

5TH SEM./CIVIL./ 2024(S)

TH- 4 Water supply & Waste Water Engineering

Full Marks: 80

Time- 3 Hrs

**Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks**

1. Answer **All** questions 2 x 10
 - a. What should be the PH of portable water?.
 - b. Define specific yield?
 - c. What is self cleaning velocity?.
 - d. What are the different methods for calculating population growth?..
 - e. What is aquifer and their types
 - f. Define sewage farming.
 - g. Mention different types of traps in sewage system?.
 - h. Write down the cause of blue baby disease?
 - i. What do you mean by cone of depression?
 - j. What is the function of algae in sewage?
2. Answer **Any six** Questions 6 x 5
 - a. Write down about the physical characteristic of portable water?
 - b. Explain break point chlorination.
 - c. Write the short notes on 1) Manhole 2) Gully trap.
 - d. Write down the difference between water supply pipes and sewer pipes?
 - e. Explain break point chlorination.
 - f. Explain the various methods of sludge disposal.
 - g. Write about the factors affecting per capita demand.
3. The population of 5 decade from 1930 to 1970 are given below. Find out the population after one, two and three decade beyond the last known decade, by using arithmetic increase method . 10

Year	1930	1940	1950	1960	1970
Polutation	25000	28000	34000	42000	47000
4. Describe the process of primary treatment of sewage with help of flow diagram. 10
5. Sketch and describe in details the working of slow sand filter. 10
6. Describe about rooftop rainwater harvesting. 10
7. Describe the different types of pipes as per material? 10