

610604

Roll No. _____

Total No. of Pages: 2

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B. Tech. VI - Sem. (Main) Exam., (Academic Session 2021- 2022)

Electrical Engineering

6EE4 – 04 Electrical Energy Conversion and Auditing

Time: 2½ Hours

Maximum Marks: 120

Min. Passing Marks:

Instructions to Candidates:

Part – A: Short answer questions (up to 25 words) 6×3 marks = 18 marks.
Candidates have to answer six questions out of ten.

Part – B: Analytical/Problem solving questions 3×10 marks = 30 marks.
Candidates have to answer three questions out of seven.

Part – C: Descriptive/Analytical/Problem Solving questions 3×24 marks = 72 marks.
Candidates have to answer three questions out of five.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. NIL

2. NIL

PART – A

- Q.1 How do we classify energy conversion?
- Q.2 Define energy auditing.
- Q.3 Distinguish between primary and secondary energy sources.
- Q.4 Define electricity tariff.
- Q.5 Define the benchmarking and energy performance.

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- ✓ Q.6 What are the difference between pre-audit and detailed audit?
- Q.7 What is energy scenario?
- Q.8 Define the power quality issues.
- ✓ Q.9 Write about the electronic ballast.
- Q.10 How are the energy efficient light control classified?

PART – B

- Q.1 What is energy conservation? Explain energy strategy for the future.
- Q.2 Explain 'Green House Effect' along with assumptions.
- Q.3 Describe the various forms of energy with examples.
- ✗ Q.4 A 400 watt mercury vapour lamp was switched on for 8 hours per day supply volt is 230V.
Find the power consumption per day. (Volt = 230 Vp, Current = 5 amps. PF = 0.85)
- ✗ Q.5 Explain ten steps methodology for detailed energy audit.
- ✗ Q.6 Discuss energy audit instruments.
- ✗ Q.7 Explain approach for maximum demand control.

PART – C

- Q.1 Describe the benefits of energy benchmarking with suitable diagrams.
- Q.2 Draw the process of auditing with its advantages and disadvantages. Explain.
- Q.3 Explain energy and environment with industrial process, also show evolutionary trends in pollution problems.
- ✗ Q.4 Explain why managerial skills are as important as technical skills in energy management?
- ✗ Q.5 Explain power factor improvement methods and its benefit.

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