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**ADVANCED CERTIFICATE IN POWER
DISTRIBUTION MANAGEMENT**

Term-End Examination

June, 2010

**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 questions as indicated in each part.*

PART - I

Question number 1 is compulsory :

1. (a) Fill in the blanks in the check list given below
using the following words : **10x1=10**
- (i) _____ in energy conversion to
its cleanest form and _____ in
an end usage.
 - (ii) IGCC means _____
 - (iii) The _____ of an object is the
energy possessed by an object due to
its position.
 - (iv) Falling water turns the _____
which in turn, turns the _____

- (v) The purpose of energy audit is to identify _____ and make suggestion for _____
- (vi) DSM refers to all such activities and measures that can be taken to manage the demand for _____
- (vii) Disable back up energy sources such as _____ and batteries to isolate the power system.
- (viii) Test equipment and circuitry to make sure they are _____. This must be done by _____ person.
- (ix) Identify all _____ of electrical energy for the equipment or circuits in question.
- (x) Depleted stored energy by bleeding blocking, _____ etc.

Check list: (select the answer from the choices given below) :

Sources ; Shut off's ;

Qualified ; de-energized ;

Supply side efficiency ;

Demand side efficiency ;

Potential energy ;

Energy ;

Turbine ; Generator ;

Specific energy consumption ;

Energy saving

Integrated Gasification combined cycle ;

(b) Give the full forms of the following abbreviations : **10x1=10**

(i) AT & C (ii) SCADA

(iii) RDBMS (iv) GSM

(v) DTR/DT. (vi) MRT

(vii) MMIS (viii) AMR

(ix) DSM (x) CRM

PART - II

Attempt *any five* questions :

2. List 5 steps each that you can take immediately to : **10**
 - (a) Reduce your contribution to global warming
 - (b) Improve energy efficiency at home and at work.
 - (c) Use energy in a sustainable manner.

3. How can your utility take advantage of energy accounting ? **10**

4. Explain the procedure for Conducting Energy Audit. **10**

5. Explain the actions recommended for reducing technical and commercial losses. **10**

6. List the safety procedure you should take in each of the following cases : **10**
 - (a) While replacing a fuse
 - (b) While handling a fan
 - (c) When you are near an arc
 - (d) When you have live circuits nearby

7. Discuss the major steps that should be taken for preventing and handling cases of electric shock. 10
8. What is SCADA ? Discuss its usefulness for improving the operations of a power distribution utility. 10

PART - III

Attempt *any two* questions :

9. Explain how IT can help in reducing AT & C losses and improving the efficiency of power distribution. Give examples. 15

 10. List the various steps in the process of meter reading by Hand Held Meter (HHM) and Automatic Meter Reading (AMR) 15

 11. Explain the two types of spot billing technology. What are their relative advantages and disadvantages ? 15
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