U.S.N.										

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

Autonomous Institute Affiliated to VTU

April 2025 Semester End Make-Up Examinations

Programme: B.E. **Semester: I**
Branch: Common to all Branches **Duration: 3 hrs.**
Course Code: 23CV1ESGBT **Max Marks: 100**
Course: Green Buildings

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)	Provide insight on green buildings, their features and discuss their need with respect to the present scenario of urbanization.	CO 1	PO7	10
	b)	Considering a building material discuss the concept of embodied energy and its significance in achieving sustainability in construction industry.	CO 1	PO7	10
		OR			
2	a)	Discuss any five contributing factors to the phenomena of Global Warming with respect to construction industry.	CO 1	PO7	10
	b)	Elaborate on the benefits of green buildings considering the life cycle energy and life cycle cost approach.	CO 1	PO7	10
		UNIT – II			
3	a)	Between the two options - Table-molded bricks and Stabilised mud blocks - which masonry unit will you suggest considering the sustainability point of view. Justify your choice.	CO 2	PO6, PO7	10
	b)	With a neat sketch discuss the engineering properties, performance and applications of Fiber Reinforced Cement Components.	CO 2	PO6, PO7	10
		OR			
4	a)	Considering a region with hot and humid climate, between the two options - Solid Concrete Blocks and Porotherm blocks - which masonry unit will you suggest. Justify your choice.	CO 2	PO6, PO7	10
	b)	Discuss the manufacturing process and properties of Lime Pozzolana Cement.	CO 2	PO6, PO7	10

			UNIT - III			
	5	a)	Discuss the construction process of Rammed earth wall. Highlight the benefits that can be achieved in this type of wall construction.	***CO*** 3	***PO6, PO7***	**10**
		b)	With suitable illustrations and examples demonstrate the principle of day lighting and the benefits that can be achieved.	***CO*** 3	***PO6, PO7***	**10**
			OR			
	6	a)	Discuss the concept behind filler slab construction. Highlight the benefits that can be achieved in this type of roof construction.	***CO*** 3	***PO6, PO7***	**10**
		b)	Discuss the raw materials, their specifications and the construction process of Ferro Cement, light weight building elements.	***CO*** 3	***PO6, PO7***	**10**
			UNIT – IV			
	7	a)	Demonstrate with any two examples that Solar Passive Heating is an energy efficient approach in green buildings.	***CO*** 3	***PO6, PO7***	**10**
		b)	Demonstrate any two practices that can be to incorporated with respect to efficient water management in a residential building.	***CO*** 3	***PO6, PO7***	**10**
			OR			
	8	a)	Explain the model for solid waste management through the hierarchical approach of best practices.	***CO*** 3	***PO6, PO7***	**10**
		b)	Provide insight into the techniques that can be incorporated to improve the thermal comforts of indoors through low energy passive cooling principle.	***CO*** 3	***PO6, PO7***	**10**
			UNIT – V			
	9	a)	Discuss any five characteristics of sustainable buildings and their impact on the environment.	***CO*** 4	***PO7***	**10**
		b)	Considering the green rating system – LEED – discuss the features, key highlights and point system with differential weight age.	***CO*** 4	***PO7***	**10**
			OR			
	10	a)	Write a brief on Integrated Lifecycle design of Materials and Structures.	***CO*** 4	***PO7***	**10**
		b)	Considering green rating system - GRIHA – discuss the features, key highlights and point system with differential weight age.	***CO*** 4	***PO7***	**10**

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