

**BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)**  
**B.Tech.Sem - VIII ELECTRICAL : WINTER- 2022**  
**SUBJECT : ENERGY MANAGEMENT**

Day : Tuesday

Time : 02:30 PM-05:30 PM

Date : 29-11-2022

W-13354-2022

Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data if **NECESSARY**.

- Q.1** What is the impact of Energy use on Environment? (10)  
**OR**  
Write a brief note on Indian and global energy scenario.
- Q.2** Describe need, types and components of Energy Audit. (10)  
**OR**  
Discuss outcome of Energy Audit and energy saving potential with suitable example.
- Q.3** Explain costing of utilities like cost of steam, natural gas, electricity etc. Also explain how the costing of utilities help to perform Energy Audit of the industry. (10)  
**OR**  
Explain  
i) Simple pay back period  
ii) Time Value of Money  
iii) Net present Value  
iv) Return on Investment  
v) Internal Rate of Return
- Q.4** List the features of steam piping, guide lines for proper drainage and discuss the details of steam pipe sizing and design. (10)  
**OR**  
Evaluate the performance of a typical furnace and discuss the methods for calculating the efficiency of furnace.
- Q.5** a) Discuss the impact of load management on the total electricity system. (06)  
b) What are the Motor Efficiency Testing Standards? (04)  
**OR**  
a) What is Supply Side Management? What is the necessity of Supply Side Management? (05)  
b) What is the criteria for selection and location of Capacitors? (05)
- Q.6** a) Discuss the Waste Heat Recovery technologies. (07)  
b) Enlist the Challenges for recovering low temperature waste heat. (03)  
**OR**  
Discuss the types of Cogeneration System with neat diagram. (10)