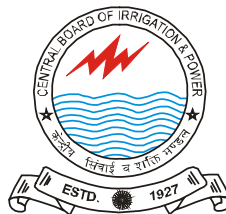


52 weeks Post Graduate Diploma Course
in
Operation & Maintenance
of
Thermal Power Plant Engineering
Program Brochure
(3rd Batch)



(26-08-2013 to 22-08-2014)



NEW DELHI
ISO 9001:2000

CENTRAL BOARD OF IRRIGATION & POWER
MALCHA MARG, CHANAKYA PURI
NEW-DELHI-110021

1. POST GRADUATE DIPLOMA IN O&M of THERMAL POWER PLANT ENGINEERING

➤ 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 of Power. Several new Ultra Mega Thermal Power Projects are in the process of installation both in Public and private sectors where advanced technology like Super Critical Technology supported by the latest technology of Electrical, Control & Instrumentation systems etc are coming in a big way. The course contents of this one year training programme have been designed to fulfill the mandatory requirements of Indian Electricity Regulation-2010 to groom the students, having the basic theoretical knowledge of Power Generation from their college, with the latest technology of Operation & Maintenance of the Thermal power plants. After completion of the course, the Engineers would be eligible for operation & Maintenance of Power plants of Capacity 100 MW and above as the course is in line with the syllabus recognized by Central Electricity Authority (CEA) under Regulations-2010.

The duration of the course would be 52 weeks having 2 semesters comprising class room sessions as well as on-the-job training. The students have to attend the on-job practice sessions in power plants, substations etc. Visit to some reputed manufacturing plants is also an integral part of the course. At the end of the course, 2 weeks Simulator training will be arranged in the Simulator having latest state of the art technology. To enhance the personal skills, some inputs of management are also to be given to the students.

➤ WHY YOU SHOULD JOIN CBIP FOR THIS COURSE?

India is growing at faster pace with a GDP of around 8-9% for the last 5 years. To sustain this GDP it is necessary to have the growth of its power sector even at a higher rate. Indian Power industry, being highly capital intensive industry, is growing at a very fast rate of about 10% per annum. The present installed capacity of Indian power industry is about 2,11,745 MW. To keep pace with the GDP growth of our country Govt. of India has a mandate of adding about 75,000MW to 100,000MW during the 12th (2012-2017) Five Year Plan and about same capacity during 13th Plan (2017-2022). Human resource development and capacity building in the present power scenario demands a very comprehensive and pragmatic approach to attract, utilize, develop, and conserve valuable human resources. Training, re-training, and career prospects are some of the important elements of human resource development. By the working group on manpower planning in power sector it has been estimated that there is a shortage of skilled manpower which is fast emerging as a serious obstacle to the Govt. efforts to expedite the pace of power generation capacity addition in the country. Technically trained manpower comprising skilled engineers, supervisors, artisans/technicians and managers is required in every sphere of the power supply industry. The capacity addition along with commensurate Transmission and Distribution infrastructure leads to an estimated requirement of about 7.4 Lakh additional personnel for construction and O&M during 12th plan itself. Category wise break-up of manpower during 12th plan is given in the following table:-

Sl.No.	Category	Total
1.	Engineers	68,000
2.	Supervisors	1,27,000
3.	Skilled Workers	1,02,000
4.	Semi-skilled Workers	1,10,000
5.	Unskilled Workers	1,27,000
6.	Non-tech	2,05,000
TOTAL		7,40,000

In order to mitigate the shortage of trained manpower Govt. of India has already taken many initiatives for providing training and developing the required manpower but the requirement of trained manpower is so high that there is a need of training/retraining of fresh and in service engineers and groom them by providing them the required training inputs and make them readily available for deploying them in the Power Sector as per its manpower requirements.

