

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - V EXAMINATION - WINTER 2025

Subject Code: N115AB01

Date: 06-12-2025

Subject Name: Advanced Industrial Waste Treatment Technology

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

	Marks
Q.1 (a) Define wastewater characterization. What are the main sources of industrial pollution?	03
(b) Discuss the role of industries in India's economic development and their impact on environmental quality.	04
(c) Describe the characterization of industrial wastewater with reference to biological parameters.	07
Q.2 (a) Define chemical coagulation.	03
(b) Which are the different types of industrial wastewater?	04
(c) Write about the toxicity of industrial effluents and its implications on human health and environment.	07
OR	
(c) Explain the role of Unit Operations and Unit Processes in Industrial Wastewater Treatment.	07
Q.3 (a) What is meant by flocculation? How is it related to coagulation?	03
(b) Describe how pH influences coagulation efficiency.	04
(c) Describe the process of neutralization and its importance in treating acidic and alkaline industrial effluents.	07
OR	
(a) Write the process of chemical oxidation in wastewater treatment.	03
(b) What type of sludge is generated in chemical precipitation?	04
(c) Explain chemical oxidation in industrial wastewater treatment.	07
Q.4 (a) What is meant by a Common Effluent Treatment Plant (CETP)?	03
(b) What is the difference between ETP and CETP?	04
(c) Write short on: Industrial reuse of wastewater and its benefits.	07

OR

- (a) Which is the advantage of joint treatment of industrial wastewater? 03
 - (b) Describe the important quality parameters for wastewater reuse. 04
 - (c) Which are the different methods of disposal of industrial wastewater? 07
- Q.5**
- (a) Write the name of methods of source reduction in textile industry. 03
 - (b) Which are the characteristics of textile wastewater. 04
 - (c) Explain the environmental impacts of wastewater from pulp & paper, sugar, and distilleries 07

OR

- (a) Which are the common pollutants found in pharmaceutical effluent? 03
- (b) What are the necessities and importance of industrial waste water reuse? 04
- (c) Explain sources, characteristics, and treatment of refinery wastewater. 07
