

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2022****Subject Code:3140509****Date:23-06-2022****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.

**MARKS**

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|------------|---|-----------|
| <b>Q.1</b> | (a) What are the source of solid waste? Write its classification.   | <b>03</b> |
|            | (b) Write a short note on effect of pollution on environment.   | <b>04</b> |
|            | (c) Explain the types of environmental pollution through chemical industry.                                     | <b>07</b> |
| <b>Q.2</b> | (a) How is sanitary landfill operation designed for solid waste?  | <b>03</b> |
|            | (b) Discuss the classification and properties of air pollution.   | <b>04</b> |
|            | (c) What are the sources and causes of environment pollution?   | <b>07</b> |
|            | <b>OR</b>   |           |
|            | (c) Explain Hydrological cycles and Nutrients cycles.   | <b>07</b> |
| <b>Q.3</b> | (a) Define various concentration scales for gaseous pollutants.   | <b>03</b> |
|            | (b) Explain behavior and fate of air pollutants   | <b>04</b> |
|            | (c) Discuss the methods to recover and recycle solid waste like paper, glass and metals.                        | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.3</b> | (a) Explain the sources and classification of water pollutants.   | <b>03</b> |
|            | (b) Write a note on physico-chemical characterization of waste water.   | <b>04</b> |
|            | (c) Explain pretreatment, primary and secondary waste water treatment processes.                                | <b>07</b> |
| <b>Q.4</b> | (a) What is detonation and deflagration?  | <b>03</b> |
|            | (b) Write a note on Dow Index.  | <b>04</b> |
|            | (c) Discuss the source correction methods with examples to prevent air pollution.                               | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.4</b> | (a) Define fault Tree and Event tree analysis.  | <b>03</b> |
|            | (b) Write a short notes on HAZOP.   | <b>04</b> |
|            | (c) With neat sketch explain electro static precipitators. Also discuss the advantages.                         | <b>07</b> |
| <b>Q.5</b> | (a) Explain UVCE.   | <b>03</b> |
|            | (b) What are Barriers and Drivers in cleaner production?  | <b>04</b> |
|            | (c) State the various types of wet scrubber for particulate removal. Discuss any one in brief with neat sketch. | <b>07</b> |
|            | <b>OR</b>   |           |
| <b>Q.5</b> | (a) Explain BLEVE.  | <b>03</b> |
|            | (b) Explain the principles of green chemistry.  | <b>04</b> |
|            | (c) What is hazard? Write a note on Hazard identification checklist procedure.                                  | <b>07</b> |

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