In view of this CBIP has taken initiative and launched this 52 weeks **Post Graduate Diploma Course in Thermal Power Plant Engineering** as training in Power Sector is niche area of CBIP:

- The objective of the course is to develop groomed manpower for the power sector having high skills and confidence in running a Power Plant. After completion of the course the students would be readily available for the Indian Power Sector for taking over the charge of Operation & Maintenance of Power Plant equipments.
- The course satisfies the mandatory requirements of Central Electricity Authority Regulation-2010 and recognized by CEA.
- CBIP institute is also recognized by Ministry of Power, Govt. of India

Hence, there is an ample scope of making a carrier in the Power Sector for the Engineers who undertake this programme.

The course will be conducted under the supervision of experienced faculty who were the main initiators of this program in Indian Power Sector. Sh. C.S. Malik, Director, CBIP formerly Principal Director, NPTI, Sh. S.K. Ghosh, Adviser, CBIP, formerly Director, NPTI & Sh. A.K.Malhotra, Advisor,CBIP , formerly,AGM(HRD),PMI,NTPC would be supervising this course.

2. STRENGTHS OF CBIP

- An 84 years old establishment into dissemination of knowledge in Power, Irrigation and Renewable sectors
- Almost all reputed utilities of Power, Irrigation and Renewable sectors of the country are the institutional members and at least 2600 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. Institute is located in most posh and central place of the capital city of the country i.e. Chanakyapuri, New Delhi

- Easy availability and access to the reputed and highly experienced faculty because of above two facts
- Has a strong base of the very senior officers with deep experience of various disciplines of Power and irrigation sector
- 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 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, CEA as the President; Chairman Power Grid as the Vice President (Power); Member, CWC as the vice President.
- CBIP is also in the process of setting up of its Power Management Institute at new plots allotted by HUDA in Gurgaon for conducting long term/short term training programs in all the three niche sectors i.e. Power, Water Resources and Renewable Energy.
- 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.
- The initial set up of **“Excellence Enhancement Centre for Indian power Sector” was established under the aegis of CEA at CBIP, Malcha Marg.**
 - Most of the organizations (Govt. sector & Private) of Indian Power sector involved in Generation, Transmission and Distribution of Power 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 and were among the team of main initiators for launching the Post Graduate Diploma Course and Post Diploma Certificate programs in Thermal/T&D/GIS and B-Tech(Power) in the country.**

3. Detailed curriculum of the Course:

➤ COURSE OBJECTIVES

After completion of the course the students will acquire extensive basic and advanced knowledge of:

- Operation & Maintenance of Thermal power plant equipment and its process.
- Necessary safety aspects required in a power plant
- Details of plant equipment
- Power plant project management.
- Process flow,

- Mechanical/Electrical/Instrumentation aspects of power plants,
- power plant schemes

A. Methodology for the Course

- Classroom Lecture Sessions
- Power Plant Visits
- Scheme Tracing in Thermal Power Plant
- On-Job Operation & Maintenance Training at Thermal Power Plant
- Group Discussion session
- Projects, Seminars Submissions

4. COURSE PROFILE

DETAILED CURRICULUM (SEMESTERWISE)

1st Semester

Sl.No.	Subject/Modules-First Semester	Duration
01	Power Plant Introduction and Industrial Safety	2 week
02	Basic Engineering Fundamental	2 weeks
03	Power Plant Familiarization	6 weeks
04	Power Plant Briefing and Scheme Tracing	2 weeks
05	Power Plant Operation	2 weeks
06	Rotational On-Job (Operation)	4 weeks
07	Erection & Commissioning	2 weeks
08	Construction Management	1 week
09	Power Plant Performance & Efficiency Calculations	1 week
10	Power Plant Chemistry, Metallurgy, NDT & Welding	1 week
11	Gas Turbine & Combined Cycle Power Plant	1 week
12	Advanced Steam Generation/ Supercritical Technologies	1 week
13	Management & Personality Development/ Aptitude Test	1 week
14	Mid -term Appraisal	1 week
	Sub-Total	27 weeks

