

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZINAGARAM
III B. Tech I Semester Regular Examinations November -2025
GREEN BUILDINGS
(CE)

Time: 3 hours

Max. Marks: 70

The Question paper consists of Part A & Part B.

Part A is compulsory, Answer all questions. Part B Answers any one question from each unit.

1		PART-A	(20Marks)
	a)	Define cost-effective construction.	[2]
	b)	What are stabilized mud blocks and where are they used?	[2]
	c)	State two environmental issues related to quarrying of building materials.	[2]
	d)	What is the function of ferrocement panels in wall construction?	[2]
	e)	List any two benefits of using pre-engineered building elements.	[2]
	f)	Define carbon footprint and mention its relevance to green buildings.	[2]
	g)	What is the purpose of green building rating systems?	[2]
	h)	Define “sustainable materials” used in building design.	[2]
	i)	Mention two advantages of using solar energy in buildings.	[2]
	j)	Explain the importance of waste-water recycling in green buildings.	[2]
		PART-B	(50Marks)
		Question from Unit – I	
2	a)	Explain the concept of cost-effective construction and its importance in sustainable building design.	[5]
	b)	Discuss the properties and uses of lime pozzolana cement, gypsum boards, and bamboo in construction.	[5]
		(OR)	
3	a)	Explain the recycling process of construction materials such as brick, steel, and concrete.	[5]
	b)	Discuss the environmental impact of quarrying of building materials.	[5]
		Question from Unit – II	
4	a)	Explain different wall construction techniques such as Flemish bond, Rat trap bond, and Cavity walls.	[5]
	b)	Describe ferrocement and ferro concrete constructions and their applications in building components.	[5]
		(OR)	
5	a)	Explain the role of agencies like COSTFORD, Nirmithi Kendra, and Habitat in promoting cost-effective technologies.	[5]
	b)	Discuss the advantages of alternate roofing systems such as filler slabs and composite beams.	[5]
		Question from Unit – III	
6	a)	Define global warming. Explain the contribution of buildings toward global warming.	[5]
	b)	Discuss the features, necessity, and environmental benefits of green buildings.	[5]
		(OR)	
7	a)	Explain the concept of embodied energy in materials and compare the life cycle costs of green and conventional buildings.	[5]
	b)	Describe the economic and health benefits of adopting green building practices.	[5]
		Question from Unit – IV	
8		Explain the various green building rating systems: BREEAM, LEED, and GRIHA.	[10]
		(OR)	

9	a)	Discuss the characteristics of sustainable buildings and the concept of life cycle design of materials.	[5]
	b)	Explain the key highlights and point system of GRIHA rating for new buildings.	[5]
		Question from Unit – V	
10	a)	Discuss the concept of solar passive cooling and heating of buildings.	[5]
	b)	Explain the applications of green composites in construction.	[5]
		(OR)	
11	a)	Explain low-energy approaches for water management and solid waste management in green buildings.	[5]
	b)	Write short notes on: (i) Management of sullage and sewage water (ii) Urban environment and green cover	[5]
