

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2180910

Date: 04/05/2017

Subject Name: Energy Conservation, and Audit(Departmental Elective - III)

Time: 10:30 AM to 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain general principles of Energy Management and Skills required for Energy Management. **07**
(b) How losses are reduced in Transformer? State advantages of parallel operation. **07**
- Q.2** (a) Write need of Energy Audit and explain Detailed Energy Audit. **07**
(b) Explain Demand Side Management in detail. **07**
- OR**
- (b) State functions and types of steam traps. Also write energy saving opportunities. **07**
- Q.3** (a) List various Energy Audit Instruments and explain any two. **07**
(b) Explain Payback Period, ROI and NPV. **07**
- OR**
- Q.3** (a) Discuss Water treatment and its impact on Boiler losses. **07**
(b) List factors affecting furnace performance. Explain Direct method for performance of Furnace. **07**
- Q.4** (a) Give tips for energy savings in pumping systems and Cooling Towers. **07**
(b) Explain need, principle of cogeneration. Explain Bottoming Cycle. **07**
- OR**
- Q.4** (a) State types, characteristics and applications of fans. **07**
(b) Explain Efficient Operation of Compressed Air Systems. **07**
- Q.5** (a) Discuss determination of Economic Thickness of Insulation. **07**
(b) Explain Automatic Power Factor Controller. **07**
- OR**
- Q.5** (a) Explain Electronic Lighting Ballasts and LED Lighting. **07**
(b) Explain Soft Starters and Energy Saving by using it. **07**
