CENTRAL BOARD OF IRRIGATION & POWER IS CONDUCTING

5 WEEKS INTERNSHIP PROGRAM (PHYSICAL MODE) WITH CERTIFICATION

ON

POWER GENERATION, TRANSMISSION & DISTRIBUTION WITH GREEN ENERGY AND OTHER TECHNOLOGICAL INTERFACES LIKE AUTOMATION (SCADA / DMS), SMART GRID / MICRO GRID, SMART METER, HOME AUTOMATION WITH AI & ML / IOT FROM 4th July 2022

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CENTRAL BOARD OF IRRIGATION AND POWER
More than 9 decades of Service to the Nation in Power Sector
(Recognized as Grade A category-1 training Institute for providing training in the field of Hydro, Thermal, Transmission, Distribution, Renewable and Power management by Ministry of Power, Government of India)

Central Board of Irrigation & Power, Centre of Excellence
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ABOUT THE COURSE

The Indian Power Sector is presently passing through a phase of transition of technology up-gradation in the area of Generation and Transmission. Several new Ultra Mega Thermal power Projects are in the process of installation both in Public and private sectors where advanced technology with super critical parameters supported by the state of the art Control & Instrumentation system are being adopted. Simultaneously to evacuate the power, several EHV substations and long Transmission lines would be erected with associated distribution system.

Presently India has the largest Electricity Grid in the World and world’s third largest Transmission and Distribution network. Indian Power Industry being highly capital intensive is growing at a very fast rate. The installed capacity of Indian Power industry as on December, 2021 is about 393389 MW. To keep pace with GDP growth of our country it is forecasted as by 2026-27, all India power generation installed capacity will be nearly 620 GW. To evacuate and utilize this huge amount of Power, additional T&D network and trained manpower would be required. The Central Government has approved a Revamped Distribution Sector Scheme- a Reforms-based and Results-linked Scheme with an outlay of Rs. 3,03,758 crore over a period of five years from FY 2021-22 to FY 2025-26. Various new technologies like Ultra High Voltage (AC/DC) transmission system, SCADA application, remote operation of Substation etc. are being integrated. The management of this huge network shall be a challenging task. To manage this huge transmission System and Distribution network, a huge manpower adequately trained shall be required which will be of the order of 4.00 Lacs.

Keeping all these aspects in view, CBIP has taken this initiative to launch the 03/06 months Post Graduate Diploma Course in Transmission & Distribution System following the syllabus of CEA Regulations 2010 for the fresh graduate engineers who would be groomed as per the requirement of Indian Power Industry. The duration of the course would be 03/06 Months which will include the class room sessions as well as on-the-job training. The students have to attend the on-job practice sessions in various Substations. Visit to some reputed manufacturing plants shall also be arranged. To enhance the personal skills, some inputs of Management are also to be given to the students.

The course is also open for the sponsored candidates from SEBs and Power Utilities (Public & Private).

FACULTY

In-house as well as Renowned/Reputed and well experienced faculty members from Power Industry/ T&D product manufacturers/ Service Providers/ Contractors/ IIT/ NIT Engineering colleges will be delivering the lectures for the entire program.

ON-JOB

On-job training will be arranged at the sites of reputed Transmission & Distribution Companies.

WHY YOU SHOULD JOIN CBIP

- Concept of Engineering and design drawing with software.
- Concept of preparing complete estimation with BOM and Teach specification.
- Bid preparation/ tender evaluation.
- Contract document.
- Procurement/supply chain management.
- Project construction management with MS Project premiere software.
- Overall scenario of Power/ Energy at National and International level.
- Conventional Power and its accessories
- Non- Conventional Power and its accessories; Renewable / Green Energy.
- Smart Grid, Automation for Power Utility, SCADA / DMS, Micro Grid, Smart Meter, AI & ML, IOT , Data Engineering.
- Transmission and Distribution Systems
- Control & Protection of Transmission and Distribution Networks/ Substation

STRENGTHS OF CBIP

- A 95 years old establishment into dissemination of knowledge in Power, Renewable and water resources sectors.
- Almost all reputed utilities of Power, Irrigation and Renewable sectors of the country are the institutional members of CBIP
- 3000 senior officers of the level of Chief engineer and above from these sectors are the members.
• Has a great networking and close relations with all reputed utilities of these sectors CBIP is located in most posh and central place of the capital city of the country i.e., Chanakyapuri, New Delhi.
• Has a strong base of the very senior officers with deep experience of various disciplines Power, Renewable and Water Resources sectors.
• Has state of the art infrastructure facilities like digitized library, dining hall, classrooms, conference hall etc. well equipped with audio visual aids and Air conditioning system.
• Publishes very strong technical publications on very thrust areas in above three sectors.
• Has the secretariat of at least 10 international organizations and the Secretary CBIP is the secretary or the member secretary of their India chapters.
• A very strong Board with Chairperson, CWC as the President, Chairman, CEA as the vice President, Director (Solar) SECI, Chairman & MD NHPC Ltd. and MD & CEO, Adani Transmission Ltd. and Adani Power Ltd. as the other Vice Presidents

