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**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET UNIVERSITY)**



Ph.D. (First Semester-Summer) Examinations, December – 2025
23SPPECV1021 – Industrial Wastewater Treatment
(Civil Engineering)

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

Answer ANY FIVE Questions.	(14 x 5 = 70 Marks)	Marks
1.a. Describe the characteristics of industrial wastes with examples.		7
b. Explain the environmental legislations that deal with the prevention and control of industrial effluents and hazardous wastes.		7
2.a Explain the Biological Characteristics of Wastewater with examples.		7
b Explain the characteristics of industrial effluents and describe their possible impacts on the quality of underground water.		7
3.a. Describe the procedure for conducting an Industrial Waste Survey.		7
b. Explain the Process flow charts in an Industrial Waste Survey.		7
4.a. Explain the Conductivity, Salinity & Total Dissolved Solids in Industrial Waste Water.		7
b. Describe the concept of a composite wastewater sample and explain how it differs from an integrated sample.		7
5.a. Discuss the Biological wastewater treatment		7
b. Describe the various inorganic and organic impurities that are typically present in sewage.		7
6.a. Explain the methods used for treating wastewater in the fertilizer industry.		7
b. Explain the different types of industrial wastewater and their sources.		7
7.a Explain the Waste Water Treatment Solutions in Pulp and Paper Industry		7
b. Explain the various techniques used for waste minimization.		7
8.a. Describe Sequencing Batch Reactors in Waste Water Treatment.		7
b. Describe the chemical oxidation in Waste Water Treatment.		7

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