

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV EXAMINATION – SUMMER 2025

Subject Code:3140509

Date:08-05-2025

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) | Differentiate the term COD and BOD with its significance.                                     | <b>03</b> |
| (b) | Explain water quality standard as per WHO.  | <b>04</b> |
| (c) | What do you understand by Fixation of Nitrogen? Describe with neat diagram of Nitrogen cycle. | <b>07</b> |

- Q.2**
- |     |   |           |
|-----|---|-----------|
| (a) | Classification and properties of air pollutants                               | <b>03</b> |
| (b) | Explain basic concept of safety audit.  | <b>04</b> |
| (c) | Discuss about solid waste method like Sanitary land filling and Incineration. | <b>07</b> |

**OR**

- |     |  |           |
|-----|--|-----------|
| (c) | Explain various cleaner production practices adopted by Chemical Industries. | <b>07</b> |
|-----|--|-----------|

- Q.3**
- |     |   |           |
|-----|---|-----------|
| (a) | Write public health aspects due to solid waste.                 | <b>03</b> |
| (b) | Explain detonation and deflagration.                            | <b>04</b> |
| (c) | Describe primary, secondary and tertiary wastewater treatments. | <b>07</b> |

**OR**

- Q.3**
- |     |  |           |
|-----|--|-----------|
| (a) | Explain hydrological cycle with neat diagram.                          | <b>03</b> |
| (b) | Describe impact of man on environment.                                 | <b>04</b> |
| (c) | Discuss about the fire extinguishing agents used in fire extinguisher. | <b>07</b> |

- Q.4**
- |     |  |           |
|-----|--|-----------|
| (a) | Sources and classification of water pollutants.                              | <b>03</b> |
| (b) | Differentiate UVCE and BLEVE.  | <b>04</b> |
| (c) | Explain with neat diagram of Gravity settling chamber and Cyclone separator. | <b>07</b> |

**OR**

- Q.4**
- |     |   |           |
|-----|---|-----------|
| (a) | What is principles of Green chemistry?  | <b>03</b> |
| (b) | Explain concept of energy audit and environment audit.                              | <b>04</b> |
| (c) | Explain importance of pollution control and safety management in chemical industry. | <b>07</b> |

- Q.5**
- |     |  |           |
|-----|--|-----------|
| (a) | Write effects of pollution in environment.   | <b>03</b> |
| (b) | What is DOW index? Give its importance in chemical industries.                       | <b>04</b> |
| (c) | Enlist the technique used for hazard identification. Explain HAZOP method in detail. | <b>07</b> |

**OR**

- Q.5**
- |     |   |           |
|-----|---|-----------|
| (a) | What is air pollution meteorology?                        | <b>03</b> |
| (b) | Explain any two pressure relief devices with neat sketch. | <b>04</b> |
| (c) | Describe standards and legislation of EIA and EIS.        | <b>07</b> |

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