

CBCS SCHEME

USN

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

BETCK105B / BETCKB105

First Semester B.E./B.Tech. Degree Examination, Jan./Feb. 2023 Green Buildings

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. VTU Formula Hand Book is permitted.

3. M: Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Explain any types of cost effective construction material with their advantages.	10	L2	CO1
	b.	Explain the various environmental issues causal due to quarrying of building materials.	10	L2	CO1
OR					
Q.2	a.	Explain fiber reinforced polymer composites stating its advantage and applications.	12	L2	CO1
	b.	Explain the need for reuse and recycle of building materials along with its benefits.	8	L2	CO1
Module – 2					
Q.3	a.	Explain the construction method involved in rat trap bond with neat sketch.	10	L2	CO2
	b.	State the different types of wall panels and explain any two.	10	L2	CO2
OR					
Q.4	a.	Explain the ferrocement construction process and list the different ferrocement products.	10	L2	CO2
	b.	Explain the objective of Nirmithi Kendra briefly.	10	L2	CO2
Module – 3					
Q.5	a.	Write a note on causes and effects of global warming.	10	L2	CO3
	b.	Write a note on different features of green buildings.	10	L2	CO3
OR					
Q.6	a.	Explain the various means of reducing carbon emissions.	10	L2	CO3
	b.	Differentiate between conventional building and green buildings.	10	L2	CO3
Module – 4					
Q.7	a.	Explain the features and benefits of GRIHA.	10	L2	CO4
	b.	Write a note on different characteristics of sustainable buildings.	10	L2	CO4

OR

Q.8	a.	Explain BREEAM rating system along with its benefits.	10	L2	CO4
	b.	Write a note on objectives of green building design.	10	L2	CO4
Module - 5					
Q.9	a.	Explain the advantages and disadvantages of solar powered building concepts.	10	L2	CO5
	b.	Explain passive solar design basics for heating and cooling of buildings.	10	L2	CO5
OR					
Q.10	a.	Explain water utilization in green buildings.	10	L2	CO5
	b.	Describe the management of solid wastes.	10	L2	CO5

CBCS SCHEME

USN 4 M 2 2 C A 0 1 0 S

BETCKB205/BETCK205B

Second Semester B.E./B.Tech. Degree Examination, June/July 2023

Green Buildings

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 briefly the manufacturing process of Burnt bricks.	10	L2	CO1
	b.	Discuss the advantages and disadvantages of stabilized Mud Blocks.	10	L2	CO1
OR					
Q.2	a.	Explain the concept of Recycling of building materials and also discuss the necessity of concrete recycling as a building material.	10	L2	CO1
	b.	Explain the following : (i) Gypsum board (ii) Fiber reinforced polymer composite.	10	L2	CO1
Module – 2					
Q.3	a.	Discuss the advantages and disadvantages of Rat-trap Bond.	10	L2	CO2
	b.	Explain the following with neat sketch : (i) Cavity walls. (ii) Filler slab.	10	L2	CO2
OR					
Q.4	a.	Explain briefly the concept of Pre-Engineered Building (PEB).	10	L3	CO2
	b.	Explain the role of Nirmithi Kendra and Habitat in developing and propagation cost effective construction.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the effect of Global Warming. Also discuss the contribution of building towards Global Warming.	10	L3	CO3
	b.	Explain the following : (i) Carbon footprints. (ii) Embodied energy in materials.	10	L2	CO3
OR					
Q.6	a.	Define Green Building? Explain why Green buildings are necessary. And discuss the environmental benefits of green building.	10	L3	CO3
	b.	Explain the concept of life cycle cost of the building with neat sketch/flow chart.	10	L3	CO3
Module – 4					
Q.7	a.	List the various systems used for rating the green building in India and explain any one in detail.	10	L2	CO4
	b.	Explain the following : (i) BREEM (ii) Green Design	10	L2	CO4
OR					
Q.8	a.	Differentiate between LEED and GRIHA rating system of green building.	10	L2	CO4
	b.	Explain the basic principles of sustainable development in building design and also mention the characteristics of sustainable buildings.	10	L2	CO4

Q.9	a.	What are the various water efficient methods of building. And explain any one method in detail.	10	L2	CO5
	b.	Discuss the methods of sewage treatment and explain the processes of treatment units with the help of flow chart.	10	L3	CO5
OR					
Q.10	a.	Explain the passive solar cooling and heating techniques in building.	10	L3	CO5
	b.	List out the different methods of manufacturing of Green composites and explain any one method with neat sketch.	10	L2	CO5

CBCS SCHEME

USN L M H R 2 C V O G 3

BETCK105B/BETCKB105

First Semester B.E./B.Tech. Degree Examination, June/July 2023

Green Buildings

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.	What is meant by stabilized mud block? Is it energy efficient than conventional block?	10	L2	CO1
	b.	List the environmental issues related to quarrying of building materials.	10	L2	CO1
OR					
Q.2	a.	What is meant by Fiber reinforced cement composite? Explain materials used in fiber reinforced cement composite.	8	L2	CO1
	b.	Explain any six cost effective construction materials.	12	L2	CO1
Module – 2					
Q.3	a.	Write short notes on : i) Filler slab ii) Composite beam and panel roof iii) Ferro cement.	15	L2	CO2
	b.	Draw plan of odd and even courses of a corner wall comprising rat trap bond. Also draw elevation.	5	L2	CO2
OR					
Q.4	a.	Write any five advantages of pre engineered buildings. Also state disadvantages.	10	L2	CO2
	b.	Give with examples materials used for walls and roofs of energy efficient and environment friendly building.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the effect of Global warming.	5	L2	CO3
	b.	Explain Contributions of buildings towards global warming.	10	L2	CO3
	c.	What is meant by Integrated Life Cycle design of materials and structures?	5	L2	CO3
OR					
Q.6	a.	Explain the alternative technologies used in Green building.	10	L2	CO3
	b.	State advantages of Green Building over traditional building.	10	L2	CO3
Module – 4					
Q.7	a.	Explain the mandatory rules in GRIHA related to construction.	10	L2	CO4
	b.	Explain the components of embodied energy.	10	L2	CO4

OR

Q.8	a.	Analyze the Green Building rating system in India.	10	L2	CO4
	b.	Explain the phases of LCA and state its advantages and disadvantages.	10	L2	CO4

Module – 5

Q.9	a.	Discuss why solar powered buildings are energy efficient.	10	L2	CO5
	b.	Summarize with case study the solar passive cooling of buildings.	10	L2	CO5

OR

Q.10	a.	Describe the usage of recycling sullage and sewage. Also explain the recycling process.	10	L2	CO5
	b.	What are the challenges faced by urban areas in sustainable water management? Explain	10	L2	CO5