Detailed Teaching Plan

Department-Civil Engineering

Subject-Sdd-I

LECTURER :- ANKIT KUMAR

SEM :- 5th

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
1.	1	- Reinforced Cement Concrete, IS Code 456-2000 and Working Stress Method of Design	24/09/2024	24/09/2024	All topic covered
2.	1.1	Reinforced Cement Concrete -S.I. Units, structural components, meaning of R.C.C., purpose of reinforcement, Materials of reinforcement, Steel as a reinforcing material, Type of steel used for reinforcement mild steel, tor steel,	25/09/2024	25/09/2024	—11—
3.	1.2	Different mixes of concrete to be used for R.C.C. work.	25/09/2024	25/09/2024	—11—
4.		IS Code 456-2000-Effective span, Control of defection, Modification factor for Tensile and compressive steel, Cover to reinforcement	26/09/2024	26/09/2024	—11—
5.		Vertical and horizontal, Spacing of reinforcement, Max and min reinforcement, Development length, Shear reinforcement,	28/09/2024	28/09/2024	—11—
6.		Curtailment and bending of bars, Min. positive and negative reinforcement at support, Min length of reinforcement inside support Live load and dead load.	28/09/2024	28/09/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-Sdd-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
7.	1.3	Working Stress Method: Permissible stresses in steel and concrete, assumption for design in flexure,	1/10/2024	1/10/2024	All topic Covered
8.		under reinforced, over reinforced and balanced section, design constants for balanced sections analysis of singly and doubly reinforced beams.	1/10/2024	3/10/2024	— 11 —
9.	2.	Limit State Method of Design & Design of Rectangular Beams	3/10/2024	5/10/2024	— 11 —
10.	2.1	Limit State Method of Design Concept of limit state method, limit state of collapse, limit state of serviceability, characteristic strength of materials ,characteristic load, partial safety factors, design values, stress-strain curve for concrete and steel	5/10/2024	5/10/2024	— 11 —
11.	2.2	Design and drafting of rectangular beams	9/10/2024	15/10/2024	— 11 —
12.	2.2.1	Limit state of collapse for flexure, assumptions, stress block parameters, neutral axis, analysis and design of singly and doubly reinforced section	9/10/2024	17/10/2024	— 11 —
13.	2.2.2	Limit state of collapse for shear, nominal shear stress, design shear strength of concrete with and without reinforcement ,minimum shear reinforcement ,design of shear reinforcement	14/10/2024	19/10/2024	— 11 —

Detailed Teaching Plan

Department-Civil Engineering

Subject-Sdd-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
14.	2.2.3	Development length & anchorage length: concept and necessity of development length, design bond stress, overlap length , necessity of hook and bend.	19/10/2024	22/10/2024	All topic covered
15.	2.2.4	Design singly and doubly reinforced beam and check for deflection, cracking and anchorage length.	19/10/2024	23/10/2024	—11—
16.	2.2.4	Design of lintels loading on lintel, design of lintel and lintel with chajja	19/10/2024	23/10/2024	—11—
17.	3	Design of flanged beams, slabs,continuous slab and flanged beams.	22/10/2024	24/10/2024	—11—
18	3.1	Flanged beam- Properties of flanged beams, moment of resistance and design of singly reinforced Flanged beam.	24/10/2024	26/10/2024	—11—
19.	3.2	Design of slabs : Dead loads, imposed loads, thickness of slabs, modification factors, effective span, reinforcement in slab, design of one way slab and two way slabs, check for cracking, check for development length.	24/10/2024	26/10/2024	—11—
20		a. Design and drafting of one way simply supported slab	26/10/2024	5/11/2024	—11—
21.		b. One way continuous slab effective span, bending moment and shear force coefficient, design and drafting of three span continuous slab.	26/10/2024	6/11/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-Sdd-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
22.		c. Two way slab - design and drafting simply supported slab on for sides	5/11/2024	9/11/2024	All topic covered
23.	4.	Column & Column footing	9/11/2024	9/11/2024	—11—
24.	4.1	Column-Types of column- short and long column, axially loaded column, columns subjected to bending, effective length, slenderness limit, minimum eccentricity, IS code provisions for longitudinal and lateral reinforcement,	9/11/2024	12/11/2024	—11—
25.	4.2	ultimate load for axially loaded columns, columns with helical reinforcement,	9/11/2024	13/11/2024	—11—
26.	4.3	assumptions made for limit state design of column, axial ultimate on a column, design and drafting of axially loaded square, rectangular and circular columns.	12/11/2024	13/11/2024	—11—
27.	4.4	Column Footing -Isolated footing, square and rectangular, sloped footing, design principles for column footing, thickness of footing,	12/11/2024	14/11/2024	—11—
28.	4.5	design for one way shear, design for two way shear or punching shear, design for flexure, design for load transfer at column base, design of square, rectangular, circular pad and sloped footing.	14/11/2024	16/11/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-Sdd-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
29	5.	Design of Stair Case and Prestressed Concrete	16/11/2024	19/11/2024	All topic cover
30,	5.1	Design of Stair Case - Components of stairs, IS code provisions for design of staircase, geometrical classification of stair case	16/11/2024	21/11/2024	—11—
31.		structural classification of star, effective span and loading for stairs, design and drafting straight, cantilever stair, doglegged stair case and open newel staircase.	16/11/2024	23/11/2024	—11—
32.	5.2	Prestressed Concrete- Principles of pre-stressing, materials for presressed concrete ,methods of prestressing, advantages and disadvantages of pre- stressing.	21/11/2024	26/11/2024	—11—

Reference

1.)	Soil mechanis and foundation Bc. Punia.
2.	· http // Civil today · com
3.	Reinforced Cement Concrete Vol-I H.J. Shah
4.)	http: // Civil today. com.

