

GOVERNMENT POLYTECHNIC, JAIPUR
DEPARTMENT OF CIVIL ENGINEERING
LESSON PLAN

Subject: Building Services & Maintenance (BSM)

Semester: V

Session: Winter 2026

Duration: 01.07.2026 – 05.11.2026

Faculty: Sushree Souravi Rout

Week	Class No.	Topic to be Covered
1	1	Introduction to Building Services & Maintenance – scope, objectives and importance
1	2	Classification of building services and planning considerations
1	3	National Building Code (NBC) provisions related to building services
2	4	Water supply system for buildings – sources and requirements
2	5	Water demand, storage tanks and distribution systems
2	6	Water supply fittings, valves and pipe materials
3	7	Plumbing system – layout, accessories and installation practices
3	8	Sanitary fixtures and fittings
3	9	Inspection, testing and maintenance of plumbing systems
4	10	Building drainage system – layout and components
4	11	House drainage, traps, inspection chambers and manholes
4	12	Septic tank and soak pit – design principles and maintenance
5	13	Solid waste management in buildings
5	14	Rainwater harvesting – principles and components
5	15	Maintenance of water supply and drainage systems
6	16	Electrical services in buildings – introduction and safety
6	17	Internal wiring systems and electrical accessories
6	18	Earthing, lightning protection and electrical maintenance
7	19	Lifts and escalators – components and working principle
7	20	Travelators and moving walkways – applications and maintenance
7	21	Building ventilation – natural and mechanical systems
8	22	Air-conditioning – basic concepts
8	23	HVAC and ACMV systems in buildings
8	24	Maintenance of HVAC systems

9	25	Fire hazards and causes of fire in buildings
9	26	Fire prevention and fire protection systems
9	27	Fire detection and alarm systems
10	28	Fire extinguishers – types, selection and operation
10	29	Sprinkler systems, hydrants and emergency exits
10	30	NBC provisions for fire safety
11	31	Building maintenance – objectives and classification
11	32	Preventive, routine and emergency maintenance
11	33	Building defects – causes, identification and inspection
12	34	Cracks in buildings – types, causes and remedial measures
12	35	Dampness – causes, effects and prevention
12	36	Repair materials and repair techniques
13	37	Maintenance of RCC structures
13	38	Maintenance of masonry, flooring and roof
13	39	Maintenance of doors, windows and finishing works
14	40	Building inspection, condition assessment and maintenance planning
14	41	Repair and rehabilitation of buildings
14	42	Case studies on maintenance of residential and public buildings
15	43	Green buildings and sustainable building services
15	44	Revision of important concepts and previous SCTE&VT questions
15	45	Class discussion, doubt clearing and unit-wise revision