

1274

April 2025

Time – Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (a) or (b) in Part-B. Each question carries 14 marks.]

PART – A

1. Give any three electrical safety rules.
2. What is the role of BEE in energy conservation?
3. List the methods of energy conservation in induction motor.
4. Write about Variable Frequency Drives (VFD).
5. Mention any three causes of technical losses.
6. Write the operation of Automatic Power Factor Controller (APFC).
7. List the types of energy audit.
8. Write about air quality analysis.
9. What is meant by bottoming cycle of co-generation system?
10. What is load factor tariff?

[Turn over.....]

PART - B

11. (a) (i) Write about energy demand and supply. (7)
(ii) Explain the present energy scenario of India. (7)
(Or)
(b) Explain about energy audit procedure with a flow chart.
12. (a) Explain the concepts of Isolating techniques in the energy conservation of transformer.
(Or)
(b) Write notes on installing Intelligent Power Factor Controller (IPFC)
(i) on equipment (7)
(ii) at site (7)
13. (a) Explain the generation, transmission and distribution of electric power with the help of line diagram.
(Or)
(b) Explain the working principle and operation of
(i) Maximum Demand Controller (7)
(ii) KVAR Controller (7)
14. (a) Discuss about energy audit of building system.
(Or)
(b) What are the different instruments used in energy systems? Explain their functions.
15. (a) Discuss about the classification of co-generation systems depending on sequence of energy use with necessary sketches.
(Or)
(b) Explain the applications of tariff system to reduce the electricity bills in various aspects.
