

**ADVANCED CERTIFICATE IN POWER
DISTRIBUTION MANAGEMENT****Term-End Examination****June, 2008****BEE-002 : ENERGY MANAGEMENT AND IT
APPLICATION***Time : 3 hours**Maximum Marks : 100*

Note : *The question paper has three parts, part I, II, III.
Answer questions as indicated in each part.*

PART I

*Attempt **six** questions in all. Question number 1 is
compulsory.*

1. (a) Give full form of following (any **five**) : 5
- MIMS, LEAP, ECBC, BEE, LLF, ASP, ERP,
CFL, IVRS, GIS

(b) Fill in the blanks :

5×1=5

- (i) Heating and cooling systems together emit GHGs and _____ into atmosphere each year adding to global warming and ozone layer depletion.
- (ii) Caulking and _____ are used to seal gaps in exterior walls, floors, and ceiling.
- (iii) DSM program falls into two categories : Load Management programmes and _____ or _____ programmes.
- (iv) Four major problem areas in home that are responsible for energy losses are _____ leaks, building _____, heating/cooling equipments and lighting.
- (v) _____ has published the Code IS : 1893 for the earthquake resistant designs of structures.

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 dematerialization ? 2
7. Write a short note on EC Act, 2001. 2
8. Write the kinds of accidents that may take place in electrical installations. 2

PART II

Attempt any **ten** questions.

9. (a) What are AT&C losses ? 2
(b) Calculate AT&C losses for the following case where revenue collection with reference to billed demand is 90%.
Given : Units Input = 100 mu,
Units Billed = 70 mu 3
10. What are the problems encountered in energy accounting ? 5
11. What is LEAP ? Describe the main features of LEAP. 5
12. What are the benefits of an energy audit for a power distribution utility ? 5
13. What is energy audit ? What are the conditions for perfect energy audit ? 5
14. What are the actions recommended for reducing technical losses under energy audit program ? 5
15. What are the major problems and challenges faced by power utilities in implementing DSM on consumer end ?
What are the measures taken to meet these challenges ? 5
16. What are the energy efficiency options for consumers for reducing energy demand ? 5

17. What are the technological measures that may be taken to conserve energy within buildings ? 5
18. What IT infrastructure is required in a customer care centre ? 5
19. What are the DSM strategies that may be adopted for improving energy efficiency in the commercial and domestic sector ? 5
20. What is energy audit ? How can energy auditing exercise benefit from the use of Information Technology ? 5
21. Write short note on the necessity of Disaster Management Plan in the power sector and steps taken by utilities. 5
22. Justify that electronic meters are better than electromechanical meters. 5

PART III

*Attempt any **two** questions.*

- 23.** What is ERP ? Describe the benefits of use of ERP in a power distribution utility. 15
- 24.** What are the tools used for customer analysis ? Outline their features. How do they benefit the utilities ? 15
- 25.** What is load curve modification ? Describe the techniques that utilities adopt to influence the load shape. 15
- 26.** Describe the benefits of DSM for power utilities, consumers and the society. 15

