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C14–EE–501

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BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2016

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. State the factors affecting utilization factor. 3

2. Define *(a)* MSCP, *(b)* MHCP and *(c)* MHSCP. 1+1+1

3. List out the various factors for good lighting. 3

4. List the applications of indirect resistance heating. 3

5. Classify the various types of temperature control of resistance heating. 3

6. List the applications of spot welding. 3

7. What is refrigeration? 3

8. What is the difference between refrigerator and air conditioner? 3

9. List the advantages of CFLs. 3

10. "Energy saved is energy produced." Comment. 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 Lambert's cosine law of illumination. 5

(b) A lamp of 500 Cp is placed at the centre of a room 20 m × 10 m × 5 m. Calculate the illumination in each corner of floor and in the middle of floor. 5

12. An incandescent lamp emitting 900 lumen is placed in a frosted glass globe having 15·25 cm radius. The uniform brightness of globe is 0·25 lumen per m^2 in all directions. Calculate the candle power of globe and percentage of light absorbed by it. 10

13. Explain the principle and application of direct resistance heating with neat sketch. 10

14. Draw the basic circuit for electric-arc furnace and explain. 10

15. Explain the principle of seam welding and sequence of operation. 10

16. Explain the welding generator along with characteristics. 10

17. Draw the block diagram of electric circuit of refrigeration and name the parts. 10

18. Draw the automatic illumination control circuits using LDRs. 10

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