T.E. Civil - VI CBGS
Envi Engg - I

03.6.15

Q.P. Code : 4984

(3 Hours) [Total Marks: 80]

N.B.

1) Q.1 is compulsory
2) Attempt any 3 of remaining 4 Questions
3) Assume suitable data wherever necessary

Q.1. Attempt **Any Four** of the following (20)

1) Explain the importance of planned water supply scheme.
2) Enlist different population forecasting methods. Explain any one in detail.
3) Explain classification of distribution system with neat sketches.
4) Explain Environmental significance of pH and Colour in water supply engineering.
5) Criteria for selection of pump.
6) Write down characteristics of hazardous waste.

Q.2. A) With the help of following data, estimate the future population of the town in the year 2021, using Geometrical and Incremental increase method. (10)

Year	1951	1961	1971	1981	1991	2001
Population	40000	47500	60000	68000	72000	78000

B) Explain the physical, Chemical and Biological characteristics of water. Write the standards for potable water. (10)

Q.3. A) Design a rectangular sedimentation tank to treat 2 MLD of water. Assume detention period of 3 hours and flow through velocity of 7.5 cm/min. If the depth of tank is 3m, find the over flow rate and dimensions of tank. (10)

B) Enlist factors affecting coagulation. Enlist common coagulants used. Give equations of coagulation by Alum. (10)

Q.4. A) Explain the working of rapid sand filter (RSF) with neat sketch. Also mention advantages of RSF. (10)

B) Define water softening. Enlist different methods of softening. Explain Zeolite process with neat sketch. (10)

Q.5. A) Explain various methods of "house - to - house" collection system and give relative points of comparison. (10)

B) Explain different methods of disinfection and its suitability. (10)

Q.6. Write short notes on following. (Any Four) (20)

A) Break point chlorination.
B) Disposal methods of solid wastes.
C) Testing of pipeline
D) Fluoridation and Defluoridation.
E) Air binding and mud ball formation in rapid sand filter (RSF)
F) Jar Test.

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