2nd Semester

Sl.No.	Subject/Modules-Second Semester	Duration
16	Power Plant Protection	1week
17	Load Dispatch	1 week
18	Energy Audit	1 week
19	Maintenance Management	1 week
20	Renewable Energy sources & Hydro Power Plants	1 week
21	Maintenance Practices	4 weeks
22	Design Aspects of Power Plant equipment	1 week

23	Power Reforms, Regulations and Tariff	1 week
24	Control & Instrumentation	2 weeks
25	IT Application in Power Sector & GIS	½ week
26	Environment Management	½ week
27	Rotational On-Job (Maint)	5 weeks
28	Training & Visit to Manufacturing Works	2 weeks
29	Simulator	2 weeks
30	Project	1 weeks
31	Final Appraisal	1 weeks
	Sub-Total	25 weeks
	Grand Total	52 weeks

*Simulator training for 2-weeks will be imparted in a latest technology based Simulator of the country.

5. FACULTY: In-house as well as Renowned/Reputed faculty area from Power Industry / Distribution equipment manufacturers/Contractors/IIT / Engineering colleges having knowledge / experience in the concerned area will be delivering the lectures during the entire programme.

6. VISITS & ON-JOB TRAINING: On-job training will be arranged at Power stations of various ranges. Visits will be arranged to various manufacturing plants, Laboratories, Sub-stations, contractors' sites etc.

7. Course Certification:

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. Also the **CBIP institute has been recognized as 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.**

8. PLACEMENT SERVICES

While looking at the aforesaid strengths of CBIP, which has a strong network with good chunk of power utilities of the country, by virtue of the institutional memberships, individual memberships of the very Senior Officers of Indian Power Sectors and the strength/support of other Govt. organizations, CBIP shall be putting in best of its efforts for arranging for the placements of the candidates in various power utilities of the country. Most of the students of previous batches have been placed.

9. Information to the Candidates:

i) Who Can Apply

- The candidates who have obtained B.E./B.Sc. (Engg.), A.M.I.E. or equivalent degree in Mechanical / Electrical / Electronics & Instrumentation / Control & Instrumentation / Power Engineering are eligible to apply for admission to this **Post Graduate diploma Course in O&M of Thermal Power Plant engineering. Those appearing in their final year examination may also apply. However, they must submit their result at the time of counseling.**
- Graduate Engineers sponsored by State Electricity Boards/Power Utilities and Private Companies with at least one year post qualification experience as on 27.07.2013 and minimum 60% marks in BE/B-Tech./equivalent degree.

ii) SELECTION CRITERIA FOR ADMISSION

Admission will be given based on the percentage of Marks obtained in 10th, 12th & B.E. or equivalent examination or Gate-2013 or PGDC-CET-2013. The weight-age would be given for 10th, 12th & B-Tech/BE/ Equivalent Engineering degree in the ratio of 10%, 20%, 70% respectively. Admission shall be subject to verification of documents. A candidate who is allotted a seat during counseling will be required to pay the 1st installment of fee (Rs. 60,000/- for non sponsored candidate and Rs. 2,00,000/- for sponsored candidate) immediately without which the admission will not be confirmed.

iii) TOTAL SEATS

Total No. of seats for the program is **60 (may vary)**. 25% of the seats are reserved for candidates sponsored from Power utilities having more than one year experience and more than 60% marks in Engineering Degree.

The seats of sponsored category can be filled by non-sponsored category and vice-versa depending on the position of vacant seats.

iv) AGE LIMIT

For the non sponsored candidates maximum age limit as on 27.07.2013 is 27 years. However, there is no age limit for the sponsored candidates.

v) COUNSELING

Counseling will be held at CBIP, Malcha Marg, Chanakyapuri, New Delhi, opposite to Carmel Convent, Malcha Marg between 10AM to 5-30PM. The date will be announced through Website of CBIP. The candidates must appear in person on the date of counseling with all

relevant original documents like Birth certificate, Educational qualifications, CGPA/CPI conversion chart issued by the registrar/controller of examinations of the concerned university (in case of CGPA/CPI candidates) etc.

vi) SPONSORED CANDIDATES

The Candidates who are sponsored from any organization have to enclose a sponsorship certificate issued by their respective organizations in the format given on the CBIP website.

