Th-4: WATER SUPPLY AND WASTE WATER ENGINEERING

FM- 80   Time- 3hrs

1. Answer all questions.   [2x10
   a) What do you mean by disinfection of water?
   b) Define sewerage system.
   c) What is yield of a well?
   d) What is the necessity of digestion?
   e) Define BOD.
   f) What is confined aquifer?
   g) What is sewage sickness?
   h) Explain the term per capita demand.
   i) Explain the term total hardness in water.
   j) Define specific yield.

2. Answer any six questions.   [5x6
   a) Determine the velocity of flow in a circular sewer of diameter 150cm, laid on a slope of 1 in 500 while running full by using Chezy's formula. The value of C=70.
   b) Differentiate between slow sand and rapid sand filter.
   c) Explain about the surface and sub surface sources of water supply.
   d) Describe a sludge digestion tank with diagram.
   e) Write down briefly about various types of sewer appurtenances.
   f) Explain different types of water demand.
   g) Explain Roof top rain water harvesting. Also write down its advantages.

3. Answer any three.   [10x3
   a) The population of a town from census report is given below:

Year	1980	1990	2000	2010
Population in thousand	22.6	27.8	33.6	39.8

   Estimate the population of the town by arithmetic and geometric increase method for 2050.
   b) Describe various methods of water distribution system.
   c) Describe various physical and chemical characteristics of raw water supply.
   d) Describe various methods of water distribution system.
   e) Draw the flow diagram of a Sewage treatment plant (STP) and describe each units briefly.

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