

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018****Subject Code:2160504****Date:27/11/2018****Subject Name:Pollution Control, Safety & Health 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.

| | | MARKS |
|------------|---|-----------|
| Q.1 | (a) Describe the Environment and ecosystem with example. | 03 |
| | (b) Discuss Hydrological cycle in detail. | 04 |
| | (c) Write short note on 'Environmental Audit'. | 07 |
| Q.2 | (a) Explain primary treatment for waste water in brief. | 03 |
| | (b) Write a brief note on wages and payment Acts. | 04 |
| | (c) State the types of air pollutants. Briefly explain the important methods used for controlling air pollution caused by industries. | 07 |
| | OR | |
| | (c) Write in brief about the environmental impact of Hydro – electric energy. | 07 |
| Q.3 | (a) Give classification of Solid waste materials. | 03 |
| | (b) What is Environmental Impact Statement (EIS)? | 04 |
| | (c) Discuss 'Landfill method' for hazardous solid waste disposal. | 07 |
| | OR | |
| Q.3 | (a) Write names of various renewable energy resources. | 03 |
| | (b) Discuss features of good housekeeping. | 04 |
| | (c) Explain in brief about Fault tree and Event tree analysis for risk assessment. | 07 |
| Q.4 | (a) State various types of explosions. | 03 |
| | (b) Explain rupture disk and interlock in brief. | 04 |
| | (c) Discuss hazard and operability (HAZOP) studies used to identify hazards in chemical industries. | 07 |
| | OR | |
| Q.4 | (a) Why energy audit is required in industry? | 03 |
| | (b) Explain briefly about on-site emergency control and off-site disaster management. | 04 |
| | (c) State different types of pressure relief devices. With neat sketches, explain any two of them in detail. | 07 |
| Q.5 | (a) Explain fire triangle in detail. | 03 |
| | (b) Define the following: i) Flash point ii) BLEVE iii) Upper Flammability limit iv) Hazard | 04 |
| | (c) Briefly describe the steps for safety audit. | 07 |
| | OR | |
| Q.5 | (a) Which are the basic ingredients of successful safety program? | 03 |
| | (b) Brief about Mathematical Models for prediction of dispersion patterns for toxic/flammable materials released into atmosphere. | 04 |
| | (c) Write a short note on various chemical hazard symbols. | 07 |
