Total No. of Questions : 8]

SEAT No. :

PE-2212

[Total No. of Pages : 2

[6584]-111
B.E. (Electrical Engineering)
ILLUMINATION ENGINEERING
(2019 Pattern) (Semester - VIII) (403151B) (Elective-VI)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Figures to the right side indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume suitable additional data, jf necessary.***
5) ***Use of non-programinable calculator is allowed.***

Q1) a) What do you mean by coefficient of utilization? **[4]**

b) What are the cavities to be considered in Indoor lighting design? Define and explain each of them. Also draw a cross section of a room showing these cavities. **[6]**

c) Explain the various factors to be considered for design of indoor illumination scheme **[8]**

OR

Q2) a) What is Light loss factor? State its types and explain. **[4]**

b) What is Polar Curve? Describe its types. State its significance. **[6]**

c) What are different components of flux are considered in zonal cavity method? Explain each of them **[8]**

Q3) a) Define following terms **[3]**

i) Reflection factor

ii) Lumen

b) State and explain the advantages of good illumination schemes. **[6]**

c) Explain the procedure for design of illumination for an aquarium and swimming pool. **[8]**

OR

P.T.O.

Q4) a) Define following terms **[3]**

i) Depreciation factor

ii) Waste light factor

b) Explain briefly with respect to residential lighting the following: **[6]**

i) General lighting

ii) Decorative lighting

iii) Spot / Focus lighting

c) Explain illumination scheme for health care centres & hospitals **[8]**

Q5) a) Which lighting is used for Stadium and sports complex **[4]**

b) Explain the illumination design for advertisement/ hoardings. **[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) Explain following terms with respect to road lighting — **[6]**

i) Visual performance

ii) Visual comfort

iii) Glare

c) Explain the various Road classifications according to BIS. **[8]**

Q7) a) Compare intelligent lighting for domestic and commercial use. **[3]**

b) Explain natural light conduiting system (any two) **[6]**

c) Explain the working principle and construction of OLED. Support the answer with a diagram. **[8]**

OR

Q8) a) What are intelligent LED Fixtures? Explain. **[3]**

b) Explain working of Laser arrangement with suitable diagram. State types of LASERs. **[6]**

c) Explain construction and working of Fiber optic cables. State and explain its types. (any two). Support your answer with diagram. **[8]**

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