

CBCS Scheme

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15ARC3.2

Third Semester B.Arch. Degree Examination, June/July 2018 Materials and Methods in Building Construction – III

Time: 4 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use only drawing sheet supplied for answering all questions.**

Module-1

- 1 a. Design a RCC slab for a residence shown in Fig.Q1 provide the following details :
- i) Plan with reinforcement details of slab (1 : 25 scale) (06 Marks)
 - ii) Section with reinforcement details of slab (1 : 25 scale) (04 Marks)
 - iii) Detail (1 : 5 scale) (04 Marks)
- b. Write short notes on :
- i) RCC oneway slab
 - ii) RCC twoway slab
 - iii) RCC cantilever slab. (06 Marks)

OR

- 2 a. Design a RCC gable roof for a hall size of 3.5m × 8m. Thickness of the slab is 125mm. Provide the following details :
- i) Plan with reinforcement details of gable roof (1 : 25 scale). (06 Marks)
 - ii) Section with reinforcement details of gable roof (1 : 25 scale). (04 Marks)
 - iii) Detail (1 : 5 scale). (04 Marks)
- b. Write short notes on :
- i) Ingredients of RCC
 - ii) Bent up bars in RCC slab
 - iii) Grades of concrete. (06 Marks)

Module-2

- 3 a. Design a RCC semicircular vault for a hall measuring 5m × 10m and the thickness of the slab is 100mm. Draw following details :
- i) Plan with reinforcement details of RCC vault roof (1 : 25 scale)
 - ii) Section with reinforcement details of RCC vault roof (1 : 25 scale)
 - iii) View
 - iv) Detail (1 : 5 scale). (16 Marks)
- b. Write short notes on domes. (04 Marks)

OR

- 4 a. Design a hemispherical RCC dome having a diameter of 6m. Draw following details :
- i) Plan showing reinforcement details of dome (1 : 25 scale)
 - ii) Section showing reinforcement details (1 : 25 scale)
 - iii) Views
 - iv) Detail (1 : 5 scale) (16 Marks)
- b. Write short notes on vaulted roofs. (04 Marks)

Module-3

- 5 Write short notes on :
- a. Wooden flooring (05 Marks)
 - b. Terrazzo flooring (05 Marks)
 - c. Mud flooring (05 Marks)
 - d. Kota stone flooring. (05 Marks)

OR

- 6 a. Design a granite cobble stone paver pattern for a pathway of 3m(width) × 18m(length). Draw following details :
- i) Plan (1 : 25 scale)
 - ii) Section (1 : 25 scale)
 - iii) Details of edge condition. (provide curbstone on either side of the longer length). (14 Marks)
- b. Explain with the help of neat sketches laying of inter locking block paving. (06 Marks)

Module-4

- 7 a. What are the ingredients of an oil borne paint? Describe briefly each of them. (16 Marks)
- b. What are the causes of a failure of a paint job? What are the usual defects which are found in the painting work? (10 Marks)

OR

- 8 Write short notes on :
- a. Varnishes. (05 Marks)
 - b. Distempers (05 Marks)
 - c. Emulsion paint (05 Marks)
 - d. Aluminum paint. (05 Marks)

Module-5

- 9 a. Describe the various defects in plaster work and list out the remedies for the same. (14 Marks)
- b. Write short notes on :
- i) Toilet dadoing
 - ii) Lime plaster
 - iii) Rough plaster. (06 Marks)

OR

- 10 a. Describe the process of external and internal cement plastering. (14 Marks)
- b. Write short notes on : (sketches wherever necessary)
- i) Jack arch roof
 - ii) Madras terrace roof
 - iii) Smooth plaster. (06 Marks)

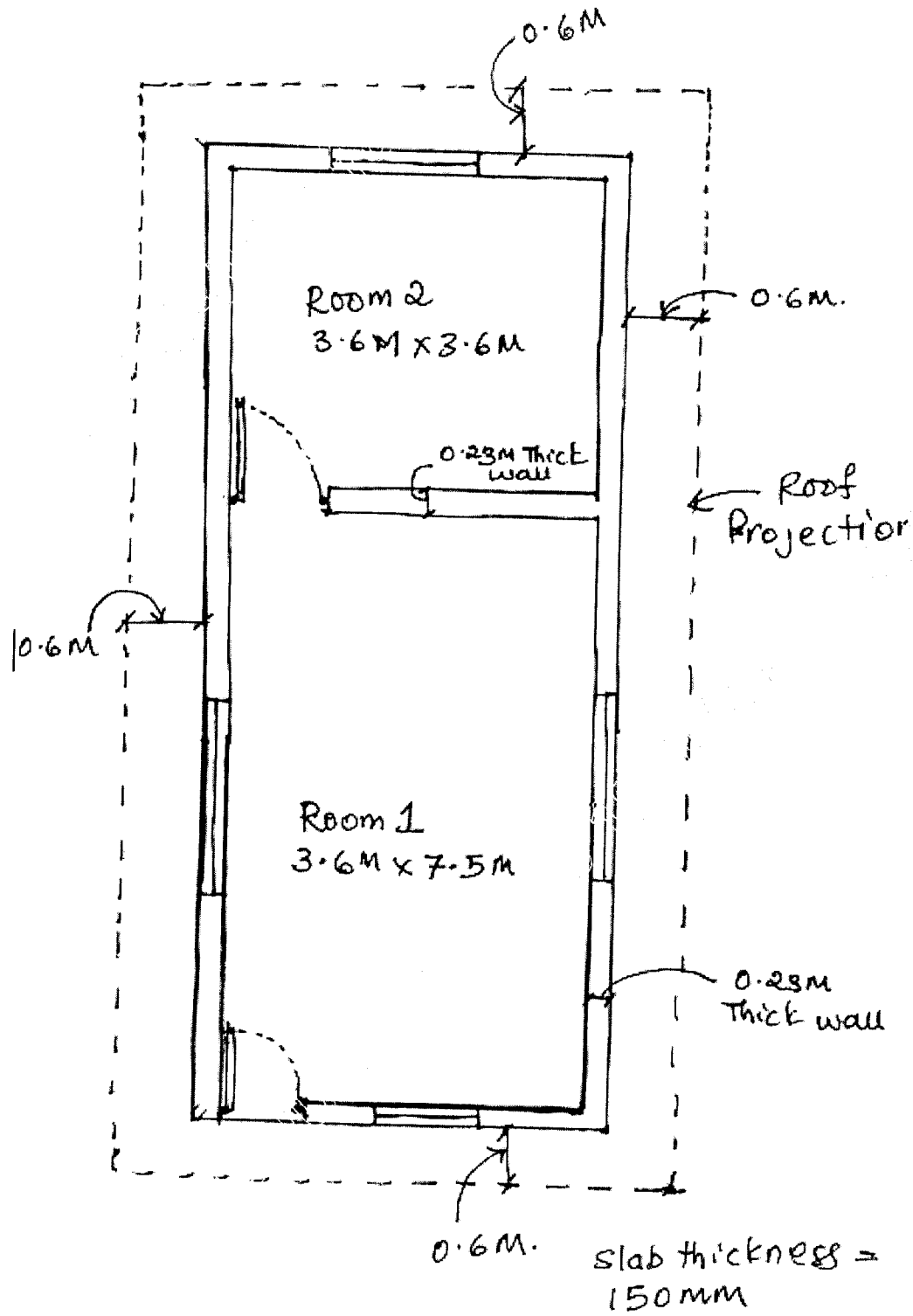


Fig.Q1
