

CBCS SCHEME - Make-Up Exam

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BCV306C

Third Semester B.E./B.Tech. Degree Examination, June/July 2025 Sustainable Design Concept for Building Services



hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1					
Q.1	a.	Define Sustainability. Explain the pillars of sustainability.	M	L	C
			10	L1	CO1
	b.	Explain the concept of net zero in carbon offsetting.	10	L2	CO1
OR					
Q.2	a.	Define Green Building. What are the points to be considered site selection for green building?	10	L2	CO1
	b.	What is Climatology? Explain sun path diagram with neat sketch.	10	L1	CO2
Module – 2					
Q.3	a.	List the heat gain through various elements in building and explain briefly.	10	L1	CO2
	b.	Define Building Acoustics. Explain the measures for controlling sound transmission.	10	L2	CO2
OR					
Q.4	a.	Explain briefly the concepts of thermodynamics.	10	L2	CO2
	b.	Define the following : i) Indoor Air Quality (IAQ) ii) Visual Comfort.	10	L1	CO2
Module – 3					
Q.5	a.	Illustrate briefly the energy efficiency and its importance, with an example.	10	L3	CO3
	b.	Explain Rain Water Harvesting (RWH) systems and its types. List out advantage of RWH.	10	L2	CO3
OR					
Q.6	a.	Elaborate key principles of the Energy Conservation Building Code (ECBC) – 2017.	10	L3	CO3
	b.	Explain the following : i) Energy audit ii) Waste management.	10	L2	CO3
1 of 2					

Module – 4

Q.7	a.	What is Life Cycle Analysis? Explain stages in the life cycle analysis.	10	L3	CO4
	b.	Explain sustainable alternatives for structural, envelope, and finishing materials.	10	L2	CO4

OR

Q.8	a.	List the key phases of green building project management and briefly explain the purpose of each phase.	10	L2	CO4
	b.	Provide the method and process to get. i) Low carbon cement ii) Zero emission bricks.	10	L3	CO4

Module – 5

Q.9	a.	List the various systems used for rating the green building in India and explain any one detail.	10	L2	CO5
	b.	Differentiate between LEED and GRIHA rating system of green building.	10	L4	CO5

OR

Q.10	a.	Distinguish between the following : i. BREEM ii. GREEN design.	10	L4	CO5
	b.	Explain the following : i) Site selection credits ii) Detailed design credits.	10	L2	CO5