Ankit

Ankit Kumar
Faculty Name and Sign

HOD

Principal

Govt. Polytechnic Korea
Course Completion unit plan

Department – Civil engineering
Hours/week -
LECTURE - ANKIT KUMAR

Subject –Repair and maintenance of structure
Lab/week –
SEM:- 6th

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
	Unit-1					
1)	**Basics of Maintenance and Retrofitting** 1.1Types of Maintenances- Repair ,retrofitting, Re-strengthening, Rehabilitation and Restoration.	09 01	6/01/2025	6/01/2025	All topic covered	
2.	1.2Necessity ,objective sand importance of maintenance	02	7/01/2025	7/01/2025	—11—	
3.	1.3Approach of effective management for maintenance	01	8/01/2025	8/01/2025	—11—	
4.	1.4Periodical Maintenance- check list, Maintenances Manual containing building plan, reinforcement details, Material Sources, Maintenance frequency, Corrective Maintenance Procedure and sources Pre and post monsoon maintenance.	02 01	09/01/2025 14/01/2025	27/01/2025 27/01/2025	—11— —11—	
5.	1.5Retrofitting of concrete structures-retrofitting techniques ,shear walls, in fill walls, adding steel bracing, adding wing walls or braces, base isolation.	02	14/01/2025	30/01/2025	—10—	
6.	1.6Retrofitting of steel structures-using Steel and fiber reinforced polymers(FRP)	01	18/01/2025	31/01/2025	—11—	

Govt. Polytechnic Korea

Course Completion unit plan

Department – Civil engineering
Hours/week -

Subject –Repair and maintenance of structure
Lab/week –

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
	UNIT 2 **Causes of Damages and Tests on Damaged Structure**	09				
7.	2.1Causes of damages due to distress, earthquake, wind, flood, dampness, corrosion, fire, deterioration, termites, pollution and foundation settlement.	03	31/01/2025	6/02/2025	All topic covered	
8.	2.2Various aspects of visual observations for detection of damages.	01	03/02/2025	10/02/2025	"	
9.	2.3Load test and non-destructive tests. Non Destructive Tests (NDT) on damaged structure-rebound hammer, ultrasonic pulse velocity, rebar locator, crack detection microscope, Digital crack measuring gauge.	03	10/02/2025	13/02/2025	"	
10	2.4Chemical test-Chloride test, sulphate attack, carbonation test, pH measurement, resistivity method, Half-cell potential meter	02	17/02/2025	14/02/2025	"	

Govt. Polytechnic Korea
Course Completion unit plan

Department – Civil engineering
Hours/week -

Subject –Repair and maintenance of structure
Lab/week –

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
	Unit-3 **MaterialsforRepairs**	10				
11.	3.1Types of repair material, material selection.	01	20/02/2025	24/02/2025	All topic covered.	
12.	3.2Essential parameters for maintenance and repair materials such -bond with substrate, durability	01	24/02/2025	25/02/2025	—11—	
13.	3.3 Water proofing materials based on polymer modified cement slurry, UV resistant acrylic Polymer, Ferro-cement.	01	25/02/2025	27/02/2025	—11—	
14.	3.4 Repairing materials for masonry: plastic/aluminum nipples, non-shrink cement, polyester	02	25/02/2025	27/02/2025	—11—	
15.	Puttyor1:3 cement sand mortar, galvanized steel wire fabrics and clamping rods, wire nails, Ferro-cement plates.	02	27/02/2025	5/03/2025	—11—	
16.	3.5 Repairing materials for RCC: epoxy resins, epoxy mortar, cement mortar impregnated with polypropylene, silicon, polymer concrete composites, sealants, fiber reinforcement concrete	03	5/03/2025	15/03/2025	—11—	

Govt. Polytechnic Korea
Course Completion unit plan

Department – Civil engineering
Hours/week -

Subject –Repair and maintenance of structure
Lab/week –

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
	UNIT-4 **Repair of Masonry Structure**	10				
17.	4.1 Causes of cracks in walls-bulging of wall, shrinkage ,bonding, shear, tensile, vegetation.	02	6/03/2025	13/03/2025	All topic covered	
18.	4.2 Probable crack location: junction of main and cross wall, junction of slab and wall, cracks in Masonry joints	03	13/03/2025	17/03/2025	〃	
19.	4.3 Repair methods based on crack type - for minor & medium cracks grouting and for major cracks fixing mesh across cracks, RCC band, Installing Ferro-cement plate sat corners, dowel bars, propping of load bearing.	03	17/03/25	20/3/25	〃	
20.	4.4 Retrofittingofmasonrystructures-Reinforced masonry walls and jacketing	02	20/3/25	27/3/25	〃	

Govt. Polytechnic Korea
Course Completion unit plan

Department – Civil engineering
Hours/week -

Subject –Repair and maintenance of structure
Lab/week –

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
	UNIT-5	10				
21,	**Repair of RCC Structures** 5.1 Repair stages such as concrete removal and surface preparation, fixing suitable formwork, bonding /passive coat and repair application ,various methods of surface preparation.	02	27/3/25	1/04/25	All topic Covered	
22.	5.2 Repair options such as grouting, patch repairs, carbonated concrete, cleaning the corroded steel, concrete overlays, latex concrete, epoxy bonded mortar and concrete, polymer concrete, corrosion protection such as jacketing.	03	1/04/25	3/04/25	— 11 —	
23.	5.3 Building cracks and its prevention, common methods for dormant crack repairs such as Epoxy injection, grooving and sealing, stitching, grouting and guniting /shotcreting.	02	7/04/25	21/04/25	— 11 —	
24.	5.4 Strengthening methods for live cracks such as addition of reinforcements, Jacketing, brackets, collars, supplementary members i.e. shoring, underpinning and propping of framed structure	03	21/4/2025	5/05/2025	— 11 —	

Reference

1)	nptel.ac.in
2)	Maintance and Repair of building.