10. How To Apply:

Application may be submitted through online through CBIP Website .The downloaded hard copy of the application form along-with the demand draft of Rs. 700/- in favour of CBIP payable at New Delhi, should reach the Secretary, CBIP, (address given below) latest by 06.08.2013 with Two passport size photographs. Candidates may apply for PGDC (T&D) through the same form giving option for which no extra charge will be required.

Candidates are advised to go through the brochure thoroughly before filling the form.

Points to be Noted:

- i. All the future notifications/ information will be available on CBIP website. The candidates are advised to be regularly in touch with the website.
- ii. Attach attested copies of proof of Date of birth, certificates / mark sheets of 10th / 12th / Engg. Graduation/CGPA/CPI Conversion Chart issued by Registrar/controller of the concerned university.
- iii. Application fee is non refundable.
- iv. Applications after due date will not be accepted.
- v. Candidates are advised to book their tickets in advance for the counseling dates to avoid any last moment inconvenience.

11. ADDRESS FOR COMMUNICATION

Secretary, CBIP, Malch Marg, Chanakyapuri, New Delhi-110021
Tel No: 011-26875017/26116567/24102437/ Fax: 011-26116347
E-mail: cbip@cbip.org / ghoshsk@cbip.org / jaideep@cbip.org

12. Training Fees and other Charges:

A. Admission Fees:

i) For non-sponsored candidates: Rs.1,50,000/- (to be paid in 3 installments; 1st installment – Rs.60,000/- at the time of counseling, 2nd Installment – Rs.50,000/- latest by 22nd November,2013 and 3rd Installment – 40,000/- latest by 28th February,2014

ii). For sponsored candidates: Rs. 2,00,000/- (to be paid in full at the time of counseling)
Course fee includes the Simulator Training fee.

iii). For foreign nationals: US\$ 6,000/- (to be paid in full at the time of counseling)

Travelling/lodging cost in case of outstation visits is to be borne by the students.

B. Caution Money/ Security Deposit: Rs. 5000/- to be deposited during admission which would be refunded back after completion of the course

C. Placement Assistance Charges: Rs.2000/- (non refundable)

D. Placement Charges: Rs.12000/- to be paid after placement in organizations.

E. Lodging/ Boarding: CBIP has tied-up with local Guest Houses / Hostels. Arrangement will be made for lodging, boarding and transport (To and Fro) from guest house on nominal payment basis. The candidates who are interested to have accommodation may give their option for the same. The accommodation shall be arranged for the candidates only if response is good. The accommodation charges will be as per actual.

F. Working Lunch & Tea: The lunch and two times tea in the institute during the working days will be available @ Rs.2400/- per month (compulsory).

- Three months advance for lodging/boarding in the guest house, travelling, working lunch tea etc during the sessions = Rs.37500/- (Approximately) to be paid who opt for Hostel accommodation at the time of counseling.
- The candidates have to bear charges against uniforms, safety shoes, safety helmets, bus facility. The exact amount to be paid will be displayed along with the selection list after short-listing of the candidates for the course. Travelling/lodging cost in case of outstation visits is to be borne by the students.

- The course fee may be paid in the form of demand draft drawn in favour of "CBIP, New Delhi".

13. Refund:

Fee once deposited will not be refunded. In case a selected candidate wishes to withdraw from the course for any reason, no part of course fee will be refunded except the security deposit.

14. Loan Facility:

The candidates who get confirmed admission and wish to avail loan from a Bank/Financial institute may also take a certificate from CBIP for availing the same.

15. IMPORTANT DATES

- Last date of filling the application through online: 27.07.2013
- **Last Date for receipt of downloaded application forms to CBIP:** **06.08.2013**
- Announcement of 1st list of candidates for counseling on website: 09/08/2013
- **Commencement of Course:** **26/08/2013**