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220743

**4th Sem. / Civil
Sub. Water Supply and Waste Water Engineering**

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 The fresh sewage is _____ in nature.

- a) Alkaline
- c) Neutral
- b) Acidic
- d) None of these

Q.2 For drinking water, iron content is usually restricted to _____.

- a) 0.01 mg per litre
- c) 1mg per litre
- b) 0.3 mg per litre
- d) 0.1 mg per litre

Q.3 Fine suspended particles are removed by _____.

- a) Filtration
- c) Bleaching
- b) Aeration
- d) Agitation

Q.4 Dead end method of distributing water is also called _____.

- a) Grid iron system
- c) Radial system
- b) Ring system
- d) Three system

Q.5 _____ sludge is a sludge which remains for a longer period in the tank before removal.

- a) Raw
- c) Stale
- b) Septic
- d) Activated

Q.6 The suitable method for forecasting population for a young and rapidly developing city is _____.

- a) Arithmetic mean method
- b) Geometric mean method
- c) Comparative graphical method
- d) None of these

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The velocity by which solid matters, oil, greases, industrial waste may be removed is called _____ (Limiting velocity / Escape velocity)

Q.8 Raw sludge contains _____ percent of mixture content. (50% / 95%)

Q.9 The ratio of the maximum daily consumption to the average daily demands is _____ (1.0 x 1.8)

Q.10 The method of analysis of distribution system in which domestic supply is neglected and fire demand is considered is known as _____ (Equivalent method / Circle method)

- Q.11 The water which is not chemically pure but does not contain any harmful to human health is known as _____ (Wholesome water / Impure water)
- Q.12 Filtration and sewage forming are methods of _____ (Land treatmen/ Self purification)

SECTION-C

- Note:** Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)
- Q.13 Describe the process of water treatment by “Flocculation Method”.
- Q.14 Enlist any Five functions of “Grit Chambers” used for sewage treatment.
- Q.15 Write the standards for quality of potable water in India.
- Q.16 Write any five purpose of sanitation.
- Q.17 Write a short note on water treatment using “Reverse Osmosis” System.
- Q.18 Describe the incremental increase method of population forecasting.
- Q.19 Explain the process of “Aerobic Digestion” used for activated sludge treatment and disposal of sewage system.
- Q.20 Describe any five advantages of surface reservoirs used for water distribution system.

- Q.21 Enlist the various chemical tests conducted on water and describe the chlorine test in brief.
- Q.22 Describe the use of “Lagoons” for the waste water treatment to ensure the safe disposal of waste materials into the environment.

SECTION-D

- Note:** Long answer questions. Attempt any two questions out of three Questions. (2x8=16)
- Q.23 Explain the “Radial Water Distribution System” along with its advantages, with the help of a diagram.
- Q.24 Explain the “Land Treatment” method of disposal of sewage.
- Q.25 Describe the working of rapid sand filters with the help of diagram.