Ankit Kumar
Faculty Name and Sign

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Detailed Teaching Plan

Department-Civil Engineering

Subject-HYD

LECTURER NAME - ANKIT KUMAR

SEM- 3rd

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
1.	1.	Introduction	24/09/2024	24/09/2024	Covered
2.	1.1.1	Definition of liquid, Ideal liquid and Real liquid		24/09/2024	— 11 —
3.	1.1.2	Properties of liquid - Mass density, Specific weight, Specific Gravity, Compressibility, Viscosity, Surface Tension,		24/09/2024	— 11 —
4.	1.1.3	Capillarity, Branches of hydraulics- Hydro Statics, Hydro Kinematics and Hydro Dynamics.	24/09/2024	26/09/2024	— 11 —
5.	1.2	Pressure and its measurement Pressure, Pressure intensity, Variation of pressure with depth of liquid, Pressure head, Effect of shape and size of container on pressure, PASCAL's law.	30/09/2024	1/10/2024	— 11 —
6.		Atmospheric Pressure, Gauge Pressure, Absolute Pressure, Vacuum Pressure.	1/10/2024	3/10/2024	— 11 —
7.		Measurement of pressures by different methods – Piezometer, Manometer,	4/10/2024	15/10/2024	— 11 —
8.		Differential Manometer and Inverted Differential Manometer, Bourdons pressure gauge.	4/10/2024	15/10/2024	— 11 —

Detailed Teaching Plan

Department-Civil Engineering

Subject-HYD

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
9.	1.3	Hydrostatics Total pressure and centre of pressure and pressure distribution diagram	10/10/2024	19/10/2024	
10.		Computation of Total pressure and centre of pressure on plane horizontal surface, vertical Surface and inclined surface.	19/10/2024	19/10/2024	
11.	2. 2.1.1	**Hydro kinematics** Types of liquid flow Laminar, Turbulent, Uniform-Non uniform, Steady, Unsteady, and Compressible, Incompressible flow\	15/10/2024	22/10/2024	
12.	2.1.2	Rate of flow, Law of conservation of mass, Continuity Equation	15/10/2024	22/10/2024	
13.	2.1.3	Streamline ,Path line, Streak Line			
14.	2.2 2.2.1	**Hydrodynamics** Various forms of energies present in liquid flow - potential energy, kinetic energy, pressure energy, total energy, potential head, kinetic head, pressure head, total head	22/10/2024	24/10/2024	
15.	2.2.2	Bernoulli's Equation and Limitations of Bernoulli's theorem.	25/10/2024	5/11/2024	
16.	2.2.3	Simple Application of Equation of Continuity and Bernoulli's theorem.		5/11/2024	
17.	2.2.4	Pitot Tube			

Detailed Teaching Plan

Department-Civil Engineering

Subject-HYD

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
	3.	**Flow measurement**			
18.	3.1	**Ventrimeter** - Components of venturimeter. discharge through venturimeter.	5/11/2024	12/11/2024	All topic covered
19.	3.2	**Orificemeter-** Discharge through orifice meter	5/11/2024	12/11/2024	—11 ——
20.	3.3 3.3.1	**Flow through orifice** Definition and types of orifice Vena Contracta, Various Hydraulic	7/11/2024	14/11/2024	—11 ——
21.	3.3.2	Coefficients Cc, Cv and Cd and relationship between them.	11/11/2024	14/11/2024	—11 ——
22.	3.3.3	Time required for emptying tank through orifice at the bottom of tank.(No Derivation)	13/11/2024	18/11/2024	— 11 ——
23.	3.4	**Flow through Notches**	15/11/2024	21/11/2024	—11 ——
.24.	3.4.1	Definition and Description			
24.	3.4.2	Computation of discharge through notches – Rectangular Notch, V –Notch and Trapezoidal Notch.	15/11/2024	26/11 2024	—11 ——
25.	3.5	**Flow through Weirs**	26/11/2024	3/12/2024	—11 ——
26.	3.5.1	Definition and Description			
27	3.5.2	Computation of discharge through weirs -Discharge through narrow crested and broad Crested weir (No Derivation),Discharge through Cipolletti weir	26/11/2024	3112/2024	—11 ——

Detailed Teaching Plan

Department-Civil Engineering

Subject-HYD

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
1	4.	**Flow through Pipes**	23/10/2024	23/10/2024	All topic Covered
2.	4.1	Characteristics of flow through pipes		23/10/2024	—11—
3.	4.2	Major Energy (Head) losses in pipe Flow- Expression for head loss in pipes due to friction and Computation of major head by Darcy Weisbach Equation.	30/10/2024	20/11/2024	—11—
4.	4.3	Minor Energy (Head) losses in pipe Flow loss of head at Sudden enlargement, contraction, entry, exit and at bend.	30/10/2024	20/11/2024	—11—
5.	4.4	Hydraulic Gradient Line (HGL) and Total Energy Line (TEL) in various cases.	5/11/2024	27/11/2024	—11—
6.	4.5	Flow of water from one tank to another by long pipe.	10/11/2024	27/11/2024	—11—
7.	4.6	Flow through pipes in series and parallel	10/11/2024	27/11/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-HYD

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
8.	5.1	**Flow through Open Channel**	25/11/2024	11/12/2024	All topic covered
9.	5.1.1	Open channel flow			
10.	5.1.2	Comparison of pipe flow and open channel flow.		11/12/2024	— 11 —
11.	5.1.3	Wetted perimeter, Hydraulic mean depth, Hydraulic gradient, Froude number, uniform and non uniform flow	30/11/2024	13/12/2024	— 11 —
12.	5.1.4	Use of Chezy's sand Manning's formulae (No Derivation).	30/11/2024	16/12/2024	— 11 —
13.	5.1.5	Most economical sections of channel Rectangular, Trapezoidal.	5/12/2024	17/12/2024	— 11 —
14.	5.1.6	Specific Energy Diagram, Critical Depth, Critical Velocity, Streaming Flow, Critical Flow Shooting Flow, Hydraulic Jump			
15.	5.2	**Pumps** (No numerical and derivations)	23/10/2024	23/10/2024	All topic covered
	5.2.1	Definition, description of Centrifugal pump , Reciprocating pump and Submersible Pump.			
16	5.2.3	Component sand working principles of centrifugal pump and Reciprocating pump	23/10/2024	23/10/2024	— 11 —
	5.2.3	Priming, Selection criteria for pumps.			

