Reg. No.															

Question Paper Code	12842

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Fifth Semester

Civil Engineering

20CEPC502 - PUBLIC HEALTH AND SANITATION ENGINEERING

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define fire demand and suggest any two methods to calculate it.	2	K1	CO1
2.	What is turbidity and how will you measure it?	2	K2	CO1
3.	Differentiate between temporary hardness and Permanent hardness.	2	K2	CO3
4.	Define Break Point Chlorination.	2	K1	CO3
5.	Define time of Concentration.	2	K1	CO4
6.	List the requirements of the good sewer joints.	2	K1	CO4
7.	Write the Stoke's equation for discrete particle settling.	2	K1	CO5
8.	What is the purpose of grit chamber in wastewater treatment and its objective?	2	K2	CO5
9.	What is re-oxygenation curve?	2	K1	CO6
10.	List the natural forces of self purification.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain logistic curve method and derive the formula for population forecast in logistic curve method.	13	K2	CO1
		OR			
	b)	Discuss in detail the physical, chemical & biological characteristic of water.	13	K2	CO1
12.	a)	Describe the principle and function of Clari-floccuator in detail with a neat sketch.	13	K2	CO3
		OR			
	b)	Design a rapid sand filter for 4MLD of supply with all its principal components.	13	K2	CO3
13.	a)	Explain the working principle of Centrifugal and reciprocal pumps.	13	K2	CO4

OR

b) Discuss the plumbing for drainage system in buildings with a neat sketch. *13 K2 CO4*

14. a) Design a septic tank with dispersion pit for a hostel with a population of 150 and peak discharge of 205 lit/min. Take cleaning period as one year. Assume suitable design criteria and draw a neat sketch of the designed tank. *13 K2 CO5*

OR

b) Examine the components and the operational principles of activated sludge process with a neat sketch. Write its advantages and disadvantages. *13 K2 CO5*

15. a) Explain the various stages of oxygen sag curve and its importance with a neat sketch. *13 K2 CO6*

OR

b) What is meant by self-purification of rivers? Explain the various zones of pollution in river stream. *13 K2 CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the pipe appurtenances used in conveyance system and write its importance. *15 K2 CO2*

OR

b) What is meant by intake structures? Explain Wet intake and Dry intake towers with neat sketch. *15 K2 CO2*