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| **NPTI-DURGAPUR** |
| **Summer Training****on****“Power Generation, Transmission & Distribution Technology”**forEngineering /Diploma Engineering StudentsDuration 3 weeks / 15 Days |
| **Module-I** **Thermal Power Generation Technology****Program Director : Shri Rajneesh Vachaspati, Dy. Director** |
| **DAY** | **TOPIC** | **FACULTY** |
| DAY-1 | Emerging Power Scenario in India  | Sh.S.K.SrivastavaDirector |
| Coal to Electricity. | Sh. R. VachaspatiDy. Director |
| General layout of a Thermal Power Station. | Dr.C.BhattacharyaDy. Director |
| DAY-2 | Introduction to Steam Generation & Steam Cycle Theory. | Sh. R. VachaspatiDy. Director |
| Coal classification and analysis. | Dr.S.SatarupaFaculty (C) |
| Description of Boiler & Boiler Circulation Theory. | Dr.C.BhattacharyaDy. Director |
| DAY-3 | Coal Mills | Dr.C.BhattacharyaDy. Director |
| Generator - Working Principle & Construction details. | Smt.A. IndiraDy. Director |
| Overview of Steam Turbine.  | Sh. D. PanditDy. Director |
| **Module – II****Boiler & Turbine Auxiliaries****Program Director : Sh. D. Pandit ,Dy. Director & Dr. C. Bhattacharya, Dy. Director** |
| **DAY** | **TOPIC** | **FACULTY** |
| DAY-4 | Draft System and Fans  | Dr. C. BhattacharyaDy. Director |
| Coal Milling Plant  | Dr. C. BhattacharyaDy. Director |
| Air Preheating Arrangement | Sh. R. VachaspatiDy. Director |
| DAY-5 | Emission Control System (Flue Gas Cleaning, dust suppression system, ESP) | Dr. C. BhattacharyaDy. Director |
| Regenerative Feed Water heating system, Deaeration and HP/LP FW Heaters. | Dr. C. BhattacharyaDy. Director |
| Condenser and CW System with concept of Turbine Vacuum system.  | Sh. D. PanditDy. Director |
| DAY-6 | Turbine Lib Oil System | Sh. D. PanditDy. Director |
| CEP, BFP and booster pumps / HP-LP bypass system | Dr. C. BhattacharyaDy. Director |
| DM Water treatment and service water system. | Dr. C. BhattacharyaDy. Director |
| **Module – III****Electrical Equipment In Power Plant****Program Director : Shri Kamal Nasir, Dy. Director** |
| **DAY** | **TOPIC** | **FACULTY** |
| DAY-7 | Generation Excitation system | Sh. Prabhas AnkuriAsstt. Director |
| Generator Cooling and Sealing system | Sh. Kamal NasirDy. Director |
| Generator synchronization & Capability Curves | Sh. Kamal NasirDy. Director |
| DAY-8 | Transformer – Working principle, construction & classification.  | Smt. A. IndiraDy. Director |
| Installation, Commissioning and various tests in Transformer including DGA | Sh. Prabhas AnkuriAsstt. Director |
| Working principle and construction of 3-phase Induction Motors  | Sh. Prabhas AnkuriAsstt. Director |
| DAY-9 | Protection system – Operating principle of Relay, their properties and classification. | Sh. Kamal NasirDy. Director |
| Universal Torque equation of Relay.  | Sh. Kamal NasirDy. Director |
| Differential relays & Earth Fault Relay | Sh. Kamal NasirDy. Director |
| **Module – IV****Alternative Sources Of Power Generation****Program Director : Smt. A.Indira, Dy. Director** |
| **DAY** | **TOPIC** | **FACULTY** |
| DAY-10 | Global & Indian Scenario of the Renewable Energy and targets.  | Dr.C. BhattacharyaDy. Director |
| Solar Power Generation Technology.  | Sh. R. VachaspatiDy. Director |
| Component of a SPV System. Microcontrollers and Inverters | Smt. A. IndiraDy. Director |
| DAY-11 | Balance of System – DC cables, Protection, earthing, LA and SPV tools and tackles.  | Sh. Suvodip SahaFaculty (C) |
| Types of SPV System- Off-Grid, On-Grid, Hybrid. | Sh. Prabhas AnkuriAsstt. Director |
| Design of a SPV System.  | Smt. A. IndiraDy. Director |
| DAY-12 | Renewable Energy - Hydro Power (Small, Mini & Micro) | Sh. R. VachaspatiDy. Director |
| Renewable Energy - Wind Power | Smt. A. IndiraDy. Director |
| Other alternative sources of power generation – Biomass, Geothermal, MHD, OTEC etc.  | Dr.S. SatpathyFaculty (C) |
| **Module – V****Transmission and Distribution System****Program Director: Shri Prabhas Ankuri, Asstt. Director** |
| **DAY** | **TOPIC** | **FACULTY** |
| DAY-13 | EHV & UHV Transmission System  | Sh. S. K. SrivastavaDirector |
| Layout of switchyard and its equipment – CT, PT, DT etc. | Sh. Prabhas AnkuriAsstt. Director |
| Circuit Breakers- Working principle, construction, types and parameters.  | Sh. Prabhas AnkuriAsstt. Director |
| DAY-14 | Transmission line and its components.  | Sh. Kamal NasirDy. Director |
| AT&C Losses and Reduction Methodology.  | Sh. S. K. SrivastavaDirector |
| Load Scheduling and Grid Management  | Sh. Kamal NasirDy. Director |
| DAY-15 | Assessment and Evaluation | Sh. Prabhas AnkuriAsstt. Director |