

00731

ADVANCED CERTIFICATE IN POWER DISTRIBUTION MANAGEMENT

Term-End Examination

December, 2013

BEE-002 : ENERGY MANAGEMENT AND ITS APPLICATION

Time : 3 Hours

Maximum Marks : 100

*Note : The question paper has three parts. Part I, II and III.
Answer the questions as indicated in each part. Question
number 1 is compulsory.*

PART-I

1. Fill in the blanks : 4
 - (a) DSM tools help to reduce the _____ peaks, shift the _____, fill the demand _____ and _____ overall demand (strategic saving) in the context of delivering the required energy services by use of less energy and not a reduction in services.
 - (b) Give full form of the following : 10
GPS, GHGs, CIN, CFC, GSM, PAN, PSTN, CFL, CDMA, ERP
 - (c) State whether the following statements about DSM are **true** or **false** : 6
 - (i) DSM is a concept in which power utility manages the demand for power among some or all its customers to meet the current or future demand.
 - (ii) DSM involves remote control of load management.

- (iii) DSM focuses on pilferage of energy.
- (iv) DSM is concerned with the conduct of energy audit of distribution network.
- (v) DSM involves incorporation of customer load modification.
- (vi) Demand side management is more cost effective compared to adding capacity to meet growing power demand.

Answer **any five** of the following :

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|----|--|---|
| 2. | Write five major components of GIS. | 2 |
| 3. | What is Rebound effect ? | 2 |
| 4. | What is Reserve/Production (r/p) ratio ? | 2 |
| 5. | Explain the ESCO route to DSM. | 2 |
| 6. | What is dematerialisation ? | 2 |
| 7. | Write a short note on Energy Conservation (EC) Act, 2001. | 2 |
| 8. | Write the kind of accidents that may take place in electrical installations. | 2 |

PART-II

Attempt **any five** questions :

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|-----|---|---|
| 9. | (a) What are AT and C losses ? | 4 |
| | (b) Calculate AT and C losses for the following cases when revenue collection with reference to billed demand is 90%.
Given : Units Input = 100 MU
Units Billed = 70 MU | 4 |
| 10. | What are the problems encountered in energy accounting ? | 8 |

11. What is 'LEAP ? Describe the main features of LEAP. 8
12. What are the benefits of an energy audit for a power distribution utility ? 8
13. What is energy audit and what are the conditions for perfect energy audit ? 8
14. What are various actions recommended for reducing technical losses under energy audit program ? 8
15. What are the energy efficiency options for consumers for reducing energy demands ? 8

PART-III

Attempt any two questions :

16. What do you understand by software based distribution network planning and analysis ? What are the advantages of integrating it with GIS ? 15
 17. Outline the IT applications involved in the functioning of the customer care centres and call centres. 15
 18. List various steps in the process of meter reading by Hand Held Devices. Give a brief description of each step. 15
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