Lesson Plan

Faculty Name Chetna
Branch Civil Engg.
Subject Water Supply and Waste Water Engg. (Theory)
Teaching Load **Lecture -** 3 (2+1)
Practical - 4

Week	Lecture Day	Theory Topic
1st	1	Introduction to the subject
	2	**A. WATER SUPPLY** **UNIT I -** Quantity and Quality of Water 1.1 Necessity and brief description of planned water supply system.
	3	1.2 Sources of water – surface/sub-surface sources (only description)
2nd	1	1.3 Water requirement, Per capita demand, Factors affecting per capita demand
	2	1.4 Rate of demand and variation in rate of demand
	3	1.5 Design Period, Factors governing the design period, Design period values for different components of a water supply scheme
3rd	1	1.6 Population forecasting methods (with Numerical Problems)
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4th	1	1.7 Physical, Chemical and bacteriological tests and their significance
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5th	1	1.8 Standard of potable water as per Indian Standard, water meter
	2	**Assignment/ Quiz/ Revision**
	3	**Sessional Test**
6th	1	**UNIT II** - Water Treatment 2.1 Sedimentation - Purpose, Types of sedimentation tanks
	2	2.2 Coagulation / Flocculation - usual coagulation and their feeding
	3	2.3 Filtration - Slow and Rapid sand filters, their significance and suitability
7th	1	2.4 Necessity of disinfection of water, forms of chlorination, break point chlorine, residual chlorine, application of chlorine.
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	3	2.5 Miscellaneous Treatments – Aeration, Aquaguard, Reverse Osmosis System

8th	1	**UNIT III** - Water Distribution System 3.1 Requirement of a good water distribution system
	2	3.2 Layout of distribution networks 3.3 Methods of distribution
	3	3.4 Distribution reservoirs – their functions and types
9th	1	3.5 Storage capacity of distribution reservoirs 3.6 Stand Pipes
	2	**Assignment/ Quiz/ Revision**
	3	**Sessional Test**
10th	1	**B. WASTE WATER ENGINEERING** **UNIT IV - Waste Water Disposal** 4.1 Sanitation – Purpose and necessity of sanitation
	2	4.2 Components of sewerage system - Manhole
	3	4.3 Types of sewage and types of sewerage system
11th	1	4.4 Properties of sewage and IS standards for analysis of sewage
	2	4.5 Physical, chemical and bacteriological parameters of sewage
	3	4.6 Sewage disposal methods - Disposal by dilution and land treatment
12th	1	4.7 Self-purification of stream, Nuisance due to disposal
	2	**UNIT V** - Sewage Treatment 5.1 Primary and secondary treatment
	3	5.2 Screens, Grit chambers, Skimming tanks
13th	1	5.3 Plain sedimentation tanks
	2	5.4 Filtration, Trickling filter
	3	5.5 Sludge treatment and disposal
14th	1	5.7 Oxidation Ponds
	2	**Assignment/ Quiz/ Revision**
	3	**Sessional Test**
15th	1	**Revision**
	2	**Revision**
	3	**Revision**