

U.S.N.

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E.

Semester: III

Branch: Civil Engineering

Duration: 3 hrs.

Course Code: 23CV3PCBMC / 22CV3PCBMC

Max Marks: 100

Course: Building Materials and Construction

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			UNIT - I	CO	PO	Marks
	1	a)	Briefly explain the importance of the following construction materials : Lime, Structural Steel, Reinforcing Steel, Wire cut bricks.	CO 1	PO1	10
		b)	Explain the importance of load-bearing framed systems, main walls and partition walls.	CO 1	PO1	10
			OR			
	2	a)	Briefly explain : aerated blocks, plaster, interior and exterior paints used in construction.	CO 1	PO1	10
		b)	Explain the functions of beams, columns, slabs and staircase in a building.	CO 1	PO1	10
			UNIT - II			
	3	a)	Explain clearly (i) different types of raft foundations and (ii) different types of pile foundations with neat sketches	CO 2	PO1	10
		b)	Explain dampness and its causes in building. Explain damp proofing and damp-proof course with a neat sketch.	CO 2 CO 3	PO1	10
			OR			
	4	a)	Explain safe bearing capacity of soil. Discuss two test methods to determine the safe bearing capacity of soil.	CO 2	PO1	10
		b)	Briefly discuss the significance of carrying out water proofing and anti-termite treatment in buildings	CO 3	PO1	10
			UNIT - III			
	5	a)	List the bonds adopted in brick work. Which is the strongest bond in brick masonry. Mention the main purpose of constructing a load-bearing wall and partition wall.	CO 3	PO1	10

	b)	Explain the main function of lintel and chejja. Briefly explain different types of lintels.	CO 2	PO1	10
		OR			
6	a)	Classify different types of masonry. Write a short note on reinforced brick masonry, with relevant sketches.	CO 3	PO1	10
	b)	Explain the function of an arch and neatly sketch the components of an arch. Only list different types of arches.	CO 3	PO1	10
		UNIT - IV			
7	a)	What are the different types of flooring used? List the factors involved in selecting a type of flooring.	CO 3	PO1	10
	b)	Draw a neat sketch of a plan and sectional elevation of a dog-legged staircase for a commercial building with its various components for a floor to roof height of 3.2m and for the staircase room having the measurement 3m x 6m.	CO 2	PO1	10
		OR			
8	a)	Explain the different types of staircases adopted in construction based on their shape and materials used for construction.	CO 2	PO1	10
	b)	Explain with neat sketches the different types of roofs based on shape and on the type of materials used.	CO 3	PO1	10
		UNIT - V			
9		Explain in detail the roles and responsibilities of: (i) architects, (ii) structural engineers, (iii) geotechnical engineers, (iv) site engineers, (v) contractors, (vi) project manager, (vii) financiers, (viii) regulatory authorities in construction.	CO 3	PO1	20
		OR			
10	a)	Explain all the aspects to be considered on safety protocols adopted on site in construction practices.	CO 3	PO1	10
	b)	Explain the detailed National building code (NBC) guidelines adopted in construction practices.	CO 3	PO1	10
