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Third Semester B.E. Degree Examination, Dec.2018/Jan.2019 Building Materials and Construction

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain physical and chemical classification of rocks. (08 Marks)
b. List and explain Laboratory tests on bricks. (06 Marks)
c. Explain bulking of sand. (06 Marks)

OR

- 2 a. Which are the constituents of good brick earth? Explain. (06 Marks)
b. What is Quarrying of stone? Explain methods of Quarrying. (08 Marks)
c. Explain the importance of shape, size and texture of coarse aggregates in cement concrete making. (06 Marks)

Module-2

- 3 a. What is foundation? Explain the functions of foundation. (06 Marks)
b. Explain strip footing and strap footing with sketches. (06 Marks)
c. What are the special features of English bond? Explain with 1½ brick thick wall. (08 Marks)

OR

- 4 a. What is pile foundation? Explain with sketches the classification of pile foundation based on its function. (06 Marks)
b. Differentiate between Random rubble masonry and coursed rubble masonry. (06 Marks)
c. Draw the plan of 1½ brick thick Flemish bond and explain its salient features. (08 Marks)

Module-3

- 5 a. Explain the following with sketches:
(i) RCC lintel (ii) Stone lintel. (06 Marks)
b. Discuss various modes of failure of an arch and what are its remedies? (06 Marks)
c. Draw the sketch of king post wooden roof truss (half part) and label its parts. (08 Marks)

OR

- 6 a. Mention the types of sloped roof. Explain any three types of sloped roof with sketches. (08 Marks)
b. What are the requirements of good floor? What are the components of ground floor with mosaic flooring? (06 Marks)
c. What is an arch? Draw the sketch of elemental arch. (06 Marks)

Module-4

- 7 a. Explain salient features of framed and panelled door with sketch (Double shutter). (08 Marks)
b. Differentiate between Bay window and corner window with sketches. (06 Marks)
c. What are the requirements of good stair? (06 Marks)

OR

- 8 a. Design a stair-case for a residential building using stair hall $2.5\text{m} \times 5\text{m}$. The vertical distance between the floors is 3.6m. Sketch the plan of staircase. (08 Marks)
- b. What is shoring? Explain Raking shore with a sketch. (06 Marks)
- c. What are the requirements of locating door and windows? (06 Marks)

Module-5

- 9 a. Discuss the defects in plastering. (08 Marks)
- b. Name and explain the constituents of oil paint. (06 Marks)
- c. What are causes of dampng in the building and what are its remedies? (06 Marks)

OR

- 10 a. Explain the objects of plastering and types of plaster finishing. (08 Marks)
- b. Explain the procedure of painting for the following :
- (i) New wood work surface (06 Marks)
- (ii) New plastered surface (06 Marks)
- c. Differentiate between stucco plastering and lathe plastering. (06 Marks)

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