

Roll no. _____

ID: 180746/170746

Semester: 4th

Branch: Civil

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

Time Allowed : 3 Hrs.

MM:100

Section –A

Note: Multiple Choice questions. All questions are compulsory.

10x1=10

- Q.1 TON Stand for
a) Total organic number
b) Threshold odour number
c) Threshold organic number
d) Total odour number
- Q.2 Per capita water demand is calculated in liters
a) Per person per day
b) Per person per month
c) Fire and public-use demand
d) All of these
- Q.3 Turbidity is measured in
a) standard cobalt scale
b) standard silica scale
c) standard platinum scale
d) All of these
- Q.4 Maximum permissible limit of Total dissolved solid (TDS) in mg/l
a) 100-500
b) 500-1000
c) 500-2000
d) 500-1500
- Q.5 Iron and manganese can be removed from water by
a) Aeration
b) Filtration
c) Disinfection
d) Chlorination
- Q.6 Type of joint generally used in cast iron pipe is
a) Flanged joint
b) Flexible joint
c) Dresser coupling joint
d) Socket and spigot joint
- Q.7 Type of layout distribution system, In which water flows towards the outer periphery is
a) Dead end system
b) Grid iron system
c) Ring system
d) Radial system
- 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 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 What is the capacity of the BOD Bottle (in ml)?
- Q.12 Which test should be performed to determine the optimum dosage of coagulant?
- Q.13 What valve is used to stop the backwater flow?
- Q.14 Generally, how long is a goose neck?
- Q.15 The Liquid wastes obtain from the kitchen, bathrooms and wash basin are called?
- Q.16 What is the shape of the manhole?
- Q.17 What function does a smoke test serve in a sewer?
- Q.18 What is the meaning B.O.D?
- Q.19 What percentage of the mixture is contained in the raw sludge?
- Q.20 Which trap is used for water closet?

Section –C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions.

12x5=60

- Q.21 What is 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 arithmetic increase method.

- Q.23 Define Hardness? Its permissible limit and unit?
- Q.24 Define break point chlorination with diagram?
- Q.25 Define the spigot and socket joint with diagram.
- Q.26 Draw the diagram of water main connection to the building.
- Q.27 Advantages and disadvantages of cast iron pipe.
- Q.28 Name the various operations to be followed during laying underground pipe?
- Q.29 What is waste and it's different from?
- Q.30 What is sewer and its classification?
- Q.31 Write the name of testing of sewer, explain any one?
- Q.32 What is aerobic and anaerobic decomposition?
- Q.33 What are the various factors that affect the self purification of stream?
- Q.34 What is trickling filter and its characteristics?
- Q.35 What are the requirements of good building drainage?

Section-D

Note: Long answer questions. Attempt any two questions out of three questions.

2x10=20

- Q.36 Difference between slow sand filter and rapid sand filter and also draw diagram?
- Q.37 Explain various equipments which are used for sewage treatments?
- Q.38 Explain various type of distribution system used in water supply?