USN | | | | | | | | | | **18ARC42**

Fourth Semester B.Arch. Degree Examination, July/August 2021
Materials and Methods in Building Construction – IV

Time: 4 hrs.   Max. Marks:100

Note: *1. Answer any FIVE full questions.*
2. Mark sketches wherever necessary.
3. Missing data, if any, may be suitably assumed.

1 a. Write the different types of flat-slab roof with neat sketches. **(10 Marks)**
   b. What are the five advantages and five disadvantages of flat-slab? **(10 Marks)**

2 a. Write short note on fundamentals of structural frame and moment frame. **(10 Marks)**
   b. Provide sketches showing RCC rigid reinforcement in column to beam junction. **(10 Marks)**

3 a. What is a filler slab? **(02 Marks)**
   b. List out the advantages of using a filler slab roof. **(03 Marks)**
   c. What are the things to be considered about filler material? **(05 Marks)**
   d. Draw filler slab of span 2×1.5m showing the reinforcement details. **(10 Marks)**

4 Write short note for the following :
   a. What is Waffle slab? **(05 Marks)**
   b. List out the any three benefits and drawbacks of Waffle slab construction. **(05 Marks)**
   c. Explain Waffle slab construction procedure. **(10 Marks)**

5 What are the FOUR different types of steel and its uses? **(20 Marks)**

6 Draw three types of column to beam connections in a steel structure. **(20 Marks)**

7 Draw to a suitable scale, plan, elevation and details of a collapsible gate of size 2.0×2.85m by adding louvers. **(20 Marks)**

8 Draw to a suitable scale, plan, elevation and details of a steel door of size 1.6×2.7m by adding louvers above lintel height. **(20 Marks)**

9 What are the properties of aluminium as building material and uses? **(20 Marks)**

10 Draw to a suitable scale, plan, elevation and details of a top hung open track aluminium sliding door of size 1.0×2.1m. **(20 Marks)**

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