

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

Paper ID : 151653

Roll No.

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B.TECH.

Theory Examination (Semester-VI) 2015-16

ENERGY EFFICIENCY & ENERGY CONSERVATION

Time : 3 Hours

Max. Marks : 100

Note : Attempt all questions.

1. Attempt any four of the following : [4×5=20]

- (a) Explain the conventional and non-conventional energy resources.
- (b) Discuss the major sources of energy in india.
- (c) Write a short note on geo- thermal energy.
- (d) Explain the role of BEE.
- (e) What is the role of thermodynamic in energy efficiency?

- (f) How energy efficiency can be achieved in co generation plants

2. Attempt any four of the following : [4×5=20]

- (a) Discuss the Energy audit and its importance.
- (b) Write the methodology involved in energy auditing.
- (c) Discuss the type of energy auditing.
- (d) Explain the proposed measures for energy conservation with cost benefit analysis.
- (e) What are the energy conservation act 2001.
- (f) What are the team members of energy audit.

3. Attempt any two of the following : [10×2=20]

- (a) Discuss the equipment oriented approaches of energy conservation for the following equipment's
- i. Evaporator
- ii. Distillation column

- (b) Explain the different sources of waste heat, and feasibility of waste heat recovery.
- (c) Discuss the energy conservation technique in liquid - liquid extraction column.

4. Attempt any two of the following : [10×2=20]

- (a) Explain the pinch technology. Write the advantage of using pinch technology with the industrial aspect.
- (b) Write the pinch principle. Discuss the grand composite curves and process utility interface.
- (c) Explain the uses of Pinch analysis in chemical process industries.

5. Attempt any two parts of the following: [10×2=20]

- (a) What are the different components in steam systems, Discuss the energy conservation opportunities in steam generation system.
- (b) Explain the Insulation co-generation and co-generation system. What are the different parts of cogeneration system?

- (c) What is compressed air systems discuss the application of compressed air system? Explain the energy conservation opportunity in compressed air system.

