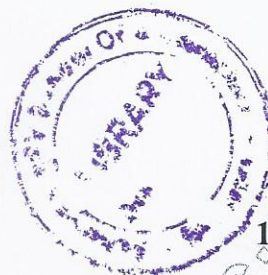


CBCS Scheme



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15ARC5.2

Fifth Semester B. Arch Degree Examination, Dec.2017/Jan.2018

Materials and Methods in Building Construction – V

Time: 4 hrs.

Max. Marks: 100

Note: Answer FIVE full questions, choosing one full question from each module.

Module-1

1 An 'L-Angle' truss roof system is required for a building of size 12m×20m. Draw the following construction details :

- Sectional elevation of L-Angle Truss – 1:50 (10 Marks)
- Gutter Detail – 1:5 (05 Marks)
- Ridge Cap Detail – 1:5 (05 Marks)

OR

2 Provide the following construction details for a North light Truss system with lattice Girder for a building of size 16m×24m

- Roof plan - 1:100 (08 Marks)
- Sectional view showing North light Truss – 1:50 (08 Marks)
- Gutter Detail at valley – 1:10 (04 Marks)

Module-2

3 A Hall of size 12m×24m needs to be designed using a multi Bay Barrel vault system. Provide the following construction details :

- Roof plan – 1: 100 (08 Marks)
- Section of vault Roof – 1:50 (08 Marks)
- Detail of Gutter at Edge Beam – 1:10 (04 Marks)

OR

4 A pre – Engineered Building is required for an Industrial Building of 15m×30m and has a clear height of 6m. Provide the following details :

- Roof plan – 1: 100 (08 Marks)
- Section Showing Portal Frame – 1:100 (08 Marks)
- Detail showing fixing of Roofing – 1:10 (04 Marks)

Module-3

5 Provide construction details for an RCC folded plate roof for a building of size 25m×30m×6m height.

- Roof plan – 1:100 (08 Marks)
- Section – 1:100 (08 Marks)
- Gutter Detail – 1:10 (04 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

- 6 Write short notes with explanatory sketches and details of construction for:
- Geodesic Domes (10 Marks)
 - Hyperbolic paraboloid shell Roofs (10 Marks)

Module-4

- 7 An exhibition Installation of 20m×20m needs a space frame structure to be designed. Provide the following drawings :
- Roof plan – 1:100 (08 Marks)
 - Partial section (showing connectors) – 1:50 (08 Marks)
 - Connector Detail – 1:5 (04 Marks)

OR

- 8 a. What are the different types of Tensile Roofs? Explain the construction details with sketches. (10 Marks)
- b. Explain pneumatic structure and its principles with the help of sketches. (10 Marks)

Module-5

- 9 Explain the water proofing details with the help of explanatory sketches :
- Water proofing for Toilets (Sunken slab). (10 Marks)
 - Water proofing for French Drain system. (10 Marks)

OR

- 10 a. What are sealants? Explain its functions and applications in Building industry. (10 Marks)
- b. Write a brief note on plastics. Explain the types, its properties and uses in the Building Industry. (10 Marks)
