21 JUN 2023

Reg. No.												

Question Paper Code	11924

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

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.	What is turbidity? How will you measure it?	2,K2,CO1
2.	Write any four drinking water standards according to WHO & BIS.	2,K1,CO1
3.	Explain any two types of pipe appurtenances and its location.	2,K2,CO2
4.	Discuss the factors which contribute corrosion.	2,K2,CO2
5.	List the effects of hardness in water.	2,K1,CO3
6.	Illustrate unit operations and unit process with examples.	2,K2,CO3
7.	Define the terms: (i) Conservancy system and (ii) water carriage systems.	2,K1,CO4
8.	Differentiate BOD and COD.	2,K2,CO4
9.	List the type of filters commonly used in secondary treatment of sewage.	2,K1,CO5
10.	What are the different zones of pollution?	2,K1,CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Discuss in detail the various methods adopted to estimate the population of each successive future decades with merits and demerits.	13,K2,CO1
		OR	
	b)	Discuss briefly about the Physical, Chemical and Biological characteristics and state their environmental significances.	13,K2,CO1
12.	a)	Discuss briefly the three methods of water distribution, and its advantages and disadvantages.	13,K2,CO2
		OR	
	b)	Draw a Neat sketch of Reservoir Intake and explain its salient features.	13,K2,CO2
13.	a)	Explain the theory behind sedimentation, and the working of rectangular type sedimentation tank with a neat diagram.	13,K2,CO3
		OR	

b) Explain in detail the principle, components and working of Rapid sand filters. *13,K2,CO3*

14. a) Explain with a neat sketch one pipe and two pipe house plumbing system for drainage. *13,K2,CO4*

OR

b) Enumerate and explain the various sewer appurtenances with neat sketches. *13,K2,CO4*

15. a) Summarize in detail with neat sketches about the trickling filters and state the various advantages and disadvantages of conventional trickling filter. *13,K2,CO5*

OR

b) Derive Streeter Phelps equation to explain the relation between BOD, re-oxygenation and re-aeration. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Discuss in detail the various methods adopted for disposal of sludge. *15,K2,CO6*

OR

b) Illustrate with a neat sketch the construction, working and design of sludge digestion tank, also state its advantages and disadvantages. *15,K2,CO6*