

(Following Paper ID and Roll No. to be filled in your  
Answer Books)

Paper ID : 121858

Roll No. 

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**B.TECH****Theory Examination (Semester-VIII) 2015-16****ENERGY EFFICIENCY & CONSERVATION****Time : 3 Hours****Max. Marks : 100****Section-A**

1. **Attempt all parts. All parts carry equal marks. Write answer of each part in sort. (2×10 = 20)**
- (a) Describe about the protection of capacitors and switching is distribution system.
- (b) What do you mean by ENERGY CONSERVATION LEGISLATION?
- (c) What do you mean by "LOAD SCHEDULING/SHIFTING"?
- (d) What are energy efficient windows?

- (e) How the efficiency of the motor is tested?
- (f) What is energy conservation planning?
- (g) Give a technical note on principle of energy conservation.
- (h) Write short note on evaluation of demand side management.
- (i) What are the various instruments used for energy audit?
- (j) Give the applications of load control.

### Section-B

2. Attempt any five questions from this section.

(10×5 = 50)

- (a) Discuss the principles of energy conservation. Also discuss the energy conservation planning.
- (b) Write short note on Energy efficient motors and compare it with standard motors.
- (c) Write short notes on the following :
  - (a) Energy audit of Electrical systems.
  - (b) Voltage instability in power system networks

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- (d) Describe in detail about the national and international experiences with Demand Side Management.
- (e) Enumerate in detail about energy conservation in electrical generation, transmission and distribution.
- (f) Explain the following :
  - (i) HVAC
  - (ii) Voltage drop calculations.
- (g) Explain the energy conservation in small scale and large scale industries.
- (h) Describe the methods of voltage and reactive power control in distribution systems. Also mention its importance in power system environments.

### Section-C

**Note : Attempt any two questions in this section. (15×2 = 30)**

3. Explain the following :-
- (i) UPS selection
  - (ii) Load scheduling/shifting
  - (iii) Distribution code and Electricity Bill 2003.

4. (a) What do you mean by “CAPACITOR BANKS” and “INDUCTOR BANKS” used in distribution systems? Explain their advantages and limitations.
- (b) Write short note on Voltage classes and nomenclatures.
5. (a) Discuss about the following :
- (i) Motor efficiency testing
- (ii) Motor Speed Control
- (b) Write a detailed note on Indian Electricity Act 1956.