery ,Geothermal, Tide, Wave Energy, Hydrogen Energy, Fuel Cell	60
Bio Mass, Bio Energy and Waste to Energy	30
IT Application in Power Sector & GIS	30
Environment Management	30
ROJ (Maintenance NTPC Dadri, NTPC Faridabad, NTPC Badarpur, Renewable energy site)	120
Energy Audit & Project Management	30
Project Presentation	30
Training & visit to Mfrs. Works	30
Second Semester Examination	30