

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
- b. Terrazzo flooring
- c. Mud flooring
- d. Kota stone flooring.

(05 Marks)

(05 Marks)

(05 Marks)

(05 Marks)

OR

6 a. Design a granite cobble stone paver pattern for a pathway of 3(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. (10 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.
- b. Distempers
- c. Emulsion paint
- d. Aluminum paint.

(05 Marks)

(05 Marks)

(05 Marks)

(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)

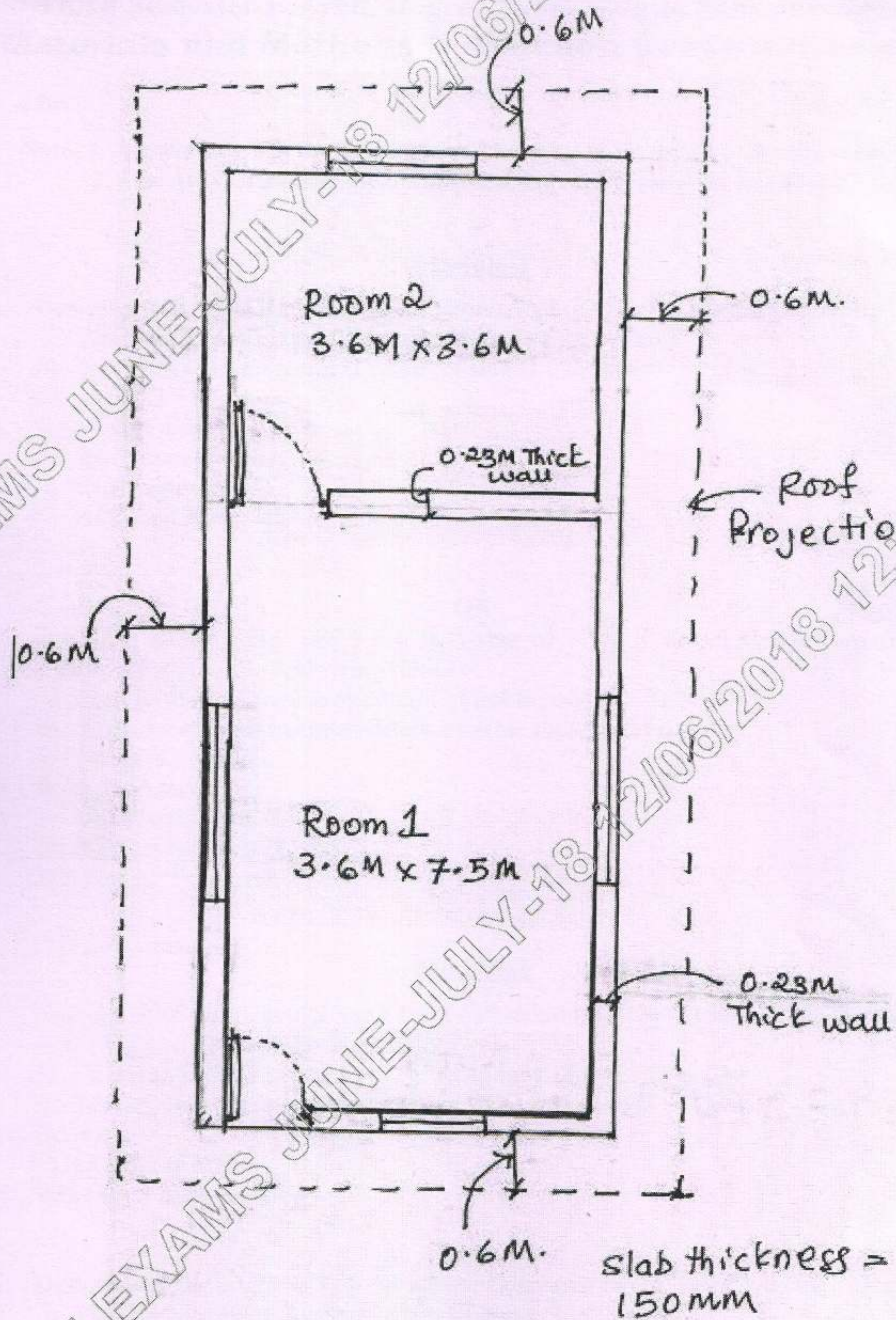


Fig.Q1
