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Question Paper Code: U9973

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Open Elective

Chemical Engineering

21UCH973-DRINKING WATER AND SUPPLY TREATMENT

(Regulations 2021)

(Common to ALL branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The sterilization of _____ is generally carried out by retorts. CO1-U
 - (a) Low carbohydrate foods
 - (b) Low acid foods
 - (c) High acid foods
 - (d) Medium acid foods
2. Where we can find over strained infrastructure due to population growth? CO1-U
 - (a) In rural areas
 - (b) In forest areas
 - (c) In desert areas
 - (d) In urban areas
3. Which hydraulic jump is used in abysmal fan formation? CO1 -U
 - (a) Shallow fluid
 - (b) Internal wave
 - (c) External wave
 - (d) Atmospheric
4. Water supply system includes CO1-U
 - (a) Construction of dams
 - (b) Digging a well for water
 - (c) Construction of canals
 - (d) Entire arrangement from source to distribution

5. Which of the following tends to resist conventional methods of waste water treatment? CO2 -App
 (a) Suspended solids (b) Nutrients (c) Refractory organics (d) Priority pollutants
6. In water treatment which factor which has a major control over reaction selectivity and product distribution? CO2-App
 (a) pH (b) Temperature
 (c) Pressure (d) Ionic concentration
7. The surface water quality is affected by _____ and infiltration from rainfall. CO1 -U
 (a) Precipitation (b) Run off
 (c) Wetlands (d) Farming
8. The agitator is required to CO1 -U
 (a) Provide air (b) Mixing objectives
 (c) Purify the product (d) Sterilize the media
9. _____ is used to measure flows to domestic buildings. CO1-U
 (a) Rain gauge (b) Water tank (c) Drainpipe (d) Water meter
10. The diameter of main service pipe may vary from CO1 -U
 (a) 2-15 mm (b) 12-40 mm (c) 50-75 mm (d) 60-80 mm

PART – B (5 x 2= 10 Marks)

11. What is public water supply system? CO1 -U
12. Which of the following is selection criteria for pump? CO2-App
13. List out the various types of sedimentation tanks. CO3-Ana
14. Give the advantages of demineralization. CO2-App
15. List out the various types of leak detection? CO3-Ana

PART – C (5 x 16= 80Marks)

16. (a) Explain briefly about the Impounding Reservoir Well hydraulics. CO1- U (16)
 Or
 (b) Explain briefly about the resources of water. CO1- U (16)

17. (a) Explain with a neat sketch the working principle of transmission system. CO2-App (16)
- Or
- (b) Discuss in detail about the Selection of pumps. CO2-App (16)
18. (a) Explain briefly about the Construction of a water treatment plant. CO1- U (16)
- Or
- (b) Discuss in detail about the water conservation in water treatment plant. CO1 -U (16)
19. (a) Explain in details about the process of Manganese Removal. CO1-U (16)
- Or
- (b) Discuss in detail about the Demineralization water treatment plant. CO1-U (16)
20. (a) Explain briefly about the principles of design of water supply in buildings. CO2 -App (16)
- Or
- (b) Write a short note on CO2 -App (16)
- (i) Computer applications on water supply system (8)
- (ii) Operation and maintenance of water supply system (8)

