

6E7144

Roll No. _____

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B.Tech. VI-Sem. (Main/Back) Examination, April/May - 2026
Electrical Engineering
6EE4-04 Electrical Energy Conversion and Auditing

Time : 3 Hours**Maximum Marks : 70****Instructions to Candidates:**

Attempt all Ten questions from Part A, Five questions out of Seven questions from Part B and Three questions out of Five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing 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).

PART - A

(Answer should be given up to 25 words only)

All questions are compulsory.

(10×2=20)

- ~~1.~~ What is the need of energy conservation?
- ~~2.~~ What are the issues of power Quality?
- ~~3.~~ What do you mean by tariff?
- ~~4.~~ Define auditing types?
- ~~5.~~ Difference between energy sources?
- ~~6.~~ What is heat capacity?
- ~~7.~~ What do you mean by power factor improvement?
- ~~8.~~ How we calculate motor efficiency?
- ~~9.~~ Define the scenario of energy?
- ~~10.~~ Discuss benchmarking performance?

PART - B
(Analytical / Problem Solving Questions)

Attempt any Five questions.

(5×4=20)

1. Explain energy audit and also discuss different types of energy audit?
2. What is "Green House Effect"?
3. What is energy strategy for the future and also explain energy conservation?
4. Explain electrical load management and maximum demand control?
5. Define energy pricing with it's features?
6. Discuss energy balance diagrams in details?
7. What instruments used for energy audit, Explain?

PART - C
(Descriptive / Analytical / Problem Solving / Design Questions)

Attempt any Three questions.

(3×10=30)

1. Explain the important features of the Energy Conservation Act?
2. Discuss solar hybrid power system with suitable diagram?
3. Explain the role of training and awareness in energy management programme?
4. Elaborate the automatic power factor controllers and also explain why the selection and location of capacitors in electrical system performed?
5. Explain the energy efficiency light control for assessing existing lighting system in a facility?