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Roll No.

4th Sem / Civil

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

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.1 B.O.D stands for

- a) Biochemical oxygen demand
- b) Biological oxygen demand
- c) Bio oxygen demand
- d) None of these

Q.2 Per capita water demand is calculated in liter

- a) Per person per day
- b) Per Person per month
- c) Fire and public-use demand
- d) All of these

Q.3 Colour is measured on

- a) Standard cobalt scale
- b) Standard silica scale
- c) Standard platinum scale
- d) All of these

Q.4 Maximum permissible limit of pH for drinking water

- a) 0-6
- b) 6-8.5
- c) 4-6.5
- d) 8.5-12

Q.5 Suspended matter can be removed from water by

- a) Screening
- b) Sedimentation
- c) Disinfection
- d) Filtration

Q.6 Type of joint generally used in joining plain end of cast iron pipe is

- a) Flanged joint
- b) Flexible joint
- c) Dresser coupling joint
- d) Socket and spigot joint

Q.7 Reflux valve is also known as

- a) Check valve
- b) Non returning valve
- c) One direction valve
- d) All of these

Q.8 DWF stands for

- a) Dry winter flow
- b) Dry weather flow
- c) Dense weather flow
- d) None of these

Q.9 The bacteria which can survive with or without of the presence of the oxygen is called

- a) Aerobic
- b) Anaerobic
- c) Pathogenic
- d) Facultative

Q.10 Minimum dissolved oxygen required for survival of fish is

- a) 2 mg/l
- b) 4 mg/l
- c) 6 mg/l
- d) 10 mg/l

SECTION-B

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

Q.11 Expand BOD Bottle

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- Q.12 What is the most commonly used coagulant for raw water?
- Q.13 What valve is used to stop the backwater flow?
- Q.14 Define Sewer
- Q.15 Write short note on towel rail.
- Q.16 The opening constructed in sewer for the purpose of permitting a man to enter in the sewer is called?
- Q.17 Which method is used to remove oil and grease from sewage?
- Q.18 What is the meaning of C.O.D of the water?
- Q.19 The water which is not chemically pure, but does not contain anything harmful to human health is called?
- Q.20 The pipe through which liquid waste carrying human excreta can flow is called?

SECTION-C

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

- Q.21 Explain the Hydrological cycle with diagram?
- Q.22 The following data have been taken from the census department

Year	1890	1900	1910	1920
Population	12,000	17,000	22,000	28,000

Calculate the probable population in the year 1930, 1940, 1950 by using geometric increase method.

- Q.23 Define Turbidity? Its permissible limit and unit?
- Q.24 What is sedimentation and its type?
- Q.25 Explain Expansion joint with diagram.

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- Q.26 Draw the Symbol of the following
- Refrigerator
 - Stair
 - Washing machine
- Q.27 Explain dead end distribution system of the water.
- Q.28 Write the different types of material used for sewer construction?
- Q.29 Draw the flow diagram of different forms of waste?
- Q.30 Classify the sewerage system with their suitability?
- Q.31 Write down the name of various sewer appurtenances?
- Q.32 What is B.O.D and draw a B.O.D curve?
- Q.33 Write the name of method of disposal of sewage?
- Q.34 Draw the flow diagram of secondary sewage treatment?
- Q.35 What are the various requirements of good building drainage?

SECTION-D

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

- Q.36 Explain the various stages of water treatment plant with their significances?
- Q.37 What are the differences between standard rate and high rate trickling filter?
- Q.38 Explain various type of distribution system used in water supply.

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