U.S.N.										

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

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E. **Semester: VII**

Branch: Civil Engineering **Duration: 3 hrs.**

Course Code: 22CV7PEIWT **Max Marks: 100**

Course: Industrial Wastewater 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)		Differentiate between domestic and industrial wastewater	CO1	*PO 1*	**10**
	b)		Explain the effect of industrial effluents on stream	CO1	*PO1*	**10**
			OR			
2	a)		Explain the effect of industrial effluents on wastewater treatment plant	CO1	*PO1*	**10**
	b)		Briefly explain the effluent and stream standards and legislation to control, water pollution	CO1	*PO1*	**10**
			UNIT - II			
3	a)		With neat diagram explain the various zones of self-purification of stream	CO2	*PO3*	**10**
	b)		With a neat diagram explain oxygen sag Curve	CO2	*PO3*	**10**
			OR			
4	a)		A city discharge 100cumec of sewage into a river which is fully saturated with oxygen and flowing at the rate of 1500cumec during its leans days with a velocity of 0.1m/sec. the 5day BOD of sewage at the given temperature is 280mg/l.find when where the critical D.O deficit will occur in the downstream portion of the river and what is its amount .assume coefficient of purification of the stream (f) as 4.0 and coefficient of deoxygenation (KD)as 0.1	CO2	*PO3*	**10**
	b)		Explain the working principle, advantages and limitations of using AAS	CO2	*PO3*	**10**
			UNIT - III			
5	a)		Explain the different methods of strength reduction adopted in industrial wastewater treatment.	*CO3*	*PO1*	**10**

		b)	Explain the process of neutralization adopted for treating acids and alkaline waste.	*CO3*	*PO1*	**10**
			OR			
	6	a)	Explain the different methods of volume reduction adopted in industrial wastewater treatment	*CO3*	*PO1*	**10**
		b)	Explain equalization, segregation and proportioning.	*CO3*	*PO1*	**10**
			UNIT - IV			
	7	a)	Explain method used for removal of suspended solids	*CO3*	*PO3*	**10**
		b)	Explain the method used to remove inorganic solids	*CO3*	*PO3*	**10**
			OR			
	8	a)	Explain the method for sludge disposal	*CO3*	*PO3*	**10**
		b)	Explain the method for removal of colloidal solids	*CO3*	*PO3*	**10**
			UNIT - V			
	9	a)	With flow diagram explain the manufacturing and treatment process of sugar industry	*CO3*	*PO3*	**10**
		b)	With flow diagram explain the manufacturing and treatment process of paper and pulp industry	*CO3*	*PO3*	**10**
			OR			
	10	a)	With flow diagram explain the manufacturing and treatment process of dairy industry	*CO3*	*PO3*	**10**
		b)	With flow diagram explain the manufacturing and treatment process of pharmaceutical industry	*CO3*	*PO3*	**10**

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