

**ADVANCED CERTIFICATE IN POWER  
DISTRIBUTION MANAGEMENT**

**Term-End Examination**

01463

**December, 2016**

**BEE-001 : POWER DISTRIBUTION SECTOR**

*Time : 3 hours*

*Maximum Marks : 100*

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*Note : The question paper has four sections. Answer the questions as indicated in each section.*

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**SECTION A**

*Attempt all questions in this section.*

1. Fill in the blanks.

*10×1=10*

Financial viability, two-part tariff, copper losses, time setting and plug setting, investment, T&D losses, 50% increase, feedback, learning, per capita, less, more, energy charts, protection, increases, energy input, +1% to -1%, + 10% to -10%, reduce energy intensity, capacitors

(a) The primary objective of Energy Conservation Act, 2001 is to \_\_\_\_\_.

- (b) The frequency deviation allowed at LT level is from \_\_\_\_\_ .
- (c) Managing strategy through BSC (Balanced Score Card) proposes \_\_\_\_\_ .
- (d) The frequency deviation increases as LT losses \_\_\_\_\_ .
- (e) The voltage deviation allowed for LT level is from \_\_\_\_\_ .
- (f) \_\_\_\_\_ are used to improve the power factor.
- (g) Circuit breakers are used for \_\_\_\_\_ .
- (h) Technical losses in the distribution system are \_\_\_\_\_ .
- (i) Distribution transformers normally have designed efficiency of around \_\_\_\_\_ .
- (j) Industrial tariff includes \_\_\_\_\_ .

## SECTION B

*Attempt any ten questions.*

*10×2=20*

2. What factors contribute to high technical losses in utility ?
3. What is HVDS ?
4. Define ratio test in CT.
5. List out different types of benchmarking.
6. Explain the importance of KPIs in power sector.
7. What is trivector meter ?
8. Write different types of meters commonly used for LT consumers.
9. Define T&D losses.
10. Why are capacitors installed in a distribution system ?
11. Write various reasons of transformer failure.
12. What do you mean by energy accounting ?

## SECTION C

*Answer any ten questions.*

*10×5=50*

13. Describe the short-term measures that can be taken to reduce technical losses.
14. Explain the various reasons for commercial losses.
15. How is relay used in protection scheme ?
16. Discuss available technology options for metering.
17. What is the significance of Grid Management ?
18. What do you understand by load scheduling and unscheduled interchanges ?
19. Explain the impact of LT/HT ratio on losses and voltage.
20. Discuss the seven QC tools in the organisation, for performance improvement.
21. What is the effect of overloading on the transformer ?
22. What factors decide the size of cable ?
23. Explain Hot-Line maintenance techniques and tools.

## SECTION D

*Attempt any two questions.*

**2×10=20**

- 24.** Discuss the methodology for meter installation and commissioning.
  - 25.** Explain aggregate, technical and commercial (AT&C) losses in detail.
  - 26.** How does the National Electricity Policy help in realising the aims and objectives of Electricity Act, 2003 ?
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