Reference

1.	Hydraulics · fluid mechanics	R.K. Bansal
2.	fluid mechanics	A.K. Jain

Ankit Kumar
Faculty Name and Sign

HOD

Principal

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

LECTURE- ANKIT KUMAR

SEM :- 3rd

Lecture no.	Unit no.	Topic to be ~~corred~~ covered	Planed Date	Execution Date	Remarks
1.	1	Introduction	27/09/2024	27/09/2024	Alltopic Covered
2.	1.1	Classification of building as per NBC,Components of a building, Load bearing and structure between framed ,comparison Load bearing and framed structure	28/09/2024	28/09/2024	—11—
3.	1.2	Foundation	30/9/2024	30/9/2024	— 11 —
4.	1.2.1	Function of foundation, requirement of good foundation.	30/9/2024	4/10/2024	— 11 —
5.	1.2.2	Types of foundation: Shallow and deep foundation Shallow foundation: spread footing, combined footing, strap footing, mat foundation. Deep foundation: Pile foundation, cast in situ and pre cast concrete piles, under reamed pile foundation	4/10/2024	5/10/2024	— 11 —
6.	1.2.3	Selection of suitable foundation	5/10/2024	7/10/2024	— 11 —
	1.2.4 1.2.5	Setting out of foundation Excavation for foundation-Implements for foundation, Shoring, Excavation in ground with subsoil water.	5/10/2024	7/10/2024	—11—
	1.3	Stone Masonry			

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be ~~covred~~ Covered	Planed Date	Execution Date	Remarks
7.	1.3.1	Glossary of terms, Classification of stone masonry: rubble masonry random and coursed, Ashlar masonry	5/10/2024	7/10/2024	All topic covered
8.	1.3.2	Dressing of stone, size and placing of joint and corner stones, filling joints, proper packing of internal cavities of rubble masonry wall, making of joints to receive finishes, supervision of stone masonry.	5/10/2024	7/10/2024	—11—
9	1.4	Brick masonry:	7/10/2024	14/10/2024	—11—
10.	1.4.1	Definition of terms in brick masonry.	7/10/2024	14/10/2024	—11—
11.	1.4.2	Bonds, Rules bonding, for Stretcher, Header, Brick laying, supervision of brick work.	14/10/2024	18/10/2024	—11—
	1.4.3	Comparision between brick and stone masonry.	18/10/2024	28/10/2024	—11—
	1.5	Construction of walls of precast	18/10/2024	21/10/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be ~~covred~~ Covered	Planed Date	Execution Date	Remarks
12.	2. 2.1	Walls Classification of walls: load bearing, non-load bearing, dwarf wall and partition walls.	21/10/2024	25/10/2024	All topic covered
13.	2.2	Scaffolding: Purpose of scaffolding Different types of scaffolding, Merits and demerits of different types of scaffolding.	21/10/2024	26/10/2024	—11—
14	2.3.	Arches:	28/10/2024	28/10/2024	—11—
	2.3.1	Meaning and use of arches			
	2.3.2	Glossary of terms used in arches : Abutment, pier, arch ring, intrados, soffit, extrados,	—11—	—11—	—11—
		voussoiers, Springer, springing line, crown, key stone, skew back, span, rise, depth of an arch, haunch, spandrel, jambs, effective span	—11—	—11—	—11—
15.	2.3.3	Types of Arches Semi circular, segmental, elliptical and parabolic	28/10/2024	4/11/2024	—11—
16.	2.3.4	Construction of Concrete Arches.	28/10/2024	4/11/2024	—11—
17.	2.4	Lintels: Purpose of lintel, Materials used for lintels, Cast-in-situ and pre-cast lintels, Lintel along with sun-shade or chhajja.	4/11/2024	8/11/2024	—11—

Department-Civil Engineering

Detailed Teaching Plan

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be ~~covred~~ covered	Planed Date	Execution Date	Remarks
18.	2.5	Doors, Windows and Ventilators:	8/11/2024	9/11/2024	All topic covered
	2.5.1	Glossary of terms with neat sketches	8/11/2024	9/11/2024	— 11 —
	2.5.2	Classification based on materials i.e. wood, metal and plastic and their Suitability for different situations.	8/11/2024	9/11/2024	— 11 —
19.	2.5.3	Door and window frames: Materials and sections, door closures, hold-fasts.	9/11/2024	11/11/2024	— 11 —
20.	2.5.4	Different type of doors-Classification of doors, Battened and Ledged Doors, Battened, Ledged and Braced Doors, Panel Door, Flush Door, Glazed Door, Rolling Shutter, Steel Door, Sliding Door, Plastic And Aluminium Doors.	11/11/2024	16/11/2024	— 11 —
21.	2.5.5	WindowFixed and Pivoted Window, Panel Window, Glazed Windows Ventilators, Sky Light Window, Louvers Shutters, Steel Windows, Aluminium Windows and Plastic Windows.	11/11/2024	18/11/2024	— 11 —
22.	2.5.6	Door and window frames: Materials and sections, door closures, hold-fasts	16/11/2024	23/11/2024	— 11 —

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be ~~covred~~ Covered	Planed Date	Execution Date	Remarks
23.	3.1	Floors	25/11/2024	30/11/2024	All topic covered
24	3.1.1	Glossary of terms- floor finish, topping, under layer, base course, rubble filling and their purpose	25/11/2024	30/11/2024	—11—
25.	3.1.2	Types of floor- flag stone, kota stone, marble, granite flooring, glazed and vitrified tiles flooring, concrete floors, timber floor, other miscellaneous floor. Construction method of different types of floor.	25/11/2024	2/12/2024	— 11 —
26.	3.2 3.2.1	Roofs Construction of flat roof, shuttering for beam and slab floor.	25/11/2024	2/12/2024	— 11 —
27	3.2.2	Steel roof truss. Slopes, overlaps of roofing materials, Procedure for laying AC and GI sheet.	25/11/2024	2/12/2024	— 11 —
—	3.2.3	Procedure for laying false ceiling.			
28.	3.3 3.3.1	Stairs Glossary of terms: Staircase, landing, riser, tread, nosing, width of staircase, hand-rail,	2/12/2024	6/12/2024	—11—
29.	3.3.2	Types of Stairs - straight flight, dog legged, open well, quarter turn, half turn, geometrical stairs, bifurcated stair, spiral stair. Construction of RCC stair.	2/12/2024	6/12/2024	—11—
	3.3.3	Escalators and Elevators.			

