

Total No. of Questions : 8]

SEAT No. :

PD4615

[Total No. of Pages : 2

[6404]-121

B.E. (Electrical Engineering)

ILLUMINATION ENGINEERING

(2019 Pattern) (Semester - VIII) (Elective - VI) (403151 B)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Assume suitable data, if necessary.
- 5) Use of non-programmable calculator is allowed.

- Q1) a)** Discuss the factors to be considered in Indoor lighting scheme. **[4]**
- b)** Define and explain the following terms in concern with Illumination Engineering **[6]**
- i) Coefficient of utilization
 - ii) Beam Angle
 - iii) Polar diagram
- c)** What are the different cavities to be considered in indoor illumination design? Explain each of them along with a diagram showing the three cavities. **[8]**

OR

- Q2) a)** Explain in brief about Lumen Method. **[4]**
- b)** Discuss in brief about Room reflectance & Room Index. **[6]**
- c)** Explain the terms: Light loss factor, Maintenance factor and acoustic ceiling. **[8]**
- Q3) a)** What is the measure of colour appearance of a lamp? Discuss it in brief. **[3]**
- b)** What are the factors to be considered in Lighting design of an educational institute? Explain each in brief. **[6]**
- c)** State the advantages of good illumination design. Discuss each in brief. **[8]**

OR

P.T.O.

- Q4)** a) What is contrast (in concern with lighting design)? [3]
b) Define and explain the following terms: Colour temperature & colour rendering index. [6]
c) What are the crucial factors in the design of a swimming pool. Discuss each in brief. [8]

- Q5)** a) What is the significance of good street lighting? [4]
b) Which are the lamps suitable for street lights? Explain one in brief. [6]
c) What are the important features needed in street light luminaires? [8]

OR

- Q6)** a) What is glare in street lighting? Explain each in brief. [4]
b) How to calculate the average illuminance on the road surface? [6]
c) What are the different types of pole arrangement? Also justify the suitability of each for a particular class of road. [8]

- Q7)** a) What are intelligent LED lighting systems and how do they work? [3]
b) Write a short note on Intelligent lighting. [6]
c) Compare LED and OLED? [8]

OR

- Q8)** a) Compare intelligent lighting for residential & commercial use [3]
b) What are the advantages & disadvantages of OLED? [6]
c) Write a short note on LASER & its applications. [8]

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