

CBCS SCHEME

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21ARC44

Fourth Semester B.Arch. Degree Examination, Dec.2023/Jan.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. Explain with sketches any 2 sources of electricity generation. (12 Marks)
b. Discuss various considerations involved in planning of electrical services in a building. (08 Marks)

OR

- 2 a. Explain, what is a substation with a neat sketch. Discuss its functions and classifications. (10 Marks)
b. Write short notes on :
i) Transformers
ii) Ring Main units. (10 Marks)

Module-2

- 3 a. How is renewable sources of energy used to generate electricity? Explain with the help of block diagram both ON-site and OFF-site renewable energy systems. (12 Marks)
b. How can electricity be conserved in building? Explain measures for the same. (08 Marks)

OR

- 4 a. What is a net zero Building? Explain the features of a Net zero building with a sketch. (10 Marks)
b. i) Explain Rising mains, sub mains and circuit mains. (05 Marks)
ii) Explain Distribution system in high rise building (05 Marks)

Module-3

- 5 What is earthing? Discuss NBC rules pertaining to earthing. Explain with neat sketches plate type and pipe type of earthing systems. (20 Marks)

OR

- 6 Explain the need for protective device in a building system and their selection criteria. Explain MCB and ELCB with neat sketches. (20 Marks)

Module-4

- 7 What type of lamp would you suggest for street lighting and why? Explain the importance of street lighting and the types of street lighting systems. (20 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 Answer the following :
- i) What is lighting? (05 Marks)
 - ii) Factors contributing to good lighting (05 Marks)
 - iii) Suggest and justify suitable lighting systems for Textile show room and Museum, with suitable sketches. (10 Marks)

Module-5

- 9 a. What is extra – low voltage system? (05 Marks)
b. What are the 3 low voltage systems? Explain with suitable sketches. (15 Marks)

OR

- 10 a. Draw a 2 BHK individual residence and prepare an electrical layout showing the following :
i) Light and Fan points
ii) Power points
iii) Low voltage points
iv) Distribution Board and meter board (14 Marks)
- b. Calculate electrical load for the same. (06 Marks)