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be covred Covered	Planed Date	Execution Date	Remarks
30.	4.1	Damp Proofing and Water Proofing:	6/12/2024	7/12/2024	All topic covered
31.	4.1.1	Causes of dampness, its ill effects	6/12/2024	7/12/2024	— 11 —
32.	4.1.2	Methods of Damp proofing, water proofing materials and their specifications, Rich concrete and mortar, bitumen, bitumen mastic, polymer coating, use of chemicals.	6/12/2024	7/12/2024	— 11 —
33.	4.1.3	Damp Proof Course treatments in buildings-treatment to foundation against gravitational water, treatment to basements,treatment to floors, treatment to walls, treatment to roofs.	6/12/2024	7/12/2024	— 11 —
34.	4.2	Plastering - objects of plastering, requirements of good plaster, cement mortar mixes for plastering, number of coats of plaster method of plastering with cement mortar, types of plaster finishes, special materials used in plastering, defects in plastering.	7/12/2024	9/12/2024	— 11 —
35.	4.3	Painting, Distempering and White-Washing	7/12/2024	11/12/2024	— 11 —
36.	4.3.1	Painting method of painting on new and old wood work, iron and steel work, plastered surfaces, defects in painting,	9/12/2024	11/12/2024	— 11 —
37.	4.3.2	Method of distempering, white washing, colour washing.	9/12/2024	11/12/2024	— 11 —
	5.0	Building Services and Equipment			

Detailed Teaching Plan

Department-Civil Engineering

Subject- BUILDING CONSTRUCTION

Lecture no.	Unit no.	Topic to be ~~covred~~ Covered	Planed Date	Execution Date	Remarks
38	5.1	Anti Termite Measures Introduction, preconstruction treatment, post construction treatment, chemicals used in anti-termite treatment.	11/12/2024	13/12/2024	All ~~not~~ Covered
39.	5.2	Fire Protection – Fire hazard, general fire safety requirements for buildings as per IS1641-1988, Fire resistant construction, fire alarm, fire extinguishing equipments.	11/12/2024	13/12/2024	— 1 —
40.	5.3	Ventilation and Air conditioning- natural ventilation, mechanical ventilation, air conditioning.	13/12/2024	16/12/2024	— 1 —
41.	5.4	Machinery & Equipment: List of machines and equipments required during building construction and their use	16/12/2024	20/12/2024	— 1 —
42.	5.5	Building maintenance and safety measures: Causes and types of defects in buildings, Preparation of report on maintenance work,Remedial measures and execution procedure of any one type of building maintenance work, Safety precautions to be observed during the construction work.	25/12/2024	30/12/2024	— 1 —

Reference

1)	Building Construction Dr. B.C. Punmia.
2)	Building Construction S.S. Bhavikatti.
3)	www.nptel.ac.in

Ankit Kumar
Faculty Name and Sign

HOD

Principal

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

SEM- 3rd

NAME- ANKIT KUMAR

Lecture no.	Unit no.	Topic to be covered	Planned Date	Execution Date	Remarks
1.	1	INTRODUCTION	26/09/2024	26/09/2024	All topic covered
2.	1.1.1	Introduction surveying,to Plane andGeodetic surveying.	27/09/2024	27/09/2024	—11—
3.	1.1.2	Purpose of engineering surveys	27/09/2024	27/09/2024	—11—
4.	1.1.3	surveying Principles of	27/09/2024	27/09/2024	—11—
5.	1.2	CHAIN SURVEY	30/09/2024	30/09/2024	—11—
6.	1.2.1	Instrument used in chain survey:- Types of chain and tapes, Study of 20m and 30m chain,	30/09/2024	30/09/2024	—11—
7.		Metric Chain, Tapes, Arrow, Ranging rod, Offset rod, Open cross staff, optical square, prism square		30/09/2024	—11—
8.	1.2.2	Ranging: Direct/indirect/ reciprocal, offsets and recording in field book.	31/10/2024	31/10/2024	—11—
9.	1.2.3	Use of line ranger, Chaining on plane and sloping ground	31/10/2024	4/10/2024	—11—
10.	1.2.4	Obstacles in chaining,	4/10/2024	4/10/2024	—11—
	1.2.5	Offsets:-			

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
11.		Types- Perpendicular/Oblique Instruments used to take offsets.	5/10/2024	7/10/2024	All topic Covered
12.	1.2.6	Chain Triangulation- Principal of Chain Triangulation, Survey Stations,	5/10/2024	7/10/2024	—11—
13.		Survey lines Arrangement of survey lines, conditions to be fulfilled by survey lines or survey stations, Recording field book:	5/10/2024	7/10/2024	—11—
14.		Single line and Double line booking, chain traversing,	9/10/2024	10/10/2024	—11—
15.	1.2.7	Errors in surveying and corrections. chain their	9/10/2024	14/10/2024	—11—
16.	1.2.8	Symbols and signs to indicate ground features	9/10/2024	14/10/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
17	2.	COMPASS SURVEY	14/10/2024	17/10/2024	All topic covered
18.	2.1	Traverse Survey Traversing, Closed and Open Traverse,	18/10/2024	18/10/2024	— 11 —
		Name of instruments used for measurement of directions and angles.	18/10/2024	18/10/2024	— 11 —
19.	2.2	Bearings and Angles Bearing, Meridian, Types of meridian and bearing, Systems of bearing, Conversion of bearings from one system to other, Fore and Back Bearing, Calculation of angles from bearings and bearings from angles.	21/10/2024	24/10/2024	— 11 —
20	2.3	Magnetic Compass - Magnetic Compass Prismatic Compass, Surveyor's Compass, Temporary adjustment of prismatic compass and taking observation, Magnetic dip and declination.	21/10/2024	25/10/2024	— 11 —
21.	2.4.	Local attraction - causes, detection, errors and corrections, problems on local attraction, magnetic declination and calculation of included angles in a compass traverse, Graphical adjustment of closing error.	25/10/2024	28/10/2024	— 11 —

