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Roll No.

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

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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)

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- 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 treatment / 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.