CBCS SCHEME

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18ARC42

Fourth Semester B.Arch. Degree Examination, Feb./Mar. 2022
Material and Methods in Building Construction - IV

Time: 4 hrs. Max. Marks: 100

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

Module-1

1 Discuss in details different types of flat slab and explain the design principles of it, along with its advantages and applications. **(20 Marks)**

OR

2 Discuss about the basic principles and the various methods of construction used for R.C.C moment framed slabs. Draft a plan and section of the slab for a room measuring 4m × 4m. Show the reinforcement details and assume suitable scale wherever necessary. **(20 Marks)**

Module-2

3 Define a Waffle slab. List its advantages with the brief explanation of how it is designed , adding appropriate sketches. **(20 Marks)**

OR

4 What is meant by R.C.C filler slabs? Discuss about their principles and methods of construction. **(20 Marks)**

Module-3

5 a. Discuss about the properties of structural steel as a prime building material in detail. **(08 Marks)**

b. Sketch the following typical connections of structural steel :
i) Column to Beam ii) Beam to Beam iii) Column to Base Plate. **(12 Marks)**

OR

6 a. Discuss about the following in detail :
i) Forms of structural steel used in building construction.
ii) Uses of structural steel. **(12 Marks)**

b. Discuss about the various advantages and methods of steel column / beam construction in building. **(08 Marks)**

Module-4

7 Propose a rolling shutter of span 3 × 3 mts to an entrance of a Hostel building. Assume suitable scale , draw plan , elevation and section. **(20 Marks)**

OR

8 Draw Plan , elevation and 2 junction detail (1 : 1 or 1 : 2) for a steel window measuring 1200mm (w) × 900mm(H). **(20 Marks)**

Module-5

9 Draw a plan , elevation and 2 details for a aluminum casement window measuring 1600mm (w) × 1000mm (H). **(20 Marks)**

OR

10 a. Discuss about the various applications of aluminum with respect to the building Industry. **(05 Marks)**

b. Draw the following details of a two – track sliding window, referring to the given elevation in Fig. Q10(b). Choose appropriate scales.
i) AA' ii) BB' iii) Extension details. **(15 Marks)**

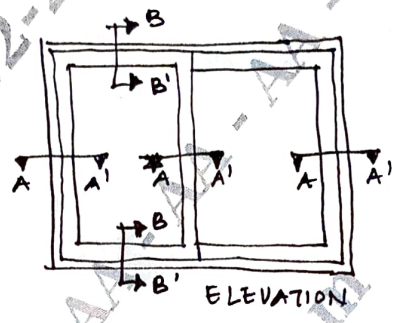

Fig. Q10(b)

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