

**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR  
(GIET UNIVERSITY)**

M.Tech. (Second Semester) Regular Examinations, July – 2025

**24MCTPC12002 – Building Services**  
(Construction Technology and Management)



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. What are the classifications of buildings based on usage?	CO1	K1
b. Name two sanitation systems used in buildings.	CO2	K1
c. What is HVAC?	CO3	K1
d. What is integrated planning in building services?	CO4	K2
e. Mention two important services considered in airport buildings.	CO5	K1

**PART – B**

**(10 x 5 = 50 Marks)**

Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. Discuss the significance of building services in modern construction.	5	CO1	K2
b. How are water supply systems designed for multi-storey buildings?	5	CO1	K3
(OR)			
c. Explain the need for integrated planning of building services.	5	CO1	K2
d. Illustrate a typical layout for internal water distribution in a tall building.	5	CO1	K3
3.a. Explain the concept of decentralized water treatment units.	5	CO2	K2
b. What are the objectives and methods of storm water drainage in buildings?	5	CO2	K2
(OR)			
c. Explain the types of manholes used in underground drainage systems.	5	CO2	K1
d. Discuss the importance of solid waste segregation at source.	5	CO2	K2
4.a. Explain the working and components of lift systems used in high-rise buildings.	5	CO3	K2
b. Explain the importance of acoustic design in auditoriums and large halls.	5	CO3	K2
(OR)			
c. How is electrical distribution system planned in commercial complexes?	5	CO3	K3
d. Describe the functions of BMS (Building Management Systems).	5	CO3	K1
5.a. Explain the procedure for obtaining environmental clearance for a commercial building.	5	CO4	K3
b. What are the documents required for building clearance from authorities?	5	CO4	K1
(OR)			
c. Describe evaluation methods used for building service performance.	5	CO4	K4
d. Discuss integrated planning of services in high-rise residential buildings.	5	CO4	K3
6.a. Analyze the building services layout for an airport terminal.	5	CO5	K4
b. How is service zoning achieved in large institutional campuses?	5	CO5	K4
(OR)			
c. Explain the role of services in institutional buildings like schools and universities	5	CO5	K2
d. How are lighting and HVAC controlled in smart environments?	5	CO5	K4

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