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
22.	3.1	Levelling- Levelling, Level surfaces, Level Line, Horizontal Plane, Horizontal Line,	28/10/2024	4/11/2024	Altopic covered
23.	3.1.1	Vertical Line, Datum, Bench Marks, Reduced Level, Mean Sea Level.	28/10/2024	4/11/2024	—11—
24.	3.2	Levelling Instruments -Dumpy Level,, Tilting Level, Auto Level, Digital Level Leveling Staff, Temporary adjustment of Dumpy	4/11/2024	8/11/2024	—11—
25.	3.3	Level. Terms used in leveling - Line of collimation, Axis of Telescope, Axis of bubble tube, Station, Height of instruments,	4/11/2024	8/11/2024	—11—
		Back sight, Fore sight, intermediate sight, Change point, Rise, Fall	4/11/2024	8/11/2024	—11—
26.	3.4	Classification of Levelling - Simple Levelling, Differential Levelling, Fly Levelling, Profile Levelling, Cross Sectioning Reciprocal Levelling and Precise Levelling	8/11/2024	11/11/2024	—11—
27.	3.5	Examples & methods of finding out the R. L. in Level Book by H.I. Methods and Rise & Fall Methods with necessary check.	11/11/2024	12/11/2024	—11—

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
28	3.6	Correction for Curvature and refraction and related examples, Balancing of backsight and foresight.	11/11/2024	13/11/2024	All topic Covered
29.	3.7	Errors in Levelling Degree of Precision	14/11/2024	18/11/2024	— 11 —
30	4.1	CONTOURING	18/11/2024	21/11/2024	— 11 —
31.	4.2	Contour Contour interval, horizontal equivalent	18/11/2024	21/11/2024	— 11 —
31.	4.2.1	Uses of contours	18/11/2024	22/11/2024	— 11 —
32.	4.3	Characteristics of contours		— 11 —	
33.	4.4	Methods of Contouring		— 11 —	
34.	4.5	Interpolation of contours		— 11 —	
35.	4.6	Preparation of contour map.		— 11 —	
36	4.7	Uses of Contour Map- Drawing of Sections, Determination of intervisibilty between two points, Tracing of contour gradient and location of route, measurement of drainage areas, calculation of capacity of reservoirs & related examples	21/11/2024 22/11/2024	25/11/2024 25/11/2024	— 11 — — 11 —
	4.8	Use of Topo shee			

Detailed Teaching Plan

Department-Civil Engineering

Subject-Surveying-I

Lecture no.	Unit no.	Topic to be covred	Planned Date	Execution Date	Remarks
37.	5.1	PLANE TABLE SURVE	25/11/2024	2/12/2024	All topic Covered
38.	5.1.1	Principles of plane table surveying, Advantages and disadvantages of plane table survey.	25/11/2024	2/12/2024	—11—
39.	5.1.2 5.1.3	Plane table and its accessories, Setting of a plane table: (a) Centering (b) Levelling (c) Orientation	25/11/2024	2/12/2024	—11—
40	5.1.4	Methods of plane table surveying (a) Radiation, (b) Intersection (c) Traversing (d) Resection	2/12/2024	5/12/2024	—11—
41	5.1.5	Errors in plane table survey and precautions to control them.	5/12/2024	9/12/2024	—11—
42.	5.2	Minor instruments:- Construction and use of Hand Level, Abney Level, Box Sextant, Pentagraph and Ceylon Ghat Tracer, Planimeter	5/12/2024	12/12/2024	—11—

Reference

1.)	Surveying-I ①r. B.C. Punmia, Ashok Kumar Jain.
2)	www.ppthpted.ac.in

Ankit Kumar
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Govt. Polytechnic Korea
Course Completion unit plan

Department – Civil engineering
Hours/week -
NAME- ANKIT KUMAR

Subject – Surveying II
Lab/week –
SEM :- 4th

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
1.	Unit-1.0 Theodolite Survey	02	27/01/25	27/01/25	All topic covered	
2.	1.1 Introduction to theodolite, Uses of theodolite,	01				
3.	Sketch the parts of Transit Vernier theodolite, Reading of main and vernier scale on horizontal and vertical plate	02	1/02/25	1/02/25	—11—	
4.	1.2 Temporary adjustment of a theodolite	01	1/02/25	3/02/25	—11—	
5.	1.3 Fundamental axis of theodolite and their relationship	01	3/2/25	5/2/25	—11—	
6.	1.4 Definitions and various technical terms	01	5/2/25	8/2/25	—11—	
7.	1.5 Methods of measuring horizontal angles and vertical angles	01	8/2/25	8/2/25	—11—	
8.	1.6 Measuring direct and deflection angles, Errors in theodolite survey	01	8/2/25	10/2/25	—11—	

	1.7 Theodolite Traversing. Traverse computations. Closing errors. Balancing the traverse	01	8/12/25	10/12/25	All topic Covered	
10.	Unit-2 Tacheometry					
11.	2.1 Introduction	01	10/12/25	12/12/25	—11—	
12.	2.2 Purpose and Principles of tacheometric surveying	01	12/12/25	15/12/25	—11—	
13.	2.3 Instruments used in Tacheometry	01	15/12/25	17/12/25	—11—	
14.	2.4 Methods of Tacheometry (Stadia & Tangential)	02	15/12/25	17/12/25	—11—	
15.	2.5 Principle of of Stadia Tacheometry	01	17/12/25	19/12/25	—11—	
16.	2.6 Methods of determining constants of a Tacheometer	03	17/12/25	22/12/25	—11—	
17.	2.7 Anallatic Lens, advantages & disadvantages.	01	22/12/25	1/3/25	—11—	
18.	2.8 Numerical examples on tacheometer constants	03	22/12/25	3/3/25	—11—	
19.	2.9 Method of Fixed Hair: - When line of sight is horizontal and staff held vertically	01	3/3/25	5/3/25	—11—	

