



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. - 2019

Building material and construction

Time: 3 hrs

Max. Marks: 100

Note: I) **PART - A** is compulsory. **Two** marks for each question.

II) **PART - B:** Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks
I : PART - A		10
I a.	Define the term dressing of stone.	2
b.	List the types of foundation.	2
c.	List the types of bonds in brick work.	2
d.	List the requirements of a good stair.	2
e.	List the purpose of plastering.	2
II : PART - B		90
UNIT - I		18
1 a.	Describe the process of burning bricks in intermittent kilns.	9
b.	Explain how the following tests for stones are carried out:	
	i) Attrition test	9
	ii) Hardness Test	
	iii) Impact test	
c.	What are the forces responsible for causing natural defects in timber? Explain such natural defects of timber.	9
UNIT - II		18
2 a.	Describe the various methods of improving bearing capacity of soils. Explain in detail the method of dropping weight.	9
b.	Explain in detail different types of foundation.	9
c.	Design the foundations for a brick pillar 600 mm × 600 mm in section and stressed to 1000 kN/m ² of the pillar section. Permissible stress in concrete in direct compression may be taken as 3300 kN/m ² and safe bearing capacity of soil may be taken as 155 kN/m ² . Take weight of soil as 19.2 kN/m ³ and its angle of repose = 30°.	9
UNIT - III		
3 a.	Briefly explain the different types of joints in stone masonry.	9
b.	How is Masonry arches classified? Draw neat sketches of any two types.	9
c.	With a neat sketch explain pit type underpinning of foundations.	9

UNIT - IV

18

- 4 a. What are the different types of roof coverings commonly used for pitched roof? 9
- b. Sketch the elevation of a stair and explain the terms. 9
- c. Draw sketches of the following types of doors and windows:
 - i) Fully paneled door 9
 - ii) Sash or glazed window

UNIT - V

18

- 5 a. Explain the procedure of painting for:
 - i) Wood surfaces 9
 - ii) Iron and steel surfaces
- b. Explain the purpose of plastering. Explain methods of plastering. 9
- c. Define the term “Formwork”. List the materials used for formwork. Explain any one material used for formwork in detail. 9

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