

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

PAPER ID : 2901

Roll No.

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B.Tech.

(SEM. VIII) THEORY EXAMINATION 2011-12
ENERGY EFFICIENCY AND CONSERVATION

Time : 3 Hours

Total Marks : 100

1. Answer any **two** parts of the following :— (10×2=20)
 - (a) Discuss the principles of energy conservation. Also discuss the energy conservation planning.
 - (b) Explain the energy conservation in small scale and large scale industries.
 - (c) What do you mean by “ENERGY CONSERVATION LEGISLATION” ? Also explain the aim of energy audit and strategy of energy audit.
2. Answer any **two** parts of the following :— (10×2=20)
 - (a) What are the instruments for energy audit ? Also explain the energy audit of electrical systems.
 - (b) Write short notes on the following :
 - (i) Concept and scope of demand side management
 - (ii) Evaluation of demand side management
 - (iii) DSM Strategy.

- (c) What are the planning of DSM ? Also mention its implementation and applications.
3. Answer any **two** parts of the following :— **(10×2=20)**
- (a) Discuss the concept of voltage and reactive power in distribution systems. Explain how the shortage of reactive power in distribution systems are compensated by SVC (Static Var Compensators).
- (b) Write short notes on the following :—
- (i) Voltage control in distribution systems
- (ii) Protection of capacitors and switching in distribution systems.
- (c) What do you mean by “CACACITOR BANKS” and “INDVCTOR BANKS” used in distribution systems ? Explain their advantages and limitations.
4. Answer any **two** parts of the following :— **(10×2=20)**
- (a) Explain the following :—
- (i) Voltage classes and nomenclatures
- (ii) Controls for switched capacitors and fields testing.
- (b) What do you mean by “VOLTAGE DROP CALCULATIONS” ? Also mention its advantages and significances.
- (c) Discuss the methods of voltage and reactive power control in distribution systems. Also mention its importance in power system environments.

5. Answer any **two** parts of the following :— **(10×2=20)**
- (a) What do you mean by “LOAD SCHEDULING/SHIFTING” in systems ? Also mention their advantages and disadvantages.
 - (b) Explain the following :—
 - (i) UPS selection
 - (ii) Speed control of motors (D.C.)
 - (iii) Distribution code and Electricity Bill 2003.
 - (c) What do you mean by “Indian Electricity Act 1956” ? Also mention its salient features.