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

Autonomous Institute Affiliated to VTU

February / March 2025 Semester End Main Examinations

Programme: B.E. **Semester: I / II**

Branch: Common to all Branches **Duration: 3 hrs.**

Course Code: 23CV1ESGBT / 23CV2ESGBT **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)	Explain any five means by which carbon emissions can be reduced.	*CO1*	*PO7*	**10**
	b)	Discuss global warming, its impact on ecosystems, and any two global initiatives adopted to reduce the impact.	*CO1*	*PO7*	**10**
		OR			
2	a)	Assess the role of green buildings in reducing greenhouse gas emissions in the built environment, providing at least five supporting reasons.	*CO1*	*PO7*	**10**
	b)	Illustrate the difference between conventional building materials and green building materials.	*CO1*	*PO7*	**10**
		UNIT - II			
3	a)	Briefly explain the recycling potential of various building materials considering suitable examples.	*CO1* *CO2*	*PO6* *PO7*	**10**
	b)	Describe the properties, uses and advantages of stabilized mud blocks and aerated concrete blocks as cost-effective construction materials.	*CO1* *CO2*	*PO6* *PO7*	**10**
		OR			
4	a)	Explain at least five issues related to quarrying of building materials on environment.	*CO1* *CO2*	*PO6* *PO7*	**10**
	b)	List the technical properties of bamboo, and its application as a building material, with suitable examples of its applications in construction.	*CO1* *CO2*	*PO6* *PO7*	**10**

			UNIT - III			
	5	a)	Describe the following cost-effective construction practices with a neat sketch: i) Filler Slab ii) Jack Arch Roofing	*CO2*	*PO6, PO7*	**10**
		b)	Explain the principles and practices of daylighting in buildings and discuss how they contribute to thermal comfort and energy efficiency.	*CO2*	*PO6, PO7*	**10**
			OR			
	6	a)	Explain in detail: i) Pre-engineered building elements ii) Ferro Concrete Construction	*CO2*	*PO6, PO7*	**10**
		b)	Briefly explain the differences between rat trap bond and Flemish bond in detail.	*CO2*	*PO6, PO7*	**10**
			UNIT - IV			
	7	a)	Explain the passive solar design basics for heating and cooling of buildings.	*CO3*	*PO6, PO7*	**10**
		b)	Elaborate on the concept of water utilization in buildings along with waste water management approaches.	*CO3*	*PO6, PO7*	**10**
			OR			
	8	a)	Describe the strategies for effective management of solid waste in buildings.	*CO3*	*PO6, PO7*	**10**
		b)	Discuss the concept of urban environment and the positive impacts of green buildings with suitable examples.	*CO3*	*PO6, PO7*	**10**
			UNIT - V			
	9	a)	Expand GRIHA. Mention its purpose and list key highlights along with point system for assessing green buildings.	*CO4*	*PO7*	**10**
		b)	Outline on various sustainable construction practices that is been currently followed in India.	*CO4*	*PO7*	**10**
			OR			
	10	a)	Write a detailed note on "Integrated Life cycle design of Materials and structure" considering suitable examples.	*CO4*	*PO7*	**10**
		b)	Describe the "LEED" green rating system for buildings. Mention its purpose and list key highlights along with point system for assessing green buildings.	*CO4*	*PO7*	**10**

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