

**ADVANCED CERTIFICATE IN POWER  
DISTRIBUTION MANAGEMENT**

**Term-End Examination**

**June, 2022**

**BEE-001 : POWER DISTRIBUTION SECTOR**

*Time : 3 hours*

*Maximum Marks : 100*

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**Note :** *This paper has **three** sections. Attempt **all** sections.  
Answer the questions in English language only.*

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**SECTION A**

*Attempt **all** questions.*

*10×1=10*

**1.** Fill in the blanks from the choices given below :

(Non-technical losses; KVA; regulatory; zero; building codes; open access; load centre; load; benchmarking; commercial losses)

- (a) Power factor in a pure inductive circuit is \_\_\_\_\_.
- (b) Distribution reforms that involve \_\_\_\_\_ and structural changes have been introduced due to the inability of the public sector to provide adequate resources/services.

- (c) \_\_\_\_\_ in transmission means freedom to the licensee to procure power from any source.
- (d) Energy conservation \_\_\_\_\_ encompass the norms and standards of energy consumption expressed in terms of per square metre of the area wherein energy is used.
- (e) If \_\_\_\_\_ on each phase of the distribution transformer is not equal, it is called unbalanced loading of transformer.
- (f) Accurate metering, efficient billing and prompt collection can reduce the \_\_\_\_\_.
- (g) The purpose of \_\_\_\_\_ is to help to improve the effectiveness of process, product quality and delivery of service.
- (h) In order to reduce the voltage drop in the line to the farthest consumers, the distribution transformer should be located at the \_\_\_\_\_ to keep voltage drop within permissible limits.
- (i) Reduction of \_\_\_\_\_ can be achieved through legal, institutional, administrative and policy measures.
- (j) Demand meters measure \_\_\_\_\_, which combine both reactive and actual power.

## SECTION B

Attempt any **ten** questions.

10×7=70

2. What are technical losses ? Discuss short-term measures for technical loss reduction.
3. Outline the aims and objectives of the Electricity Act, 2003.
4. What do you understand by load scheduling and unscheduled interchanges ?
5. What is High Voltage Distribution System (HVDS) ? Outline its advantages over the LT system.
6. Are the current power distribution reforms sufficient to achieve the goal of providing reliable and good quality power to all ? Justify your answer.
7. What is the significance of Grid Management ?
8. What are the equipment required for the construction of an overhead distribution line ?
9. List the reasons for using underground cables. State the selection criteria, sizing of underground cables.

- 10.** Discuss measures to avoid distribution transformer failures at the operation and maintenance level.
- 11.** What do you understand by benchmarking ? Explain by giving examples.
- 12.** Explain how franchisees can be used for commercial loss reduction.

## SECTION C

*Attempt any **two** questions.*

*2×10=20*

- 13.** Discuss the role of the Electricity Regulatory Commission on the policy of electricity power business.
  
  - 14.** Describe the equipment required for the construction of 11/0.4 kV distribution substation.
  
  - 15.** Discuss the operation and maintenance principles and practices for power distribution system.
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