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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Third Semester, B.E. - Civil Engineering

Semester End Examination; Dec - 2017/Jan - 2018

Building Materials and Construction

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting at least ONE full question from each unit.

UNIT - I

- 1 a. What are the qualities of a good building stones? Explain briefly. 10
- b. Explain the process of manufacturing of bricks. 10
- 2 a. What are the defects in timber? Explain the process of seasoning of timber. 10
- b. What are the qualities of good tiles? Classify the different types of tiles. 10

UNIT - II

- 3 a. Define foundation. Explain the different types of foundation. 10
- b. Explain the methods improving the bearing capacity of soil. 10
- 4 a. Explain the plate load test for determining the bearing capacity of soil. 10
- b. Find the dimensions of a combined rectangular footing for two columns A and B. Carrying loads of 500 kN and 700 kN respectively. Column 'A' is 30 cm x 30 cm in size and columns is 40 cm x 40 cm in size. The centre to centre spacing of column is 3.4 m. SBC of soil = 150 kN/m². 10

UNIT - III

- 5 a. Define masonry. Explain the different terms used in masonry. 10
- b. With neat sketch, explain English bond and Flemish bond. 10
- 6 a. Explain shoring, underpinning and scaffolding briefly. 10
- b. Explain different types of flooring. 10

UNIT - IV

- 7 a. With neat sketch, explain the king post truss. 10
- b. What are the requirements of good stair? 10
- 8 a. Explain briefly the different types of windows. 10
- b. With neat sketch, explain the six panelled door. 10

UNIT - V

- 9 a. Define plastering. What are the different methods used for plastering? 10
- b. What is the purpose of painting? Explain the different types of painting. 10
- 10 a. What is a pre-fabrication construction technique? Explain its advantages. 10
- b. What is an alternative building material? Explain the different types of alternative blocks used in construction. 10