U.S.N.										

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

Autonomous Institute Affiliated to VTU

August 2024 Supplementary Examinations

Programme: B.E. **Semester: III**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 19CV3PCBMC **Max Marks: 100**
Course: Building Materials and Construction

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Units 1 and 4 have internal choice
3. Provide illustrations / sketches wherever necessary
4. Missing data, if any, may be suitably assumed.

			UNIT – I	***CO***	***PO***	**Marks**
1	a)		With a neat sketch elaborate on the working of Hoffman's kiln for production of burnt bricks.	***CO1***	***PO1***	**10**
	b)		Can freshly sawn timber be used in construction? Discuss any two timber products and their applications in building constructions along with the necessary precautions to be considered.	***CO1***	***PO1***	**10**
			OR			
2	a)		With a flow chart summarize the manufacturing process of cement in dry state.	***CO1***	***PO1***	**10**
	b)		Discuss the heat treatment of steel – annealing and case hardening. List the advantages of carrying out these processes.	***CO1***	***PO1***	**10**
			UNIT – II			
3	a)		Illustrate various components of a load-bearing structure. Point out any two difference between framed structures and load-bearing structures.	***CO2***	***PO1***	**10**
	b)		*Foundations for a building can be of various types with each type suitable for different construction projects.* In view of the above statement, discuss any 4 different foundation types and highlight their significance.	***CO2***	***PO1***	**10**
			UNIT - III			
4	a)		With illustrations discuss any two different types of bonds adopted in i. Brick masonry ii. Stone masonry	***CO3***	***PO1***	**10**

		b)	Under what conditions is anti-termite treatment suggested? Discuss both the pre and post construction anti-termite treatment process.	***CO3***	***PO1***	**10**
			UNIT – IV			
	5	a)	List any 4 salient points to be considered while finalizing the position of a door or window in a building. Illustrate the technical parts of a typical door and window.	***CO3***	***PO1***	**10**
		b)	Taking semi-circular arch as an example describe its different components. List any 4 other types of arches.	***CO2***	***PO1***	**10**
			OR			
	6	a)	Illustrate the components of a typical pitched roof. List any 4 factors to be considered while selecting the roofing system for a building.	***CO3***	***PO1***	**10**
		b)	List any 4 types of lintels and discuss the concept behind introduction of lintel in a building.	***CO2***	***PO1***	**10**
			UNIT – V			
	7	a)	Design a dog legged staircase for a building with a roof height of 3.6m. The staircase room available is 2.5m X 5m. Provide the plan and section	***CO3***	***PO1***	**10**
		b)	Discuss the procedure for carrying out surface finishing on brick masonry wall to achieve aesthetic finish by i. Plastering ii. Painting	***CO3***	***PO1***	**10**

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