

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 2020)

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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 material of these courses.** You are also advised to write your responses after comprehensive study your subject. 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 maximum duration is 2 years. Please note that if you fails to submit the assignment of any course in the registered year ,your Grade card will show incomplete status even if you pass your Term End Examination (TEE).

Please note, assignments submission is requisite to appear in your Term End Examination (TEE).

You need to submit the assignments as under:

For January Session- By 30th April /May ; For July Session- By 30th October/November

You can submit your assignment-

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

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 : _____
Regional Centre/Study CentreCode: _____ -----	
Signature :	E mail:
	Mobile No.:

- 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. Basically, foolscap is **lined**, legal-size paper.
- 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 resistance, inductance and capacitance. Name various electrical appliances and mention the resistive, inductive and capacitive type of load these belong.
(b) What do you mean by active power, reactive power and power factor in electrical systems?
- Q.2 (a) What are various quality parameters in electric power supply?
(b) What are the various problems faced by Generation, Transmission and Distribution system?
- Q.3 What are various tools used in handling electrical installations. Explain with the help of neat diagrams.
- Q.4 (a) Explain different methods of equipment earthing.
(b) What steps are required for maintenance of earthing in electrical installations?
- Q.5 (a) Describe working of protective relays. What are important functional requirement of relays?
(b) Write a note on application of relays in substation protection.
- Q.6 (a) What are various personal protective equipments to be used for safety?
(b) Give details of various types of fire extinguishers and their respective applications.
- Q.7 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) Write first aid treatment in case of a fall resulting in situation like:
(i) Unconsciousness,
(ii) Nose Bleeding, and
(iii) Fractures.
- Q.10 (a) List various natural and manmade disasters and their impact on electrical power systems.
(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) Write specific use of main equipment required for distribution lines in overhead lines.
(b) Describe the advantages of High Voltage Distribution Systems (HVDS) compared to low voltage distribution system.
- Q.2 (a) Write various types of power cables. Also, explain various types of faults in power cables.
(b) Describe construction of power cables.
- Q.3 (a) Explain construction and working principle of transformer.
(b) What are important reasons for transformer failure, explain?
- Q.4 (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.5 (a) Write down various maintenance considerations for transformers.
(b) Write various operational practices for enhancing transformer life and efficiency.
- Q.6 (a) Write about various constituents of commercial losses in distribution systems.
(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 earthed terminal on consumer' premises and use of energy at high and extra high voltage.
(b) Write down provisions laid out in Indian Electricity Rules regarding:
(i) Clearances between ground and lowest conductor,
(ii) Clearance between buildings and service lines, and
(iii) Clearance between buildings and
(a) High
(b) Extra high voltage (EHV) lines.
- 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 following metering techniques used for High Tension (HT) consumers:
(i) Trivector Meter,
(ii) Bivector Meter, and
(iii) Summation Meters.
(b) Describe various aspects of installation, commissioning and field testing of meters.

