

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



M.Tech. (Second Semester - Regular) Examinations, May – 2026

24MCTPC12002 – Building Services

Time: 3 hrs

Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

- | | CO # | Blooms Level |
|---|------|--------------|
| a. State the role of a construction manager in building services. | CO1 | K1 |
| b. What is rainwater harvesting? | CO2 | K1 |
| c. Define building automation. | CO3 | K1 |
| d. Define environmental clearance for buildings. | CO4 | K1 |
| e. Define a hazardous building. | CO4 | K1 |

PART – B

(10 x 5 = 50 Marks)

Answer **ALL** the questions

- | | Marks | CO # | Blooms Level |
|---|-------|------|--------------|
| 2. a. Explain the role and responsibilities of a construction manager in building projects. | 5 | CO1 | K2 |
| b. Describe the principles involved in planning of building services. | 5 | CO1 | K2 |
| (OR) | | | |
| c. Analyze the factors affecting water demand in residential and commercial buildings. | 5 | CO1 | K4 |
| d. Discuss sustainable approaches in water supply systems for buildings. | 5 | CO1 | K2 |
| 3.a. Analyze the design considerations of swimming pools in building | 5 | CO2 | K4 |
| b. Discuss solid waste management systems in urban buildings. | 5 | CO2 | K2 |
| (OR) | | | |
| c. Explain the principles of plumbing and sanitation systems in buildings. | 5 | CO2 | K2 |
| d. Discuss integrated waste management techniques in smart buildings. | 5 | CO2 | K2 |
| 4.a. Apply different types of fire fighting systems in buildings based on requirements | 5 | CO3 | K3 |
| b. Describe lighting design considerations for commercial buildings. | 5 | CO3 | K2 |
| (OR) | | | |
| c. Explain smoke detection and alarm systems in buildings. | 5 | CO3 | K2 |
| d. Explain the role of smart technologies in modern building services. | 5 | CO3 | K2 |
| 5.a. Apply integrated planning and design principles for building services in modern buildings. | 5 | CO4 | K3 |
| b. Discuss planning and service requirements for high-rise buildings. | 5 | CO4 | K2 |
| (OR) | | | |
| c. Explain the planning and design considerations for shopping complexes. | 5 | CO4 | K2 |
| d. Apply sustainable and green building concepts in important buildings. | 5 | CO4 | K3 |
| 6.a. Discuss the importance of integrated coordination among building services. | 5 | CO4 | K2 |
| b. Discuss storage and warehouse building service systems. | 5 | CO4 | K2 |
| (OR) | | | |
| c. Explain water supply and sanitation services in large institutional buildings. | 5 | CO4 | K2 |
| d. Analyze the challenges involved in planning and building services for hazardous and special-purpose buildings. | 5 | CO4 | K4 |

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