

CBCS SCHEME

BCV306C

USN

--	--	--	--	--	--	--	--	--	--	--

Third Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Sustainable Design Concept for Building Services

Time: 3-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			M	L	C
Q.1	a.	Explain the concept of energy security and its importance in the global energy scenario.	10	L2	CO1
	b.	What are the different types of shading systems? What are the benefits and draw banks of each type of shading systems.	10	L1	CO1
OR					
Q.2	a.	Explain the different between carbon foot print and carbon offsetting and also explain the role of carbon offsetting in achieving net zero.	10	L2	CO1
	b.	Discuss how climate change is impacting buildings and their energy efficiency? What design strategies can be used to adapt to a changing climate?	10	L2	CO1
Module – 2					
Q.3	a.	Describe the process of conduction, convection and radiation in the context of building heat transfer.	10	L2	CO2
	b.	How do factors such as bridling materials, furnishings and occupants activities affect indoor air quality?	10	L2	CO2
OR					
Q.4	a.	Explain the importance of building acoustics in creating a comfortable and productive indoor environment.	10	L2	CO2
	b.	Explain the principles of good day lighting design.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the importance of building envelope insulation in reducing energy consumption for heating and cooling.	10	L2	CO3
	b.	Explain the benefits of rain water harvesting and also explain types of rain water harvesting systems.	10	L2	CO3
OR					
Q.6	a.	Explain the key benefits, environmental advantages and economic benefits of implementing ECBC 2017.	10	L2	CO3
	b.	Explain the challenges associated with recycling and reusing construction and demolition waste.	10	L2	CO3
Module – 4					
Q.7	a.	Identify and explain the factors to be considered for using most suitable sustainable materials for a specific building.	10	L3	CO4
	b.	Evaluate the environmental impact of different transportation options based on their green house gas emissions.	10	L3	CO4

OR

Q.8	a.	Identify potential challenges associated with using zero-emission bricks in a construction project.	10	L3	CO4
	b.	Identify and discuss the relationship between green house gas emissions and climate change.	10	L3	CO4

Module – 5

Q.9	a.	Analyze the strength and weakness of each of the major green building rating systems.	10	L4	CO5
	b.	Evaluate the strength of weakness of different approaches to site solution in the context of IGBC certification.	10	L4	CO5

OR

Q.10	a.	Evaluate the impact of green building rating systems on the construction industry.	10	L4	CO5
	b.	Analyze the potential benefits and challenges of different pre-design strategies for a green building project.	10	L4	CO5
