

USN

--	--	--	--	--	--	--	--	--	--

Seventh Semester B.Arch. Degree Examination, July/August 2021 Materials and Methods in Building Construction VII

Time: 4 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 Design a show case with the following requirements; TV panel, storage with and display shelves.
 - a. Draw plan at two levels to a scale of (1:20). (10 Marks)
 - b. Draw the elevation to a scale of (1:20). (05 Marks)
 - c. Draw the detail of the glass shutter fixing to a scale of (1:5). (05 Marks)
- 2 Explain the material properties briefly with sketches.
 - a. Plywood (05 Marks)
 - b. Black board (05 Marks)
 - c. MDF (05 Marks)
 - d. Laminate (05 Marks)
- 3 Design a partition wall for an architects office of size 1.5m × 2.1m looking at light penetration as a criteria. Draw plan at two levels, one elevation and a section to a scale of 1:20. (20 Marks)
- 4 Design a work station to seat 2 people with book shelves and file cabinets.
 - a. Draw plan at 2 levels to a scale of (1:20) (10 Marks)
 - b. Elevation to a scale of (1:20) (05 Marks)
 - c. Draw the detail of the cabinet to a scale of (1:10). (05 Marks)
- 5 Design a false ceiling for a room of size 4.0m × 4.0m. Provide the following details.
 - a. Reflected ceiling plan to a scale of (1:20) (05 Marks)
 - b. Cross section through the false ceiling to a scale of (1:10) (10 Marks)
 - c. Any one detail to a scale of (1:5) (05 Marks)
- 6
 - a. What are the advantages and disadvantages of prestressed concrete? (10 Marks)
 - b. Define poststressed concrete. Also explain the principle behind prestressed concrete. (10 Marks)
- 7
 - a. With neat sketches, explain different types of raft foundations. (10 Marks)
 - b. Describe classification of piles based on materials. Draw neat sketches. (10 Marks)
- 8 Write short notes on:
 - a. Pile foundation (10 Marks)
 - b. Different types of raft foundation. (10 Marks)
- 9
 - a. What are the advantages of prefabrication system in the construction industry? (10 Marks)
 - b. Explain the relevance of 3D printing as an advanced method for building construction. (10 Marks)
- 10 Design a kiosk of size 2.7m × 3.0m using bamboo. Sketch the following details:
 - a. A section through the counter (10 Marks)
 - b. Roof detail (any junction) (05 Marks)
 - c. Elevation. (05 Marks)
