

CCPD

# Assignment Booklet

**Certificate of Competency  
in Power Distribution**  
*(Electrical Technicians)*

**CCPD**

**Course Code**

**OEE-001**

**OEE-002**



**School of Engineering and Technology**  
Indira Gandhi National Open University  
Maidan Garhi, New Delhi – 110 068

**(Jan /July 2024)**

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Dear Student,

This booklet contains the assignments for the CCPD Programme for the courses of OEE-001 OEE-002. It is for your kind information that each course has one assignment, which is based on course materials of these courses. You are also advised to **write your responses in your own words**. This will improve your comprehension skills. The last date of submission of assignment is given against each assignment. You are advised not to wait for the last date to submit your assignments.

This to inform that minimum duration of this programme is 6 months and max. duration is 2 years. Please note that that if you fails to submit the assignment of any course in the registered session of 6 months then same set of assignment is valid for one year for submission, after one year you have to do fresh set assignment of current year for submission.

*Please note , assignments submission are prerequisite for your Term End Examination (TEE) result.*

You need to submit the assignments as under:

**For January Session- By 30<sup>th</sup> April ; For July Session- By 30<sup>th</sup> October**

***You can submit your assignment-***

At your concern **Study Centre/Regional Centre** on or before the due date (in person). Student are advised to get the acknowledgement/receipt while submitting assignment at Study Centre/Regional Centre concerned in order to fill up assignment submission details in your term end examination form.

**We strongly feel that you should retain a photocopy of your assignment answer sheet duly acknowledged by the office of the Coordinator/ Study Centre/ Regional Centre to avoid any unforeseen situation.**

**For Formatting Your Assignments**

- **On the top of the first page of your Tutor Marked Assignment (TMA) answer sheet**, please write the details exactly in the following format :

Enrolment No. _____	Date : _____
Course Code : _____	Course Title : _____
Name : _____	Address : _____
	_____
	_____
Signature :	E mail:-
	Mob.-----

- Please follow the above format strictly to facilitate evaluation and avoid delay.
- Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- Leave 3 cm margin on the left, top and bottom of your answer sheet.
- Your answer should be logical and coherent.
- While solving problems, clearly indicate the question number along with the part being solved. Recheck your work before submitting it.

Wishing you all good luck!

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**TUTOR MARKED ASSIGNMENT****OEE-001****ELECTRICITY AND SAFETY MEASURES****Maximum Marks: 100**  
**Weightage : 30%****Course Code: OEE-001****Note:** All questions are compulsory and carry equal marks.

- Q.1 (a) Explain terms Current ,Voltage, Power, Energy and Efficiency.  
(b) In an electrical system what is the importance of active power and reactive power?
- Q.2 (a) Explain different quality parameters in electrical power supply.  
(b) Explain Generation, Transmission and Distribution of power using a block diagram?
- Q.3 (a) Explain various tools available to a technician.  
(b) What precaution any electrician should take while handling tools?
- Q.4 (a) How does a Grid improve reliability?  
(b) Why do we prefer high voltage to transmit electrical power?
- Q.5 (a) Write various precautions and safety rules to prevent fire accidents.  
(b) What are the uses of relay in a protection device? What is the speciality of minimum time delay relay?
- Q.6 (a) What is Earthing? Explain different methods of equipment earthing.  
(b) What steps are required for maintenance of earthing in electrical installations?
- Q.7 (a) Describe working of protective relays and circuit breaker with neat circuit diagram.  
(b) Write different types of relays with their respective applications.
- Q.8 (a) What are various personal protective equipments to be used for safety?  
(b) Prepare a list of checks to avoid hazards in 'Main Board' and 'Lamps and Switches'.
- Q.8 (a) Write Do's and Don'ts for electrical safety in case of domestic consumers.  
(b) Write down various measures, which can be taken to avoid fire in electrical cables.
- Q.9 (a) Explain the concept of cardiopulmonary resuscitation. How it is facilitated.  
(b) What are the essential items to be kept in a First Aid Box ? Write first aid treatment in case of a fall resulting in situation like:(i) Unconsciousness,(ii)Nose Bleeding.
- Q.10 (a) Explain the importance of proper training required to encounter any disaster?  
(b) Explain various aspects of power supply restoration in case of disaster.

**TUTOR MARKED ASSIGNMENT****OEE-002****POWER DISTRIBUTION SYSTEM – BASICS****Maximum Marks: 100**  
**Weightage : 30%****Course Code: OEE-002****Note:** All questions are compulsory and carry equal marks.

- Q.1 (a) Describe power distribution in brief. Write specific use of main equipment required for distribution lines in overhead lines.
- (b) What are the advantages of High Voltage Distribution Systems (HVDS) compared to low voltage distribution system.
- Q.2 (a) Describe construction of power cables. Also, explain various types of faults in power cables.
- (b) What are feeders? Explain about configuration of feeders and draw layouts.
- Q.3 (a) Explain transformer construction with suitable diagram.
- (b) What are important reasons for transformer failure, explain?
- Q.4 (a) Write down various maintenance considerations for transformers.
- (b) Write various types of cable jointing methods and also explain important cable jointing instructions.
- Q.5 (a) Describe the equipments required for the construction of a 66-33/11 KV substation.
- (b) Explain general maintenance practices for substation and distribution lines.
- Q.6 (a) Why was the T&D loss assessment changed to AT&C loss determination in distribution? Hence explain the term AT&C loss.
- (b) Write about various factors affecting commercial losses.
- Q.7 (a) Explain various meter installation practices adopted to guard against meter tampering.
- (b) Explain role of energy accounting and auditing in preventing revenue loss.
- Q.8 (a) Elaborate Indian electricity rules regarding electrical safety for handling of electrical supply lines and apparatus.
- (b) Write down provisions laid out in Indian Electricity Rules regarding:
- Provisions applicable to protective equipment,
  - Clearance from buildings of low and medium voltage lines and service lines, and
  - Intimation of Accidents
- Q.9 (a) Explain various long term plans for technical loss reduction in distribution systems.
- (b) Write down various measures for controlling direct tapping by non- customers and customers.
- Q.10 (a) Explain the metering techniques used for LT and HT consumer metering.
- (b) Appreciate the role and significance of technological interventions in metering, billing and collection for the utility's revenue protection.