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10CV32

Third Semester B.E. Degree Examination, Dec.2016/Jan.2017
Building Materials and Construction Technology

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. What are the essential requirements of good foundation? (05 Marks)
b. What is safe bearing capacity of soil? Mention various methods to improve SBC of soil. (06 Marks)
c. Two loads of 1000kN and 1500kN are carried by square columns 500mm × 500mm and 600mm × 600mm respectively. The centre to centre distance between the columns is 5m. The footing is not to project more than 250mm beyond the outer edge of the smallest column. The allowable bearing capacity of the soil on which the columns are to rest is 250 kN/m². Determine the dimensions of the combined footing. (09 Marks)
- 2 a. Sketch the elevation of a brick wall build in i) English Bond ii) Flemish Bond. Compare the merits and demerits of English bond and Flemish bond. (10 Marks)
b. Draw neat sketches of the following and explain :
i) ASHLAR MASONRY ii) RUBBLE MASONRY. (10 Marks)
- 3 a. What are the advantages of an arch over a beam of same span? (06 Marks)
b. Sketch an R.C.C lintel for windows in brick masonry. Show arrangement of steel bars in it. (06 Marks)
c. Give the classification of arches and explain stability of an arch. (08 Marks)
- 4 a. Sketch a king post roof truss with timber, provided with tile roofing. Name various components of truss on the sketch. Indicate which members are subjected to compression and tension. (08 Marks)
b. What are the factors affecting choice of flooring material? (06 Marks)
c. What are the materials used for flooring? (06 Marks)

PART – B

- 5 a. Write a neat sketch of a door with a single shutter and its door frame. Name different components of frame and shutter. (10 Marks)
b. Explain along with neat sketch : i) Collapsible door ii) Bay window. (10 Marks)
- 6 a. State briefly the requirement of a good stair. (05 Marks)
b. Explain the different types of stairs. (05 Marks)
c. Plan of staircase hall of a public building is 6m long and 5.1m wide in plan. Vertical distance from flooring of ground floor to top level of flooring of first floor is 4.5m. Design the staircase with three flights. Sketch the staircase in plan and show details. (10 Marks)
- 7 a. Mention and explain different types of paints. (10 Marks)
b. What are the defects in plastering? (05 Marks)
c. What is pointing? Mention types of pointing. (05 Marks)
- 8 a. Define shoring. Explain different types of shoring. (10 Marks)
b. Explain Damp proofing. What are the causes of dampness? (10 Marks)

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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.