CBCS SCHEME

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21ARC44

Fourth Semester B.Arch. Degree Examination, June/July 2024
Building Services – II

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define electricity, its importance and implications on building design. **(10 Marks)**

b. Discuss on various codes and standards governing electrical services in India. **(10 Marks)**

OR

2 a. Describe with a block diagram, the amount of power at every stage of generation, transmission and distribution of electricity from the generation station to the building mains (end users). **(15 Marks)**

b. What are various sources of electricity? Explain with their working principles as block diagram. **(05 Marks)**

Module-2

3 a. Describe with a block diagram, the distribution of electricity inside a high rise building premises (from HT incomer to the consumer's main in an apartment building). **(12 Marks)**

b. Analyze the working principle of UPS and its components with a sketch of this system. **(08 Marks)**

OR

4 a. What are the different systems of electrical wiring with sketches and classify different types of internal wirings with neat sketches. **(10 Marks)**

b. What is Net Zero Energy building? Explain the features of a NZEB home with help of a sectional sketch. **(10 Marks)**

Module-3

5 a. Identify the need of protective devices in building electrical systems and their selection criteria. **(10 Marks)**

b. Explain the working principles of circuit breakers with sketch. What different types of circuit breakers. **(10 Marks)**

OR

6 a. Explain the working principle of earthing system and plate earthing system with help of sketch. **(12 Marks)**

b. Explain the working principle of lightening protection system in the building and its functions with components through sketch. **(08 Marks)**

Module-4

7 a. Identify the factors contributing for good quality and quantity of light in an indoor lighting scheme. **(12 Marks)**

b. Explore the advantages and disadvantages of CF lamps and LED lamps. **(08 Marks)**

OR

8 a. Infer with the help of sketches on how to integrate the day light and artificial light in indoors. **(12 Marks)**

b. Define luminaries and describe 3 different systems in luminaries with help of sketches. **(08 Marks)**

Module-5

9 Define Extra low voltage system. Describe 3 types of extra low voltage systems used in commercial buildings with examples. **(20 Marks)**

OR

10 Draw an electrical layout of a Bedroom with attached toilet using symbols and nation in legend. Do the load calculation of the appliances and electrical fixtures of the above drawn layout for one day. **(20 Marks)**

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