



C14-EE-501

4636

BOARD DIPLOMA EXAMINATION, (C-14)  
OCT/NOV—2017  
DEEE—FIFTH SEMESTER EXAMINATION  
ELECTRICAL UTILIZATION

Time : 3 hours ]

[ Total Marks : 80

PART—A

3×10=30

**Instructions** : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define glare and how it can be minimized. 1½+1½
2. Define the terms luminous flux and illumination with its units. 1½+1½
3. Write a short note on direct lighting. 3
4. State the advantages of electric heating. 3
5. State the disadvantages of core-type induction heating. 1½+1½
6. State the different types of electrodes used for welding. 3
7. Explain briefly any three components of refrigerator electric circuit. 3
8. What is the difference between refrigerator and air conditioner? 3

- \* 9. State the need of power saving devices. 3
10. State the advantages of LED lamps over other types of lamps. 3

**PART—B**

10×5=50

**Instructions :** (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) State and explain the laws of illumination. 2+4  
 (b) Explain about the street lighting. 4
12. A drawing hall 30 m×13 m with ceiling height of 5 m is to be provided with general illumination of 120 lux. Taking coefficient of utilization as 0.5 and depreciation factor as 1.4. Determine the number of fluorescent lamps required, their spacing, mounting height and total wattage. Luminous efficiency of 80 W fluorescent lamp is 40 lm/W. Show the disposition of lamps with sketch. 10
13. Explain different methods of temperature control of resistance heating with neat sketch. 10
14. Explain with neat sketch, construction and working principle of Ajax.Wyatt furnace. 10
15. Explain the principle of seam welding with neat sketch. 10
16. Explain the characteristics of a welding generator with neat sketch. 10
- \* 17. State the function of each component in the electric circuit of a refrigerator with neat sketch. 10
18. Explain the concept of energy auditing and management. 10

\*\*\*