5TH SEM ./ CIVIL./ 2023(W) NEW

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. Explain the term per capita demand.
   b. What are the available sources of water?
   c. Define yielding of well.
   d. What is sewage?
   e. Define sewage farming.
   f. What is screening?
   g. What are the impurities in water?
   h. Define slow sand filter.
   i. What are the different methods of calculating population growth?
   j. What is self cleaning velocity?

2. Answer **Any Six** Questions 6 x 5
   a. Explain break point chlorination.
   b. Determine the velocity of flow in a circular sewer of diameter 150cm. laid on slope of 1 in 500 while running full, by using Chezy's formula. The value of C=70
   c. Write a short note on rapid sand filter.
   d. Explain with neat sketch the working operation of a "trickling filter".
   e. Describe the physical test of water briefly.
   f. Explain about the surface sources of water supply.
   g What is confined & unconfined aquifer? Explain.

3 Describe the various methods of water distribution system. 10

4 Draw the flow diagram of water treatment system and describe each unit. 10

5 Write down the constructional features and working principle of Rapid sand filter. 10

6 Describe the process of primary treatment of sewage with the help of a flow diagram. 10

7 Describe about the factors affecting per capita demand. 10