

ACPDM

Assignment Booklet

**Advanced Certificate in Power
Distribution Management**

ACPDM

Course Code

BEE-001

BEE-002

BEE-003



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

Jan/July 2022

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Dear Student,

This booklet contains the assignments of ACPDM programme for the courses of BEE-001 BEE-002 & BEE-003. It is for your kind information that each course has one assignment, which is based on course material. You are advised to **write your responses in your own words**. This will improve your comprehension skills. Further, you may note that in case the Coordinator / Counselor may summarily reject your assignment response happens to be a copy of assignment response sheet submitted by another student, your assignment **and/or your marks might be made null and void**. Therefore, you are strongly advised not to allow any other student to copy it.

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

Please note, assignments submission are prerequisite 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/Nov.

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/Local Study Centre (LSC)/ Regional Centre (RC) 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 :

RC Code/LSC Code:	
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**BEE-001****POWER DISTRIBUTION SECTOR****Maximum Marks: 100**
Weightage : 30%**Course Code: BEE-001****Note:** All questions are compulsory and carry equal marks.

- Q.1 (a) Discuss the salient features of Energy Conservation Act, 2001 and the Electricity Act, 2003 Acts and their implications for the power distribution sector.
- (b) Electricity as a subject appears in the Concurrent list of subjects as per the constitution of India. With reference to IEA 2003 provisions explain how the center-state balance is maintained in developing the sector. What is the remedy in case of conflict?
- Q.2 (a) Discuss the emerging role of Energy Efficiency in the distribution sector in mitigating the demand –supply deficit.
- (b) Discuss the relevant provisions of IEA 2003 and National Tariff Policy aimed at rationalizing the tariff in the electricity sector
- Q.3 (a) What are the Key Performance Indices measuring the distribution sector performance?
- (b) Mention the key factors driving reforms and change in the power distribution sector in India referring to the current peak and energy shortages.
- Q.4 (a) Show with the help of a diagram, how is energy registered correctly in case of electronic meter with neutral removed and load running through the earth.
- (b) Giving the internal block diagram of an electronic meter explain the role of watchdog timer.
- Q.5 (a) Explain the fundamental features of grid management, load scheduling and load balancing.
- (b) Explain the importance of following:
- i. Diversity factor ii. Load Factor
- Q.6 With the help of a Single Line Diagram indicate the switchgear and equipment used in a typical 33/11 KV sub-station. Mention the annual maintenance practices adopted.
- Q.7 Identify the Key Performance Indicators for supply availability, reliability, consumer service, cost and profitability.
- Q.8 Why was the T&D loss assessment changed to AT&C loss determination in distribution? Hence explain the term AT&C loss.
- Q.9 Distinguish between section 135 and 126 in the context of IEA 2003 dealing with theft/pilferage of energy.
- Q.10 (a) Identify the factors contributing to Technical loss and Commercial loss. Mention the techniques to reduce the Technical losses.
- (b) What is meant by Billing efficiency and Collection Efficiency? Give the equation, allowing calculation of AT&C loss from the two efficiency factors.

TUTOR MARKED ASSIGNMENT**BEE-002****ENERGY MANAGEMENT AND IT APPLICATIONS****Maximum Marks: 100****Course Code: BEE-002****Weightage : 30%****Note:** All questions are compulsory and carry equal marks.

- Q.1 (a) What do you understand by energy intensity and energy efficiency.
(b) Describe the basic aim of energy security for a nation.
- Q.2 (a) Describe the benefits of GIS for managing the power distribution system.
(b) Justify need for energy auditing with the help of suitable examples.
- Q.3 (a) Describe the importance of ERP and its application areas in distribution.
(b) Describe what you can do as a consumer to contribute to DSM and energy efficiency improvement.
- Q.4 (a) Discuss the measures that should be taken to improve the energy efficiency of buildings.
(b) Explain in brief different types of fire extinguishers.
- Q.5 (a) Discuss energy accounting and various problems associated with it?
(b) Explain the two types of spot billing technology. What are their relative advantages and disadvantages?
- Q.6 (a) List the different tools used for customer analysis. How do they benefit the utilities?
(b) Explain how IT can help in reducing AT & C losses and improving the efficiency of power distribution.
- Q.7 (a) How is an HHD actually used for reading meters?
(b) State the benefits of AMR and outline the hardware requirements for it.
- Q.8 (a) What should be the disaster management plan for quick restoration of power supply in the event of earthquake?
(b) Discuss "Green House Effect" on Global Environment.
- Q.9 (a) What are the key areas of IT interventions in the power distribution sector?
(b) Explain why utilities should adopt integrated IT systems rather than standalone applications.
- Q.10 (a) Discuss the usefulness of SCADA for improving the operations of a power distribution utility.
(b) Discuss the reasons why DSM has not been taken up actively by utilities in the domestic and commercial sectors.

TUTOR MARKED ASSIGNMENT**BEE-003****MANAGEMENT OF POWER DISTRIBUTION****Maximum Marks: 100**
Weightage : 30%**Course Code: BEE-003****Note:** All questions are compulsory and carry equal marks.

- Q.1 (a) In the context of your own organization, analyse statement 'Customer relationship management has become an important area for public utilities'.
- (b) What do you understand by Supply Chain Management?
- Q.2 (a) Why is effective communication important to the managers?
- (b) Discuss the reliable methods of communication.
- Q.3 (a) Describe Performance Management System with the help of example.
- (b) How can a utility implement Franchisee scheme to increase revenue collection and provide better customer care?
- Q.4 (a) Explain turnkey contracts in power distribution. Make comparative statement of benefits of turnkey contracts vis-à-vis unit rate contracts.
- (b) Distinguish between fixed assets and current assets.
- Q.5 (a) Explain the importance of customer satisfaction survey and explain how it is conducted.
- (b) Explain the basic process of communication. What purposes are served through vertical communication?
- Q.6 (a) What do you understand by the cost-volume-profit analysis.
- (b) Explain the process of DPR preparation.
- Q.7 (a) Discuss the models of conflict process with examples.
- (b) Explain the various methods of resolving conflicts in an organization.
- Q.8 (a) Discuss the important factors for motivating employees in an organization.
- (b) In your opinion, what should the role of a change leader be in facilitating the changes being brought about due to the power distribution reforms?
- Q. 9 (a) Define the objective of budgeting and budgetary control.
- (b) Describe different method of costing.
- Q.10 (a) Explain the difference between Trial Balance and Balance Sheet.
- (b) What is meant by 'Operating Leverage' and 'Financial Leverage'?

