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18ARC53

Fifth Semester B.Arch. Degree Examination, Feb./Mar. 2022 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. Explain the following basic concepts :
i) Electricity ii) Ohm's law iii) Power
iv) Alternating current v) Connected load vi) Load factor. (12 Marks)
- b. Explain the importance of electrical energy in the development of nation. (08 Marks)

OR

- 2 a. Explain the transmittance of electric power from generating station to consumer point with suitable diagram. (10 Marks)
- b. Explain the basic working principle of a transformer with a neat sketch and list the different applications of a transformer. (10 Marks)

Module-2

- 3 a. Write a short note on UPS requirement explaining offline and online UPS systems. (08 Marks)
- b. Discuss the following wiring systems :
i) Cleat wiring system
ii) Batten wiring system
iii) Conduct wiring system. (12 Marks)

OR

- 4 a. Explain the following distribution systems according to the scheme of connection :
i) Radial ii) Ring main iii) Interconnected distribution system. (12 Marks)
- b. Discuss the overhead Vs underground distribution systems. (08 Marks)

Module-3

- 5 Write short notes on :
i) Need for protection system in electrical distribution systems
ii) MCB
iii) MCCB
iv) Air Circuit Breaker. (20 Marks)

OR

- 6 a. What do you mean by earthing and explain the necessity of earthing. (08 Marks)
- b. Explain the construction and working principle of plate earthing with a neat sketch and their parts. (12 Marks)

Module-4

- 7 a. Write short notes on :
i) Incandescent lamp
ii) Fluorescent lamp (10 Marks)
- b. State and explain the laws of Illumination. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

8 Write short notes on :

- i) Ambient lighting
- ii) Task lighting
- iii) Accent lighting
- iv) Street lighting

(20 Marks)

Module-5

- 9 a. What is Extra low voltage system?
b. Explain the three Extra low voltage systems.

(10 Marks)

(10 Marks)

OR

- 10 a. Draw a single line diagram of a two bedroom residence and prepare the electrical layout using standard symbols.
b. Calculate the electrical load for the lighting of the residence.

(14 Marks)

(06 Marks)

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