CBIP has also signed a Memorandum of Understanding (MoU) with Indian Electrical and Electronics Manufacturers Association (IEEMA) which has a network of around 650 member organizations from public, joint & private sectors including good no. of organizations associated with Transmission & Distribution systems for collaborative ventures/ efforts for enhancement of quality service through various activities viz., joint assignments, training programs, conferences, seminars, consultancy, R&D activities, joint studies and surveys, knowledge sharing and action plans identified by CBIP and/or IEEMA.
CBIP also have MoU with Global companies like ABB/ HITACHI, L&T/ Schneider, ERDA, Tata Power, SIEMENS and many more and Academic MoU with NIT Durgapur, MSME Tool rooms (Kolkata)
CBIP is India chapter of Renowned Societies including International Council on Large Electrical System (CIGRE), Society of Power Engineers (SPE) etc.
Power Sector Skill Council (PSSC) is housed in CBIP premises at Malcha Marg, Chanakyapuri, New Delhi, and CBIP is providing the secretariat support to PSSC. Chairman, CEA is the president and Shri A. K. Dinkar, Secretary, CBIP is Secretary of PSSC.
Most of the organizations (Govt. sector & Private) of Indian Power sector involved in Generation, Transmission and Distribution of Power and other sectors like renewable are the members of CBIP.
CBIP has a strong team of senior training officers, having in-depth knowledge of conducting various long-term training programs related to Power sector.

DIGITAL RECOGNITION/CERTIFICATION OF THE COURSE
Certificate will be issued by Central Board of irrigation & Power (CBIP) which is a reputed autonomous body in the field of Power & Water Resources having liaison with various Govt./Semi-Govt./Pioneer-Pvt. Sector Organizations including Central Electricity Authority, NTPC, NHPC, Powergrid etc.
CBIP institute has been recognized as Grade – A Category-I training Institute by Ministry of Power, Govt. of India under CEA regulations-2010. The syllabus of the course is as per the mandatory Training requirements specified in Central Electricity Authority regulations-2010.

ELIGIBILITY
Bachelor of Engineering or equivalent in Electrical Engineering, Electrical & Electronics Engineering (EEE), Mechanical Engineering (ME), Civil Engineering etc with minimum 60% marks.
Those appearing in their final year examination can also apply. However, they must submit their degree/provisional degree at the time of counseling/start of the course. The candidates shall also have to submit medical fitness certificate at the time of admission with no color blindness
**DETAILED COURSE CURRICULUM**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Topics to be covered</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Power Generation Overview and Conventional Power Generation, Boiler, Turbine and their Auxiliaries</td>
<td>Emerging Power Scenario in India; Overview of Power Generation, Types of Generation:- Conventional and Renewable, Thermal Power Plant, Hydro Power Plant, Gas Power Plant, Nuclear Power Plant, Co-generation; General Layout of a Thermal Power Station, Introduction to Steam Generation &amp; Steam Cycle Theory, Description of Water Tube Boiler, Boiler Circulation Theory, Generator – Working Principle &amp; Construction Details, Overview of Steam Turbine Draft System and Fans; Coal Milling Plant; Coal Milling Plant; Air Preheating Arrangement; Emission Control System – Flue Gas Cleaning, Dust Suppression System and ESP; Regenerative Feed Water Heating System, Deaeration and HP/LP FW Heaters; Condenser and CW System with Concept of Turbine Vacuum System; Turbine Lube Oil System; CEP, BFP and Booster Pumps; DM Water Treatment and Service Water System.</td>
<td>4th to 8th July 2022</td>
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<td>Electrical Equipment of Thermal Power Plant</td>
<td>Generator Excitation System; Generator Cooling and Sealing System; Generator Synchronization &amp; Capability Curves; Transformer – Working Principle, Construction &amp; Classification; Installation, Commissioning and Various Tests in Transformer including DGA; Working Principle and Construction of 3-Phase Induction Motors; Protection System – Operating Principle of Relay, their Properties and Classification; Universal Torque Equation of Relay; Differential Relays &amp; Earth Fault Relay.</td>
<td>11th to 15th July 2022</td>
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<td>Practical and Hands-on; Smart Technologies and Utilities</td>
<td>Practical Hands-on, Smart Grid, Automation for Power Utility, SCADA / DMS, Micro Grid, Smart Meter, AI &amp; ML, IOT , Data Engineering. Discom, Distribution systems, Planning, Design, Operation &amp; Maintenance. Roles and Responsibilities upto 66kV</td>
<td>1st to 5th July 2022</td>
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**HOW TO REACH CBIP**
CBIP is located at Malcha Marg, adjacent to Malcha Market, Chanakypuri, New Delhi, which is around 15 km from New Delhi Railway Station and around 18KM from Delhi Domestic Airport.

**HOW TO REACH CBIP CENTRE OF EXCELLENCE, PLOT NO-21, SECTOR-32, GURGAON, (TRAINING INSTITUTE)**
Gurgaon, is the second largest city in the Indian state of Haryana and is a part of the National Capital Region (NCR). It is about 15 Kilometers from IGI Airport, New Delhi. Gurgaon is well connected to Delhi via an expressway (NH8 highway) and Delhi Metro.