Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 52967

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Eighth Semester

Electrical and Electronics Engineering

EE 6801 — ELECTRIC ENERGY GENERATION, UTILIZATION AND CONSERVATION

(Regulation 2013)

(Also Common to : PTEE 6801 – Electric Energy Generation Utilization and Conservation for B.E. (Part-Time) – Seventh Semester – Electrical and Electronics Engineering – Regulation 2014)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the factors to be considered for the selection of electric drives.

2. What are the various speed control methods of three phase induction motor?

3. State the laws of illumination.

4. Write the various factors for designing the lighting scheme.

5. Classify the methods of electric heating.

6. What is meant by arc welding and list its types?

7. What are the different losses occur in solar collector?

8. State: Snell's law.

9. Give the expression for available wind power.

10. What are the factors affects the nature of the wind in earth surface?

PART B — (5 × 13 = 65 marks)

11. (a) What are the various types of electric braking used in traction? Discuss any two types in detail. (13)

Or

(b) Write the technical notes on recent trends in electric traction. (13)

12. (a) Explain about the following lamps with neat diagrams.

(i) Incandescent lamp. (6)

(ii) Sodium Vapour Lamp. (7)

Or

(b) (i) Describe the detail about the Road Lighting with neat diagram. (6)

(ii) Compare the output lumen of LED, CFL and Incandescent wattage. (7)

13. (a) Explain the Resistance heating methods with neat schematic diagrams. (13)

Or

(b) (i) What are the types of heating? Explain about the Induction heating. (6)

(ii) What are the types of electric welding? Explain the Butt welding with neat diagram. (7)

14. (a) Explain the parabolic concentrating solar collector and performance analysis with neat sketch. (13)

Or

(b) (i) Explain about grid tied inverter for solar PV system. (8)

(ii) What are the advantages and disadvantages of Concentrating Collectors. (5)

15. (a) Derive the expression for power from the Wind and hence deduce the condition for maximum power from wind. (13)

Or

(b) Draw the simple structure of horizontal axis wind turbine and explain its working in detail. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Explain the different arc welding methods with neat schematic diagrams.

Or

(b) Explain the following :

(i) factory lighting. (5)

(ii) flood lighting. (5)

(iii) street lighting. (5)