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SEAT No._____ No. of Printed Pages : 2

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SARDAR PATEL UNIVERSITY
M.Sc. (EST) (First Semester) Examination
Monday, 9th April, 2018
10.00 a.m. to 1:00 p.m.
PS01CEST 23: Water Pollution and Control Technology
Max. Marks: 70

Q.1. Multiple Choice Questions (Choose Correct Answer) (08)

1.) Dengue, it is water ..... Disease.
a) Related b) Washed c) Based d) Borne

2.) Infiltration galleries is a ..... source.
a) Ground Water b) Surface water c) Subsurface water d) all of the above

3.) ..... at higher dose causes digestive tract cancer.
a) Nitrate b) Chromium c) Mercury d) all of the above

4.) Pre-Chlorination improves .....
a) b) strainer c) Gravel d) Mesh

5.) ..... is removed by the Oxidation process in case of aeration treatment.
a) Taste and Odour b) Iron & Mangnese c) CO_2 d) Bacteria

6.) *Giardia lambia* is the example of .....
a) Bacteria b) Viruse c) Protozon d) Blue Green Alage

7.) In case of deep lentic water bodies, several samples are drawn .....
a) Vertically b) Horizontally
c) Both d) Non of the above

8.) Water contains excess of free available chlorine which is to be removed before acceptable consumers. The treatment is called.....
a) Breakpoint chlorination b) Dechlorination c) Super chlorination d) Combined available residual chlorination

Q.2. Write a Short Note on followings (Any Seven) (14)

1. Decholriantion
2. Explain the terms: Auitard and Auifuge
3. Flow Diagram for Ground water Treatment
4. Frequency and number of Samples
5. Sedimentation technique
6. Factors affecting rate of demand
7. Need of sample and Types of samples
8. Mechanisms of Disinfection
9. Define: TDS,TSS

Q.3. a) Given the following data, calculate the population at the end of four, five decades by Incremental increases method. [06]

Year	1940	1950	1960	1970
Population	80000	1,20,000	1,68,000	2,28,580

C.P. T. O.

b) Explain the significance of the following from the point of view of water Quality criteria. [06]

i) Temperature ii) Arsenic iii) Lead

OR

b) Enumerte Specific agent, Reservoir, Common vehicle & Symptoms in brief for following diseases. [06]

i) Typhoid ii) Tuberculosis iii) Diphteria

Q.4. a) Explain the different types of spring with diagram. [06]

b) 1. Write a note on Wells. [03]

2. Explain the fire and domestic water demand. [03]

OR

b) 1. How to control Saline water intrusion? Explain the causes of intrusion. [03]

2. Describe the different zones of ground water with diagram. [03]

Q.5.a). Explain the different artificial recharge methods of ground water related to surface Techniques. [06]

Q.5.b). Discuss coagulants and flocculation method used for water treatment. [06]

OR

b) What is the purpose of RSF? Explain the different types of material available for the filtration process. [06]

Q.6. a) Explain about the sedimentation Techniques and aeration treatment for water treatment. [06]

b) Explain the different water chlorine reactions in details. [06]

OR

b) Describe the different free available residual chlorination methods related to chlorination practices. [06]

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