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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 10125 Roll No.

B. Arch. Examination 2021-22

(Even Semester)

BUILDING SERVICES - II

(Electrical and Lighting)

Time : Three Hours] *[Maximum Marks : 60*

Note :– (i) Be precise in your answer. In case of numerical problem assume data wherever not provided.

(ii) Attempt all questions.

SECTION–A

1. Attempt all parts of the following : 8×1=8

(a) Explain maintenance factor.

(b) Explain need to generate electricity.

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(c) Explain demerits of joint box system of wiring.

(d) Explain depreciation factor.

(e) Explain incandescent lamps.

(f) Explain service connection.

(g) Explain cartridge type fuses and their merits.

(h) Explain luminous intensity.

SECTION – B

2. Attempt any two parts of the following question. 2×6=12

(a) Explain garden lighting to improve ambience of architectural projects.

(b) Explain importance of lighting protection of buildings.

(c) Compare between sodium and high-pressure mercury vapour lamps.

(d) Describe methods of earthing with neat sketches.

SECTION – C

Note :– Attempt any two questions in this section.

3 (a) Firstly, draw a layout plan of a dining room 3.5 mt × 4.5 mt. Thereafter suggest the location of various electrical fixtures and electronic equipment's in it. Finallly propose an electrical layout plan and also write down various considerations you have made, while designing. 15

(b) Draw single line diagram for above installation. 5

4. (a) One lamp is to be controlled by two nos. of two-way switches. Draw wiring diagram in loop-in-system of wiring. 5

(b) What is the purpose of fuses in electrical circuits also explain the advantage of MCB over fuse circuits? 7.5

(c) Discuss the types of luminaries available in the market along with the manufacturing companies. 7.5

5. (a) A dining area of restaurant of size 9.0 mt × 12.0 mt is to be illuminated by now fluorescent lamps of lumen output of 2700 lumens. The average illumination required at work place is

200 Lux. Calculate the number of lamps required to be fitted in the dining area. Assuming the co-efficient of utilization to be 0.60 and maintenance factor to be 0.70. 10

(b) Draw comparison between any four of the following : 2.5×4=10

(i) Luminous intensity and illuminance.

(ii) Incandescent lamp and gaseous discharge lamps.

(iii) Reflection and dispersion of lights.

(iv) Joint box and loop-in-system of wiring.

(v) Neutral and earth wire in wiring system.

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