U.S.N.										

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

Autonomous Institute Affiliated to VTU

July 2023 Semester End Main Examinations

Programme: B.E. **Semester: VIII**
Branch: Institutional Elective **Duration: 3 hrs.**
Course Code: 23CY8IEEDM **Max Marks: 100**
Course: Environmental Disaster Management and Mitigation **Date: 06.07.2023**

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)		Discuss the formation of acid rain and its consequences.	*CO2*	*PO2*	**6**
	b)		List the sources of greenhouse effect and consequences. Suggest any two methods to minimize it.	*CO1*	*PO1*	**8**
	c)		Explain the construction and working of Scintillation counter with a neat diagram.	*CO3*	*PO6*	**6**
			UNIT - II			
2	a)		Summarize the determination of nitrate in water by Colorimetric method.	*CO2*	*PO2*	**6**
	b)		Appraise the trickling filter process and activated sludge sewage treatment with a suitable diagram.	*CO5*	*PO7*	**8**
	c)		Discuss the principle and redox titration procedure used for estimating the COD of industrial waste water.	*CO2*	*PO2*	**6**
			OR			
3	a)		Define desalination. Describe reverse osmosis method with a suitable diagram.	*CO3*	*PO6*	**6**
	b)		Describe the ion exchange method of softening of water with a diagram and regeneration process.	*CO3*	*PO 6*	**8**
	c)		Explain the importance of dissolved oxygen in water and Oxygen sag curve.	*CO5*	*PO7*	**6**
			UNIT - III			
4	a)		Describe the sources and control methods for gaseous pollutants.	*CO5*	*PO7*	**6**
	b)		Outline the construction and working of any 2 devices used to control particulate pollutants.	*CO5*	*PO7*	**8**

		c)	Explain the various components in a gas sensor with a neat labelled block diagram.	*CO5*	*PO7*	**6**
			UNIT - IV			
	5	a)	List out the advantages and disadvantages of composting.	*CO1*	*PO1*	**6**
		b)	Explain the extraction of copper from PCB.	*CO5*	*PO7*	**8**
		c)	Explain smart waste collection and SCADA systems in waste management.	*CO3*	*PO6*	**6**
			UNIT - V			
	6	a)	State any 3 principles of Green Chemistry.	*CO1*	*PO1*	**6**
		b)	List any two advantages of Quantum dot solar cell over Si based PV Cell. Explain its construction with a neat labelled diagram.	*CO1*	*PO1*	**8**
		c)	Calculate the atom economy for the following i) Production of H_2 $CH_4(g) + H_2O(g) \rightarrow 3H_2(g) + CO(g)$ ii) Generation of CO_2 $C_6H_{12}O_6(aq) \rightarrow 2CH_3CH_2OH\ (aq) + 2CO_2(g)$	*CO2*	*PO2*	**6**
			OR			
	7	a)	Define Biodiesel. Appraise the advantages and disadvantages of Biodiesel.	*CO1*	*PO1*	**6**
		b)	Explain the production of Hydrogen by Electrolysis with a neat labelled diagram. Also mention its advantages over other methods.	*CO3*	*PO6*	**8**
		c)	List the major challenges of sustainability.	*CO1*	*PO1*	**6**

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