

717

Register No.:

April 2024

*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. What is meant by primary energy? Give an example
2. Write short notes on MEDA.
3. List any three points needed for energy conservation in induction motor.
4. State the advantages of soft starter.
5. How to control  $I^2R$  losses?
6. Write a short note on energy efficient luminaries.
7. What are the objectives of energy audit?
8. What are the instruments used in temperature measurements?
9. Give the classification of co-generation on the basis of sequence of energy use.
10. Write short note on peak-off day tariff.

[Turn over.....

PART - B

11. (a) Explain about safety rules for working with Electrical Equipment.  
(Or)  
(b) What is the significance of star labelling? Explain.
12. (a) Discuss in detail how intelligent power factor controller is adopted in energy conservation.  
(Or)  
(b) Explain the following energy conservation methods of electrical motor: (i) Rewinding of motor (7) (ii) Energy efficient motor(7).
13. (a) Discuss in detail about cascade efficiency and Aggregated Technical and Commercial (ATC) Losses.  
(Or)  
(b) Explain the working principle and operation of APFC.
14. (a) Draw and explain the Sankey diagram for  
(i) Converting electrical energy to Heat to Light. (7)  
(ii) Electrical to Mechanical conversion. (7)  
(Or)  
(b) Write in short about the following instruments  
(i) Load and power factor measuring equipment. (4)  
(ii) Wattmeter (3)  
(iii) Flue Gas Analysis (3)  
(iv) Temperature and Thermal loss measurements. (4)
15. (a) Explain about the bottoming cycle of co-generation system using neat sketches.  
(Or)  
(b) Explain the guidelines for writing Energy Audit report.

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