

Model Question Paper-1/2 with effect from 2022-23 (CBCS 2022 Scheme)

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Third Semester B.E. Degree Examination

Sustainable Design Concept for Building Services

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

| Module -1 | | | *Bloom's Taxonomy Level | COs | Marks |
|-----------|---|---|-------------------------------|-----|-------|
| Q.01 | a | Explain Carbon Footprint and Net zero in carbon offsetting. | L2 | CO1 | 10 |
| | b | Draw and discuss solar angles. | L3 | CO1 | 10 |
| OR | | | | | |
| Q.02 | a | Explain Sustainable construction and resource management. | L2 | CO1 | 10 |
| | b | Draw and discuss sun path diagram. | L3 | CO1 | 10 |
| Module-2 | | | | | |
| Q. 03 | a | Draw and discuss Convection and radiation heat transfer. | L3 | CO2 | 10 |
| | b | Briefly Explain Thermal Comfort Models | L2 | CO2 | 10 |
| OR | | | | | |
| Q.04 | a | Identify the different building elements through which heat gain occurs. | L3 | CO2 | 10 |
| | b | Explain the design considerations for Indoor air quality (IAQ) management. | L2 | CO2 | 10 |
| Module-3 | | | | | |
| Q. 05 | a | Draw and discuss rainwater harvesting system for a building. | L3 | CO3 | 10 |
| | b | Explain Energy management system. | L2 | CO3 | 10 |
| OR | | | | | |
| Q. 06 | a | Draw and discuss waste management system for a commercial building. | L3 | CO3 | 10 |
| | b | Explain Energy efficiency in building design | L2 | CO3 | 10 |
| Module-4 | | | | | |
| Q. 07 | a | List out the need for Modelling and Analysis in Life cycle assessment of buildings. | L1 | CO4 | 10 |
| | b | Explain Different phases of green building project management. | L2 | CO4 | 10 |
| OR | | | | | |
| Q. 08 | a | What is Life Cycle Assessment of Buildings? discuss its types. | L1 | CO4 | 10 |

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| | b | Explain Greenhouse gas emission and its effects. | L2 | CO4 | 10 |
| Module-5 | | | | | |
| Q. 09 | a | Write short notes on (i) LEED (ii) BREEAM | L1 | CO5 | 10 |
| | b | Explain different credit categories for IGBC Certification | L2 | CO5 | 10 |
| OR | | | | | |
| Q. 10 | a | Write short notes on (i) Purpose of green building rating system (ii) IGBC | L1 | CO5 | 10 |
| | b | Explain Green Rating for Integrated Habitat Assessment (GRIHA) | L2 | CO5 | 10 |