**Question Paper Code: MA301BS**

**R22**

# Model Question Paper
# ANURAG Engineering College
## (An Autonomous Institution)
## III B.Tech. II Semester Regular Examinations, June -2025
## GREEN BUILDING TECHNOLOGY
## (CIVIL ENGINEERING)

**Time: 3 Hours** **Max.Marks:60**

| **Section – A (Short Answer type questions)** | | | | **(10 Marks)** |
|---|---|---|---|---|
| **Answer All Questions** | | **Course Outcome** | **B.T Level** | **Marks** |
| 1. | What are the environmental implications of energy use in buildings? | CO1 | L1 | 1M |
| **2.** | Explain the environmental impacts of building material production? | CO1 | L2 | 1M |
| **3.** | What are the implications of using non-renewable resources for building materials? | CO2 | L2 | 1M |
| **4.** | How can industrial wastes be recycled for building construction? | CO2 | L1 | 1M |
| **5.** | Define thermal comfort in buildings? | CO3 | L2 | 1M |
| **6.** | How does solar heat incidence affect building design? | CO3 | L1 | 1M |
| **7.** | What is the utility of solar energy in buildings? | CO4 | L1 | 1M |
| **8.** | Explain the concept of solar passive cooling? | CO4 | L2 | 1M |
| **9.** | What are green composites, and how are they used in buildings? | CO5 | L1 | 1M |
| **10.** | Describe low-energy approaches to water management in buildings? | CO5 | L2 | 1M |
| **Section B (Essay Questions)** | | | | |
| **Answer all questions, each question carries equal marks.** | | | | **(5 X10M = 50M)** |
| **11.** | Discuss the environmental implications of carbon emissions and waste disposal in the construction industry | CO1 | L3 | 10M |
| **OR** | | | | |
| **12.** | Analyze the role of green cover in mitigating the environmental impact of built environments? | CO1 | L2 | 10M |
| | | | | |
| **13.** | Evaluate the potential of biomass resources as an alternative to conventional building materials? | CO2 | L3 | 10M |
| **OR** | | | | |
| **14.** | Explain the process and benefits of recycling building wastes? | CO2 | L3 | 10M |
| | | | | |
| **15.** | Discuss the heat transfer characteristics of building materials and their impact on thermal comfort? | CO3 | L2 | 10M |
| **OR** | | | | |
| **16.** | How can building techniques be optimized to reduce solar heat incidence? | CO3 | L3 | 10M |
| | | | | |
| **17.** | Explain the concept of solar passive heating with relevant case studies? | CO4 | L3 | 10M |
| **OR** | | | | |
| **18.** | Discuss the principles and applications of low-energy cooling in buildings? | CO4 | L2 | 10M |
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|---|---|---|---|---|
| **19.** | Describe the concepts and applications of green composites in modern building construction? | CO5 | L3 | 10M |
| | **OR** | | | |
| **20.** | Analyze the challenges and solutions for managing solid wastes in urban buildings? | CO5 | L2 | 10M |