



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; March / April - 2022

Building Materials and Construction

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Understand the properties and use of construction materials.

CO2: To identify types of footing, RCC, raft foundations in different soils.

CO3: To classify Bonds in brick work, English bond, Flemish bond, Joints in stone masonry, arches.

CO4: To understand the building components and method of construction.

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	BLs	COs	POs
I : PART - A		10			
I a.	Mention the types of tiles.	2	L1	CO1	PO1
b.	List the methods of improving the bearing capacity of soil.	2	L1	CO2	PO1
c.	Write the different types of bonds in brick work.	2	L1	CO2	PO1
d.	Define Bay window and Dormer window.	2	L1	CO3	PO1
e.	List the advantages of Prefabrication techniques.	2	L1	CO3	PO1
II : PART - B		90			
UNIT - I		18			
1 a.	What are the requirements of good building stones? And also explain dressing of stones.	9	L1	CO1	PO2
b.	Describe the construction and working of Bull-trench Kiln along with a neat labeled diagram.	9	L2	CO3	PO2
c.	Explain various defects in timber. Elaborate the concept of seasoning of timber.	9	L2	CO1	PO1
UNIT - II		18			
2 a.	Write the functions of foundation. Explain shallow foundation and its types with sketches.	9	L2	CO2	PO1
b.	Explain plate load test to determine bearing capacity of soil.	9	L2	CO2	PO2
c.	Explain the different methods of determining bearing capacity of soil.	9	L2	CO3	PO1
UNIT - III		18			
3 a.	Explain the following:				
	i) Shoring	9	L2	CO3	PO2
	ii) Underpinning				
	iii) Scaffolding				

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| b. Draw the sketch of an elementary arch and label its parts thoroughly. | 9 | L2 CO3 PO2 |
| c. List the types of floors. Explain the method of laying of mosaic and polished granite flooring. | 9 | L3 CO4 PO2 |

UNIT - IV**18**

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| 4 a. With a neat labeled sketch, explain King Post wooden truss. | 9 | L2 CO3 PO2 |
| b. Write the different types of Doors with sketches. What are the requirements of locating doors and windows? | 9 | L2 3,4 PO2 |
| c. Plan a dog-legged stair for a building in which the vertical height between the floors is 3.6 m. The staircase room measures 2.5 m x 5 m.
Take; rise = 15 cm and tread = 25 cm. | 9 | L3 CO4 PO2 |

UNIT - V**18**

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| 5 a. What is painting? Explain the procedure of Painting of New wood surface and New plastered surface in detail. | 9 | L2 CO4 PO2 |
| b. List the different methods of plastering. Explain the procedure adopted in stucco plastering. | 9 | L2 CO3 PO2 |
| c. Mention the advantages of cost effective construction and explain precast frames and shutters. | 9 | L3 CO4 PO2 |

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