

**B.TECH.****THEORY EXAMINATION (SEM–VIII) 2016-17  
ENERGY EFFICIENCY & CONSERVATION***Time : 3 Hours**Max. Marks : 100**Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.***SECTION – A**

1. **Attempt the following:** **10 x 2 = 20**
- (a) What is DSM?
  - (b) What is aim of energy audit?
  - (c) What is reactive power calculation?
  - (d) What is HVAC?
  - (e) What are Planning of DSM.?
  - (f) What is VAR.?
  - (g) What is DSM Strategy.?
  - (h) Define Bank Rating.
  - (i) What is Indian Electricity act 1956
  - (j) Write short note on energy Efficiency

**SECTION – B**

2. **Attempt any five parts of the following questions:** **5 x 10 = 50**
- (a) Explain Efficiency in Motors and Lighting system. Discuss energy efficient motors
  - (b) Explain the energy Conservation in small scale and large scale industries.
  - (c) What do you mean by “voltage drop calculations? Also mention its advantage and significances
  - (d) Discuss the method of voltage and reactive power control systems. Also mention its importance in power system environments
  - (e) Explain DSM Strategy ,its implementation and application
  - (f) Explain Voltage classes and nomenclatures
  - (g) What are the instruments for energy audit? Also explain the energy audit of electrical system
  - (h) What do you mean by “ENERGY CONSERVATION LEGISLATION”? Also explain the strategy of energy audit

**SECTION – C**

- Attempt any two parts of the following questions:** **2 x 15 = 30**
- 3 Explain how the shortage of reactive power in distribution system are compensated by SVC(Static Var Compensator).
- 4 Explain the Capacitors unit , bank rating used in distribution system. Explain their advantages and limitations.
- 5 Explain the following:-
- (i) VAR requirements and power factor
  - (i) UPS selection
  - (ii) Indian Electricity Act 1956