

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV EXAMINATION – WINTER 2025

Subject Code:3140509

Date:13-11-2025

Subject Name:Pollution control & safety Management

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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Enlist sources of water pollutant with classification.	03
	(b) Explain environmental audit.	04
	(c) Discuss nitrogen cycle in nature with neat diagram and give its effect on environment.	07
Q.2	(a) Explain in brief detonation and deflagration.	03
	(b) Discuss effects of pollution on environment.	04
	(c) Explain Hydrological cycles and Nutrients cycles.	07
OR		
	(c) Explain causes and sources of environmental pollution.	07
Q.3	(a) Differentiate the term BOD and COD with its significance.	03
	(b) Describe behavior and fate of air pollutants.	04
	(c) Explain with neat sketch the design steps of Gravity Settling chambers.	07
OR		
Q.3	(a) Explain various concentration scales for gaseous pollutants.	03
	(b) Describe DOW index with its importance in chemical industry.	04
	(c) Explain the importance of Pollution Control & Safety management in Chemical Industries.	07
Q.4	(a) Briefly explain the ingredients of successful safety program.	03
	(b) Explain working principle and industrial applications of Rupture disc.	04
	(c) Enlist the techniques used for hazard identification. Explain HAZOP method in detail.	07
OR		
Q.4	(a) Explain UVCE.	03
	(b) State and explain the factors to be considered while doing Environment impact assessment (EIA).	04
	(c) Discuss the methods to recover and recycle solid waste like paper, glass and metals.	07
Q.5	(a) Define fault Tree and Event tree analysis.	03
	(b) Describe the principals of green chemistry.	04
	(c) Discus different types of Safety Permit. Discus its content and validity.	07

OR

- Q.5** (a) Briefly explain the various Cleaner production practices adopted by chemical industries. **03**
- (b) Enlist various health provisions mentioned in factories act, 1948. **04**
- (c) Explain six step methodology of CP. **07**
