CONTINUOUS INTERNAL EVALUATION- 3

Dept: Civil Engg	Sem / Div: 5	Sub: MWWE	S Code: 18CV55
Date:16-01-2021	Time: 9:30-11:00 am	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 briefly the different stages of sludge digestion process in a "Digestor". With a neat sketch, explain the constructional details of sludge digestion tank.	12	L2	CO4
	b	Determine the size of the High-rate trickling filters for the following data: i) sewage flow = 4.5 MLD ii) Recirculation ratio = 1.5 iii) BOD of Raw sewage = 250 mg/L iv) BOD removal in primary tank = 30% v) Final effluent BOD desired = 30 mg/L	13	L3	CO4
		OR			
2	a	Explain the working of conventional activated sludge process (ASP) with flow diagram.	10	L3	CO4
	b	Design the activated sludge unit treatment with the following data for a town of population of 65,000 (i) Average sewage flow - 210 lpcd (ii) BOD of the raw sewage: 210 mg/l (iii) Suspended soiid in raw sewage - 300 mg/lit (iv) BOD removal in primary treatment =40% (v) Overall BOD removal desired – 90%	15	L3	CO4
		PART B			
3	a	What do you understand by advanced wastewater treatment? How is it different from the conventional treatment?	12	L2	CO5
	b	Discuss in brief the biological and chemical methods of removal of phosphorous from wastewater.	13	L2	CO5
		OR			
4	a	Draw a neat sketch of septic tank with soak pit, Write the design criteria required for septic tank.	15	L2	CO5
	b	Write a short note on i) two pit latrines ii) Oxidation pond	10	L2	CO5

Prepared by: Prashantha

HOD