

Enrollment No./Seat No.:

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

Subject Code: 115AB01

Date: 03-06-2025

Subject Name: Advanced Industrial Waste Treatment Technology

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

	Marks
Q.1 (a) Describe in brief how does the Industrial Activity affect the Environment on general.	03
(b) Differentiate between sources and types of industrial waste water with examples.	04
(c) Enlist the physical characteristics of wastewater and explain each in detail	07
Q.2 (a) Discuss the effects of toxicity of Industrial Effluents	03
(b) How does chemical precipitation improve the plant performance	04
(c) Explain Chemical Oxidation in detail. Explain the process and its advantages in detail	07
OR	
(c) Explain the Role of unit processes in waste water treatment in detail	07
Q.3 (a) Enlist the quality requirements of reused water	03
(b) What is a Zero Liquid Discharge System and explain its necessity	04
(c) Explain Common Effluent Treatment Plant with a detailed schematic diagram of the same.	07
OR	
(a) Differentiate between domestic wastewater and industrial wastewater	03
(b) Discuss the methodologies for disposal of Industrial wastewater in brief	04
(c) Explain Zero Effluent System , its construction and working with a neat diagram.	07
Q.4 (a) Enlist major sources of waste generation in electroplating industry and explain briefly	03
(b) Discuss sewage disposal methods on land and water	04
(c) Explain source of sugar industry waste and the recommended process for their treatment with suitable schematic diagram.	07
OR	
(a) Explain the chemical characteristics of wastewater	03
(b) Enlist sources of waste generation in petroleum industries and discuss them briefly	04
(c) Explain source of pharmaceuticals waste and the recommended process for their treatment with suitable schematic diagram.	07

- Q.5** (a) Give difference between Individual and Common Effluent treatment Plants **03**
- (b) State the adverse effects of disposal of wastewater on land without any treatment. **04**
- (c) Explain source of paper and pulp industry waste and the recommended process for their treatment with suitable schematic diagram. **07**

OR

- (a) Discuss the source reduction options for industrial wastewater **03**
- (b) Draw a categorization of the stepwise treatment methodologies used for industrial or domestic wastewater treatment **04**
- (c) Explain source of thermal power plants waste and the recommended process for their treatment with suitable schematic diagram. **07**
