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Roll No. ....

120742/030742

**4th Sem / Branch : Civil, Brick Tech, Constr. Mgmt,  
Highway Engg.**

**Subject:- Water Supply and Waste Water Engineering /  
Public Health Engg.**

Time : 3Hrs.

M.M. : 100

### **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

**Q.1** Water demand of a city includes: (CO2)

- a) domestic water demand
- b) commercial and industrial demand
- c) fire and public use demand
- d) all the above

**Q.2** For public water supply hard water is not used because: (CO3)

- a) it consumes more soap
- b) it is turbid
- c) it possesses bad taste and odors
- d) all the above

**Q.3** The first stage in water treatment is: (CO4)

- a) sedimentation
- b) filtration
- c) disinfection
- d) coagulation and mixing

**Q.4** The system which requires uniform rate of pumping is: (CO5)

- a) pumping without storage system
- b) gravitational system
- c) pumping and storage system
- d) all of the above

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**Q.5** The excess water from rainwater which runs off on the surface of the ground is called: (CO8)

- a) waste water
- b) storm water
- c) drain water
- d) none of the above

**Q.6** The velocity of sewer which is responsible for floating of suspended matters is called: (CO9)

- a) self cleaning velocity
- b) sewage velocity
- c) limiting velocity
- d) none of these

**Q.7** The gradient of sewer line should be proper for: (CO10)

- a) smooth flow of sewage
- b) gravity flow
- c) natural flow
- d) all of the above

**Q.8** The presence of excess of nitrates in water causes: (CO11)

- a) typhoid
- b) malaria
- c) dysentery
- d) Blue Baby disease

**Q.9** Nuisance due to disposal is: (CO12)

- a) physical nuisance
- b) bacterial nuisance
- c) chemical nuisance
- d) all of the above

**Q.10** The temperature of sewage as compared to temperature of water is: (CO12)

- a) higher
- b) lower
- c) equal
- d) cannot say

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## **SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Turbidity is expresed in parts per million (PPM).  
(True/False) (CO3)

Q.12 Slow sand filter require \_\_\_\_\_ area. (CO4)

Q.13 Elevated reservoirs are commonly known as overhead tanks. (True/False) (CO5)

Q.14 The pipeline should be laid in \_\_\_\_\_. (CO6)

Q.15 Kitchen waste is \_\_\_\_\_. (CO7)

Q.16 The manholes are provided to achieve the ventilation of sewers. (True/False) (CO8)

Q.17 Anaerobic bacteria exist in the absence of \_\_\_\_\_. (CO11)

Q.18 Semi circular drains are suitable for \_\_\_\_\_ discharges. (CO9)

Q.19 The sewage if not treated will create \_\_\_\_\_. (CO12)

Q.20 The digestion sludge is \_\_\_\_\_. (CO13)

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**SECTION-C**

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain daily and hourly variation in rate of demand of water. (CO2)

Q.22 Explain various preventive measures for water borne disease. (CO3)

Q.23 Give any five difference between slow sand filter and rapid sand filter. (CO4)

Q.24 Define breakpoint chlorination with graph. (CO4)

Q.25 Explain radial system for water distribution. (CO5)

Q.26 What are the advantages and disadvantages of caste iron pipes? Explain. (CO5)

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- Q.27 What are the various steps involved during laying of pipes for sewers? Explain any one. (CO6)

Q.28 Explain for operation of connection to the water main with neat sketch. (CO7)

Q.29 Give any five difference between Water Carriage System and Conservancy System. (CO8)

Q.30 What are the various points to be considered while selecting material for sewers. (CO9)

Q.31 What are the different test conducted for sewer lines? Explain any one. (CO11)

Q.32 What are the situations suitable for dilution? Explain. (CO12)

Q.33 What is the difference between sludge digestion and sledge drying? Explain. (CO13)

Q.34 What is Grit Chambers? What are objectives of Grit removal? Explain. (CO13)

Q.35 Define the following terms: (CO14)

  - i) sinks
  - ii) water closets
  - iii) urinal pot

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain jar test with neat sketch. Why it is performed? Explain. (CO4)

Q.37 What are the various factors affecting per capita demand? Explain each factor. (CO2)

Q.38 What did you understand by self purification of streams? What are the various factors affecting it, explain in detail. (CO12)

**(Note:** Course outcome/CO is for office use only)

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