	2.10 Advantages and disadvantages of Tangential method	01	1/3/25	10/3/25	All topic Covered	
21.	2.11 Stadia field work General arrangement of field work, Triangulation, Traversing, Operations in tacheometric observations,	02	5/3/25	10/3/25	—11—	
22.	2.12 Errors in Stadia Tacheometry	01	5/3/25	11/3/25	—11—	
23.	UNIT 3 Curves	01			All topic Covered	
24.	3.1 Introduction Types of circular curves, Definitions and notations, Designation of curve	01	11/3/25	12/3/25		
25.	3.2 Relation between Radius and degree of curve, Elements of simple circular curve.	01	11/3/25	17/3/25	—11—	
26.	3.3 Setting out simple circular curve- Linear Method and Angular Method of location of tangent, tangent point, peg interval.	02	17/3/25	19/3/25	—11—	
27.	3.4 Linear Methods - By ordinates from long chord, by successive bisection of arcs, by offsets from tangents, by offsets from chord produced.	01	19/3/25	29/3/25	—11—	
28.	3.5 Angular Method - Rankine's method of tangential angle,	01	19/3/25	26/3/25	—11—	

	3.6 Introduction to Transition curves. Vertical curves and their purpose.	01	22/3/25	29/3/25	All topic Covered	
30.	Unit- 4 Modern Surveying Techniques					
31.	Introduction	01	29/3/25	2/4/25	All topic covered	
32.	4.1 Basics of Digital Theodolite	01	29/3/25	5/4/25	〃	
33.	4.2 Introduction and Principles of E.D.M.	01	5/4/25	9/4/25	〃	
34.	4.3 Introduction and Basics of Total station - Parts of Total station uses of Total Station, Automatic Target Recognition ATR.	03	9/4/25	16/4/25	〃	
35.	4.4 Surveying using Total Station, Fundamental Parameters of Total Station Precautions to be taken while using Total Station	03	16/4/25	21/4/25	〃	
36.	4.5 Set up of Total Station Centering, Levelling, Orientation.	01	16/4/25	23/4/25	〃	
37.	4.6 Field Procedure for Total Station, Initial Data Entry, Survey Station Descriptors, Survey Station entries, Sighted Point Eateries	03	21/4/25	26/4/25	〃	

	4.7 Electronic data recording- Data loggers: Data recorders, Field computers, Memory cards, Internal Memory	02	26/4/25	28/4/25	All topic Covered.	
39.	GIS and GPS					
40.	5.1 Introduction	01	26/4/25	29/4/25	All topic covered	
41.	Definition of GIS	01	29/4/25	30/4/25	—11—	
42.	5.2 Objectives of GIS Subsystems of GIS	01	30/4/25	5/5/25	—11—	
43.	5.3 Tools of representation of features Point Data, Line Data, Areal Data. Data Structure for GIS : Vector and Raster data structure.	02	5/5/25	7/5/25	—11—	
44.	5.4 GIS SOFTWARE PACKAGES Application areas of GIS, Remote sensing and GIS, ArcGIS.	01	7/5/2025	14/5/2025	—11—	
45.	5.5 GPS Overview Introduction and principle, Components of GPS :	01	14/5/2025	15/5/2025	—11—	
46.	5.6 Introduction to GPS surveying techniques: Static and Dynamic, Uses and application of GPS.	01	14/5/2025	21/5/2025	—11—	

Reference

1.	Surveying and Levelling Vol-I & II Dr. B.C. Punmia.
2.	https://civiltoday.com

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Course Completion unit plan

Department – Civil engineering
Hours/week -
LECTURE NAME- ANKIT KUMAR

Subject – Public health engineering C
Lab/week –
SEMESTER - 4th

S No	Topic to taught	No. Of lectures Required	Date of delivery	Actual date of delivery	Topic Covered	Remarks
1.	UNIT-1 Quantity of Water and Sources of Water	0				
2.	1.1 Introduction	01	28/01/25	28/01/25	All topic Covered	
3.	1.1.1 Natural and manmade hydrological cycles	01	29/01/25	29/1/25	— 11 —	
4.	1.1.2 Duties of Public Health Engineer					
5.	1.2 Quantity of Water	01	31/01/25	31/01/25	— 11 —	
6.	1.2.1 Population forecast by arithmetical increase, geometrical increase					
7.	incremental increase methods, graphical extension method, method graphical comparison	02	1/2/25	1/2/25	— 11 —	
8.	1.2.2 Criteria for method selection,	01	3/2/25	4/2/25	— 11 —	
9.	1.2.3 Water demand per capita demand, domestic use, institutional use, public or civic use, fire demand, industrial use, water system losses.	02	5/2/25	5/2/25	— 11 —	
10.	1.2.4 Factors influencing demand rate, variations in demand,	01	7/2/25	7/2/25	— 11 —	
11.	1.2.5 Demand rates for various uses.	01	8/2/25	8/2/25	— 11 —	

12.	1.2.6 Design period, total water demand of a city.	01	8/2/25	8/2/25	All topic Covered	
13.	1.3 Sources of Water	01	8/2/25	8/2/25 11/2/25	— 11 —	
14.	1.3.1 Surface sources natural and artificial, intake, selection of site for intakes and types of intakes, river, intakes for reservoir, lake and canal	02	8/2/25	11/2/25	— 11 —	
15.	1.3.2 Ground water- aquifer, open well, tube well, types of tube well, methods for drilling tube well, selection of site for a tube well, section of a tube well, infiltration gallery,	02	11/2/25	12/2/25	— 11 —	
16.	1.3.3 Yield of well- yield of an open well, constant level pumping test and recuperation test, yield of tube well- confined and unconfined aquifer.	02	12/2/25	14/2/25	— 11 —	
17.	Unit 2 Quality of water and Treatment of water	01	12/2/25	15/2/25	All topic Covered	
18.	2.1 Quality of water	01	15/2/25	18/2/25	— 11 —	
19.	2.1.1 Requirement of water for domestic use, impurities in water. impurities in water from. different sources,	02	15/2/25	21/2/25	— 11 —	
20.	2.1.2 Physical,Chemical and Microbiological tests, standards of potable water as per I.S. & WHO, collection of water sample, Physical tests- colour,	02	21/2/25	22/2/25	— 11 —	

