CONTINUOUS INTERNAL EVALUATION- 2

Dept: Civil Engg	Sem / Div: 4	Sub: WS&TE	S Code: 18CV46
Date:5-08-2022	Time: 3:00-4:30 pm	Max Marks: 50	Elective: N

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	COs
		PART A			
1	a	Explain the theory of chlorination of water with chemical equations.	12	L1	CO3
	b	Briefly explain break point chlorination.	13	L1	CO3
		OR			
2	a	With neat sketches, explain slat tray aerator and trickling bed aerator.	10	L1	CO2
	b	For disinfecting 10 million liters of water per day, bleaching powder containing 25% available chlorine is used Chlorine demand of water is 1.2 mg/l and a residual chlorine of 0.2 mg/l should be maintained. Calculate the monthly requirement of bleaching powder.	10	L3	CO2
	c	What are the characteristics of good coagulant'?	5	L1	CO2
		PART B			
3	a	The maximum daily demand at a water purification tank plant is 8 MLD. Design the dimensions of a suitable rectangular sedimentation tank for the raw water supplies. Take detention time period of 4 hours and the depth of 3.0mts. The velocity of flow is 20cm/min.	10	L2	CO2
	b	What is coagulation? Explain finding optimum dosage of coagulant.	5	L3	CO2
	c	With the help of neat sketch explain rapid sand filter.	10	L2	CO2
		OR			
4	a	List and explain the various operating problems during the filtration process.	10	L2	CO2
	b	Design a set of circular tanks to handle 6 million litres of water per day. Take detention time as 4 hours and side water depth as 3m. Check for the design and sketch the designed tank.	10	L3	CO2
	c	Find the area and number of units required for rapid sand filter to serve a population of 2,00,000. Take average rate of demand: 160 lpcd and maximum demand as 1.8 times. Rate of filtration: 5 $m^3/h/m^2$ Size of each filter: 10 m x 5 m	5	L2	CO2