

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 4 – EXAMINATION – SUMMER 2026

Subject Code: 3140509

Date: 19/05/2026

Subject Name: Pollution Control & Safety Management

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.**

- Q.1**
- (a)** Define: environment. What are the main categories of environment? **03**
 - (b)** What is pollutants? Give classification of Pollutants. **04**
 - (c)** Enlist the Sources of environmental pollution in chemical industries. What are the major impacts of chemical industries on the environment? **07**

- Q.2**
- (a)** What is photochemical smog? What are its effects? **03**
 - (b)** Illustrate wet precipitation for removal of air pollutants. **04**
 - (c)** Enlist the equipment used for control of particulate air pollutant in industry. Explain construction and working of Electrostatic Precipitators (EPS). **07**

OR

- Q.2**
- (c)** Illustrate Cyclone separator for control of air pollutant in industry. **07**
- Q.3**
- (a)** Explain process used for removal of suspended solids from waste water. **03**
 - (b)** Define: Water Pollution. Describe sources of water pollution. **04**
 - (c)** Write a short note on *Indian Standards for Drinking Water*. **07**

OR

- Q.3**
- (a)** Give classification of solid waste. **03**
 - (b)** Write short note on Incineration. **04**
 - (c)** Explain pretreatment, primary and secondary treatment processes for Industrial waste water. **07**

- Q.4**
- (a)** What is MSDS? Explain its sections. **03**
 - (b)** What is DOW index? Explain its general outline. **04**
 - (c)** What are the objectives of HAZOP studies? Explain its guide word with meaning. **07**

OR

- Q.4**
- (a)** What are the objectives of Safety Audit? **03**
 - (b)** Explain the importance of safety practices in industries. **04**
 - (c)** List the various safety devices used in industries. Explain construction and working of pressure relief valve with neat sketch. **07**

- Q.5**
- (a)** Give the objectives and benefits of Environment Impact Assessment (EIA). **03**

(b) List the health provision as per Industries Factory Act. **04**

(c) Write a short note: Cleaner Production practices and methodology. **07**

OR

Q.5 **(a)** What is energy audit? Write its objectives. **03**

(b) List the safety provision as per Industries Factory Act. **04**

(c) What are the principles of Green Chemistry? Explain Atom Economy. **07**
