

<b>Uka Tarsadia University (Diwaliba Polytechnic)</b>
<b>Diploma in Environmental Engineering</b>
<b>Assignment (Water Supply Engineering-EV1004)</b>

### **Unit-1 Introduction and Sources of Water**

1. Draw water supply engineering diagram and describe what essentials of water supply scheme are?
2. What is the necessity of water supply scheme?
3. Write a duties of water works engineers.
4. Write a short note on surface water sources.
5. Write a short note on ground water sources.
6. Enlist surface water sources and explain any one in detail.
7. Which are the point keep should in mind while deciding site location for impounded reservoirs.
8. How to determined reservoir capacity with the help of mass curve method?
9. Define following term: - (1) Porosity (2) Specific yield (3) Specific retention (4) Permeability (5) Aquifer (6) Aquiclude
10. Write a determination formula of ground water velocity.
11. Write a short note on hydrograph.

### **Unit-2 Quantity and Quality of water**

1. Enlist various types of water demand and explain any one in detail.
2. Explain types of water demand in detail.
3. Explain domestic water demand.
4. Describe fire demand for water.
5. Explain commercial and industrial water demand.
6. Define per capita demand and explain it in detail.
7. Write a design period for water work and write a factor affecting on design period.
8. Enlist factor affecting on water demand.
9. Calculate the population of a town in the year 2020,2030,2040 using Geometrical increase method

Year	1980	1990	2000	2010
Population	25000	28000	34000	42000

10. Calculate the population of a town in the year 2011,2021,2031 using population forecasting method.

Year	1961	1971	1981	1991	2001
Population	35400	41600	49400	64900	83200

### **Unit-3 Collection and Conveyance**

1. Which point should be kept in mind while selecting site for intake work.
2. Enlist types of intake and explain any one in detail.
3. Draw a neat sketch of Lake Intake and explain it detail.
4. Explain river intake with neat sketch.
5. Write a short note on reservoir intake.
6. Enlist different types of pipe joint and explain any one with neat sketch.
7. Explain laying of pipe method in detail.
8. Explain specification for laying and jointing of pipes.

### **Unit-4 Water Distribution System**

1. Write a requirements of good distribution system.
2. Write a name of distribution system.
3. Enlist distribution system and explain any one in detail with neat sketch.
4. With the help of neat sketch explain gravity system in detail.
5. With the help of neat sketch explain pumping system in detail.
6. Describe dual system in detail.
7. Draw a neat sketch of dead end system and explain it.
8. Write an advantages and disadvantages of grid iron system.
9. Write a difference between pumping system and gravity system.

## **Unit-5 Valves, fittings and Pumping stations**

1. Define valves and explain any one in detail.
2. Explain sluice valve in detail.
3. Write a short note on pressure relief valve.
4. Give function and classification of valve also explain any one with neat figure.
5. Explain gate valve in detail.
6. Define meter and also write a classification of meter.
7. Enlist advantages and disadvantages of metering.
8. Write a factor affecting on losses and wastes.
9. Describe waste water surveys in detail.
10. Explain site selection criteria of pump.
11. Explain rotary pump with neat sketch in detail.
12. Write a short note on centrifugal pump.
13. Describe location of pumping station.

## **Unit-6 Water Supply in Rural Areas**

1. Explain rain water harvesting.
2. Why potable water supply is not feasible in rural area? Explain.
3. Explain treatment method used for rural water supply.
4. Give selection of suitable sources of water for rural water supply.
5. Which method is used for removing bacteria and impurities in rain water harvesting? Explain it in detail.
6. Explain “Nalgonda”
7. Explain treatment method for removal of iron.