U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January 2024 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 21CV7PEIWW **Max Marks: 100**
Course: Industrial Waste Water Treatment

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Bring out clearly the difference between domestic sewage and industrial wastewater	CO1	PO1	10
	b)	Enumerate the effects of Industrial wastewater disposal on streams and municipal wastewater treatment plant.	CO1	PO1	10
		UNIT - II			
2	a)	With neat diagram explain the various zones of self-purification of stream	CO2	PO1	10
	b)	A town discharges 120 cumec of sewage into a river having a rate of flow of 1600 cumec during lean period with a velocity of 0.1 m/s. The 5-day BOD of sewage at the given temperature is 250 mg/L. Find the amount of critical deficit, and when and where it will occur in the downstream portion of the river. Assume the deoxygenation constant as 0.1 day -1 and self-purification constant as 3.5. Saturation DO at a given temperature is 9.2 mg/L.	CO2	PO1	10
		UNIT - III			
3	a)	Define Neutralization. Explain the acceptable methods for neutralizing excess acidity or alkalinity of wastewaters.	CO2	PO1	10
	b)	Write Short Notes on : (i) Equalisation. (ii) Proportioning.	CO2	PO1	10
		OR			
4	a)	Explain various methods of strength reduction with respect to industrial wastewater.	CO2	PO1	10
	b)	Bring out the effects of various pretreatment methods adopted in Industrial wastewater treatment.	CO2	PO1	10

			UNIT - IV			
	5	a)	Explain the methods adopted for removal of organic dissolved solids from wastewater.	***CO3***	***PO1***	**10**
		b)	Explain the methods adopted for treatment and Sludge solids	***CO3***	***PO1***	**10**
			UNIT - V			
	6	a)	Explain the manufacturing process and treatment of wastewater in Tanning industry	***CO3***	***PO1***	**10**
		b)	Explain the manufacturing process and treatment of wastewater in Cotton textile industry	***CO3***	***PO1***	**10**
			OR			
	7	a)	Explain the manufacturing process and treatment of wastewater in sugar industry	***CO3***	***PO1***	**10**
		b)	Discuss the feasibility study for combined treatment of industrial wastewater and municipal wastewater.	***CO3***	***PO1***	**10**

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