

Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2020**Subject Code:3140509****Date:09/02/2021****Subject Name:Pollution control & safety Management****Time:02:30 PM TO 04:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Define the following terms in the context of Safe Industrial Practices: (1) Accident (2) Likelihood (3) Scenario	03
	(b) Discuss the role of government and voluntary organizations in controlling pollution to protect the environment.	04
	(c) Explain the importance of Pollution Control & Safety management in Chemical Industries.	07
Q.2	(a) Briefly explain Detonation and Deflagration.	03
	(b) Write difference between MF, UF, NF and RO membrane used for waste water treatment.	04
	(c) Explain with neat sketch the design steps of Gravity Settling chambers	07
Q.3	(a) Briefly explain the ingredients of successful safety program.	03
	(b) State and discuss briefly about the welfare provisions in factories act,	04
	(c) Stating the various classes of fire with examples, discuss about the fire extinguishing agents used in fire extinguisher.	07
Q.4	(a) Define the term: (1) PM _{2.5} (2)Aeration (3) MLVSS	03
	(b) What is DOW Index? Give its importance in chemical industries.	04
	(c) What is Risk assessment? Explain the Fault tree analysis technique in detail, with meanings of different symbols used in it.	07
Q.5	(a) Explain fire triangle in detail.	03
	(b) What is Energy audit? Why it is important?	04
	(c) Enlist the techniques used for hazard identification. Explain HAZOP method in detail.	07
Q.6	(a) Differentiate the term BOD and COD with its significance.	03
	(b) Discuss 'Landfill method' for hazardous solid waste disposal	04
	(c) State the various pressure relief devices. Explain any two with neat sketch.	07
Q.7	(a) Briefly explain the various Cleaner production practices adopted by chemical industries.	03
	(b) What is the aim of payment and wages act? Explain how it safeguards the interest of the workers.	04
	(c) Write a short note on 'industrial electricity act and rules'.	07

- Q.8** (a) What are the various types of solid wastes? Explain the various methods of solid waste collection. **03**
- (b) State and explain the factors to be considered while doing Environment impact assessment (EIA). **04**
- (c) Explain Cleaner production (CP) Vs End of pipe approach in Chemical industry. **07**

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