

**DEPARTMENT OF CIVIL ENGINEERING
GOVERNMENT POLYTECHNIC SUNDERNAGAR**

LESSON PLAN FOR Public Health Engineering (SEMESTER-6th)SESSION: (Jan-June2026)

S.No.	MONTH	WEEK	CONTENTS	REMARKS
1	Jan	Week 5	Unit I Sources, Demand and Quality of water <ul style="list-style-type: none"> Water supply schemes - Objectives, components, Sources of water: Surface and Subsurface sources of water, Intake Structures, Definition and types, Factors governing the location of an intake structure, Types of Intakes 	
2	Feb	Week 1	<ul style="list-style-type: none"> Demand of water: Factors affecting rate of demand, Variations of water demands, 	
		Week 2	Methods of forecasting of population, (Simple problems on forecasting of population), Design period, estimating of quantity of water supply required for city or town.	
		Week 3	<ul style="list-style-type: none"> Quality of water: Need for analysis of water, Characteristics of water- Physical, Chemical and Biological tests. UNIT II Purification of water	
		Week 4	<ul style="list-style-type: none"> Purification of Water: Objectives of water treatment, Aeration- objects and methods of aeration, Plain sedimentation, Sedimentation with coagulation, types of coagulants, Jar Test, process of coagulation. Filtration - mechanization of filtration, classification of filters: slow sand filter, rapid sand filter, pressure filter. Construction and working of slow sand filter and rapid sand filter. 	
	March	Week 1	<ul style="list-style-type: none"> operational problems in filtration. Disinfection: Objects, methods of disinfection, Chlorination Application of chlorine, forms of chlorination, types of chlorination practices, residual chlorine and its importance, Flow diagram of water treatment plants. 	
		Week 2	UNIT III Conveyance and Distribution of water <ul style="list-style-type: none"> Conveyance: Types of Pipes used for conveyance of water, choice of pipe material, Class Test 1 	
		Week 3	<ul style="list-style-type: none"> Types of joints & Types of valves- their use, location and function on a pipeline. Distribution of water: Methods of distribution of water- Gravity, pumping, and combined system, Service reservoirs - functions and types, Layouts of distribution of Water-Dead end system, grid iron system, circular system, radial system; their suitability, advantages, and disadvantages 	
		Week 4	UNIT IV Domestic sewage and System of Sewerages <ul style="list-style-type: none"> Building Sanitation: Necessity of sanitation, Necessity to treat domestic sewage, Definitions - Sewage, Sullage, types of sewage 	
		Week 5	<ul style="list-style-type: none"> Definition of the terms related to Building Sanitation- Water pipe, Rainwater pipe, Soil pipe, Sullage pipe, Vent pipe. 	
	April	Week 1	<ul style="list-style-type: none"> Systems of Sewerage and Sewer Appurtenances: Types of Sewers 	
		Week 2	<ul style="list-style-type: none"> Systems of sewerage, self- cleansing velocity and non-scouring velocity, Laying, Testing and maintenance of sewers, Class Test 2 	
		Week 3	Manholes and Drop Manhole-component parts, location,	
		Week 4	spacing, construction details, Sewer Inlets, Street Inlets.	
		Week 5	UNIT V Characteristics and treatment of Sewage <ul style="list-style-type: none"> Analysis of sewage: Characteristics of sewage, B.O.D., C.O.D. and its significance. 	
	May	Week 1	Central Pollution Control Board Norms for discharge of treated sewage,	
		Week 2	HOUSE TEST	
		Week 3	<ul style="list-style-type: none"> Objects of sewage treatment and flow diagram of conventional sewage treatment plant. Treatment of Sewage: Screening, Types of screens, Grit removal, Skimming, Sedimentation of sewage, Aerobic and anaerobic process, Sludge digestion, trickling filters, Activated sludge process, Disposal of sewage, Oxidation Pond, Oxidation ditch Septic tank. 	
		Week 4	REVISION	
		Week 5	REVISION	

Note Lesson plan is tentative subject to the availability of Faculty , Time and Students


Signature of Teacher

(Er Ritesh Bisht)


Signature of H.O.D

(Er Vibhor Sharma)