

DISCIPLINE:CIVIL	SEMESTER:5TH	NAME OF THE TEACHING FACULTY:Ms. <b>&amp; Ms. Saikrishna Pati</b>
SUBJECT NAME:WATER SUPPLY & SANITARY ENGG.	No. of Days per Week Class Alloted: 3days	Semester From Date: 01/08/2023 To Date: 30/11/2023 No of Weeks :18
Week	Class Day	Theory Topics
August 1St Week 2nd week	1st week- (1st,2nd,3rd day) 2nd week (1st,2nd,3rd day)	SECTION A: WATER SUPPLY 1 Introduction to Water Supply, Quantity and Quality of water 1.1 Necessity of treated water supply 1.2 Per capita demand, variation in demand and factors affecting demand 1.3 Methods of forecasting population, Numerical problems using different methods 1.4 Impurities in water – organic and inorganic, Harmful effects of impurities 1.5 Analysis of water –physical, chemical and bacteriological 1.6 Water quality standards for different uses
August 3rd Week 4th week	3rd week- (1st,2nd,3rd day) 4th week (1st,2nd day)	2 Sources and Conveyance of water 2.1 Surface sources – Lake, stream, river and impounded reservoir 2.2 Underground sources – aquifer type & occurrence – Infiltration gallery, infiltration well, springs, well 2.3 Yield from well- methods of determination, Numerical problems using yield formulae ( deduction excluded) 2.4 Intakes – types, description of river intake, reservoir intake, canal intake 2.5 Pumps for conveyance & distribution – types, selection, installation. 2.6 Pipe materials – necessity, suitability, merits & demerits of each type 2.7 Pipe joints – necessity, types of joints, suitability, methods of jointing Laying of pipes – method

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<p>August 4th week September 1st Week 2nd week</p>	<p>4th week (3rd day) 1st week- (1st,2nd,3rd day) 2nd week (1st,2nd,3rd day)</p>	<p>3 Treatment of water Note: 1. Design of treatment units excluded. 2. Students may be asked to prepare detailed sketches of units, preferably from working drawing, as home assignment 3. Field visit to treatment plant, under practical should be arranged after covering this unit. 3.1 Flow diagram of conventional water treatment system 3.2 Treatment process / units : 3.2.1 Aeration ; Necessity 3.2.2 Plain Sedimentation : Necessity, working principles, Sedimentation tanks – types, essential features, operation &amp; maintenance 3.2.3 Sedimentation with coagulation: Necessity, principles of coagulation, types of coagulants, Flash Mixer, Flocculator, Clarifier (Definition and concept only) 3.2.4 Filtration : Necessity, principles, types of filters Slow Sand Filter, Rapid Sand Filter and Pressure Filter – essential features 3.2.5 Disinfection : Necessity, methods of disinfection Chlorination – free and combined chlorine demand, available chlorine, residual chlorine, pre-chlorination, break point chlorination, super chlorination 3.2.6 Softening of water – Necessity, Methods of softening – Lime soda process and Ion exchange method (Concept Only)</p>
<p>September 3rd Week 4th week</p>	<p>3rd week- (1st,2nd,3rd day) 4th week (1st,2nd,3rd day)</p>	<p>4 Distribution system And Appurtenance in distribution system: 4.1 General requirements, types of distribution system-gravity, direct and combined 4.2 Methods of supply – intermittent and continuous 4.3 Distribution system layout – types, comparison, suitability 4.4 Valves-types, features, uses, purpose-slucice valves, check valves, air valves, scour valves, Fire hydrants, Water meters</p>
<p>October 1St Week</p>	<p>1st week- (1st day)</p>	<p>5 W/s plumbing in building : 5.1 Method of connection from water mains to building supply 5.2 General layout of plumbing arrangement for water supply in single storied and multi-storied building as per I.S. code</p>
<p>October 1St Week 2nd week</p>	<p>1st week- (2nd,3rd day) 2nd week (1st day)</p>	<p>SECTION B: WASTE WATER ENGINEERING 6 Introduction 6.1 Aims and objectives of sanitary engineering 6.2 Definition of terms related to sanitary engineering 6.3 Systems of collection of wastes– Conservancy and Water Carriage System – features, comparison, suitability</p>

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