	taste and odour, turbidity test, chemical tests for total solids, chlorides	01	22/2/25	25/2/25	All topic covered	
21.	hardness, pH value, dissolve oxygen, (DO), biochemical oxygen, demand, common water borne microbiological disease, examination of water: E- coli index and MPN.	02	25/2/25	28/2/25	—11—	
22	2.2 Treatment of water	01	28/2/25	4/3/25	—11—	
23.	2.2.1 Objectives of water treatment, Location & Layout of treatment plant, Basic principles of working of plant. treatment	02	28/2/25	5/3/25	—11—	
24.	2.2.2 Sedimentation sedimentation, sedimentation sedimentation plain and with coagulation, quiescent and.	02	4/3/25	6/3/25	—11—	
25.	continuous flow type sedimentation tanks, plain. sedimentation tanks, sedimentation tanks for coagulation.	01	6/3/25	11/3/25	—11—	
26.	2.2.3 Filtration- filtration, slow sand filters, rapid sand filter, comparison. between slow and rapid sand filter, pressure filter.	02	11/3/25	12/3/25	—11—	
27.	2.2.4 Water softening- hardness of water, temporary and permanent hardness,	01	12/3/25	18/3/25	—11—	

	removal of temporary hardness, removal of permanent. hardness-lime soda process, zeolite process, demineralization.					
29.	2.2.5 requirements Disinfection-of disinfectant, methods of disinfection,chlorination, forms of application of chlorine	01	12/3/25	19/03/25	All topic Covered	
30.	method of application of chlorine, types of chlorination on the basis of its stage of application.	01	12/3/25	19/3/25	—11—	
31.	Unit 3 Pumping Conveyance and Distribution of Water And Water Supply for Building	01	19/3/25	21/3/25	All topic Covered	
32.	3.1Pumping-Necessity of pumping, types of water pumps and their selection, reciprocating pump, centrifugal pump, submersible and air lift pumps, Efficiency of pump, WHP and BHP.	02	21/3/25	26/3/25	—11—	
33.	3.2 Conveyance of water - Type of pipes and their comparison, pipe joints, pipe laying, corrosion and its prevention in pipe, pipe appurtenances –	02	26/3/25	28/3/25	—11—	
34.	sluice valves or gate valves, air valves, reflux valves, pressure relief valves, altitude valves, scour valves.	01	28/3/25	1/04/25	—11—	

35.	3.3 Distribution of Water- Requirements of a good distribution system, methods of distribution, pressure in distribution mains,	02	1/4/25	2/4/25	All topic Covered	
36.	systems of water supply, storage and distribution reservoir, layout of distribution system.	02	2/4/25	4/4/25	—11—	
37.	3.4 Water Supply for Building - materials for service pipe, service connection, water meter, globe valve and gate valve.	01	2/4/25	4/4/25	—11—	
38.	Unit 4. Collection and Conveyance of Sewage, House Drainage, Rural Sanitation and Solid Waste Disposal	07	4/4/25	5/4/25	All topic Covered.	
39.	4.1 Collection and Conveyance of Sewage -conservancy system, water carriage sewerage system, separate, combined and partially separate system, dry weather flow, storm water flow, types of sewer	02	5/4/25	7/4/25	—11—	
40.	materials of sewer, shapes of sewer, laying of sewer, cleaning and maintenance of sewer, sewer appurtenances- inlets	07	4/4/25	9/4/25	—11—	

	clean outs, manholes, flushing tanks, grease and oil traps, ventilation of sewer, overflow weirs, leaping weir, siphon spillway.	01	9/4/25	11/04/25	All topic Covered	
42.	4.2 House Drainage - principles of house drainage, pipes in house drainage, traps, classification of traps, sanitary fittings, and systems of plumbing.	01	12/4/25	12/04/25	—11—	
43.	4.3 Rural Sanitation- provision of safe and potable water for domestic purpose, collection and disposal of dry refuse,	01	15/04/25	15/04/25	—11—	
44.	collection and disposal of sullage, excretal waste disposal through privies, different types of privies.	01	15/04/25	16/04/25	—11—	
45.	4.4 Solid Waste Disposal - solid waste or refuse, quantity and composition of refuse, collection of refuse, transport of refuse	02	16/04/25	22/04/25	—11—	
46.	disposal of refuse-controlled tipping, land filling, trenching, dumping into the sea, pulverization, incineration, composting.	01	16/04/25	23/04/25	—11—	

	Unit 5 Waste Water Characteristics and Sewage Treatment		24/04/25	25/04/25	All topic covered
48.	5.1 Waste Water Characteristics - Constituents of sewage, characteristics of waste water, aerobic and anaerobic decomposition of organic matter	01	23/04/25	26/04/25	—11—
49.	physical, chemical and biological characteristics of sewage, micro organisms found in waste water.	01	26/04/25	29/04/25	—11—
50.	5.2 Sewage Treatment- 5.2.1 Objectives of sewage treatment, preliminary treatment, primary treatment, secondary treatment, final treatment, Layout of treatment plant.	02	28/04/25	30/04/25	—11—
51.	5.2.2 Preliminary Treatment and Primary Treatment- screening, fixed bar type screen, disc type fine screen, grit chamber, detritus tanks, skimming tank	02	30/4/25	5/5/25	—11—
52.	sedimentation and chemical clarification, classification of settling tanks, rectangular, circular and hopper bottom settling tanks.	02	5/5/25	7/5/25	—11—

53.	5.2.3 Secondary treatment biological treatment process aerobic and an aerobic processes, biological treatment techniques- attached growth.	02	5/5/25	9/5/25	All topic Covered	
54.	suspended growth and combined processes, trickling filters, construction of trickling filters, activated sludge process, flow diagram of activated sludge process	02	9/5/25	13/5/25	— 11 —	
55.	conventional activated sludge process, secondary settling tank for activated sludge process.	01	13/5/25	14/5/25	— 11 —	
56.	5.2.4 Treatment and disposal of sludge- flow chart for sludge treatment and disposal, sludge thickening or concentration, anaerobic digestion	02	14/5/25	16/5/25	— 11 —	
57.	conventional digester, methods of final disposal of sludge-, septic tank, design and construction feature of septic tank, effluent disposal in septic tank.	02	16/5/25	21/5/25	— 12 —	

Reference

1.	Water Supply and Sanitary Engineering. Sk. Garg.
2.	http://nptel.ac.in

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