

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech Mid Semester Exam

Semester:6
Subject Code: (203142357)
Subject Name: (Chemical Process Safety)

Date: (02/02/2024)
Time: (1hr: 30min)
Total Marks: 40

Sr. No.		Marks
Q.1	(A) Answer the following in one line:	05
i.	What is a thermal runaway reaction?	
ii.	Do high volatile compounds pose any hazard and why?	
iii.	What do you understand by nitrogen asphyxiation?	
iv.	What is inherent safety?	
v.	What was the product produced in Bhopal's UCIL plant?	
	(B) Fill in the blanks	05
i.	If a substance has _____ TLV value means it is highly toxic.	
ii.	TLV of MIC is _____ ppm.	
iii.	Colour coding of pipelines in industries is an example of _____ principle of inherent safety.	
iv.	Foam is used as fire extinguisher for _____ class of fires.	
v.	_____ is also known as onion diagram.	
Q.2	Attempt any four:	12
	(1) Enlist major hazards present in chemical industries.	
	(2) Compare the active, passive and procedural approaches of chemical process safety management with suitable examples of each.	
	(3) Write a brief note on PPEs used in process industries.	
	(4) Highlight the major problems and safety flaws that resulted in Bhopal gas disaster?	
	(5) Demonstrate the importance of training and education in process safety management?	
Q.3	Attempt any two questions:	08
	(1) Discuss LOPA and its applications using a neat diagram.	
	(2) Using a neat sketch, discuss the various safety provisions provided to prevent MIC leakages in Bhopal's UCIL plant.	
	(3) Explain the intensification and substitution principles of inherent safety using suitable industrial examples.	
Q.4	(A) Discuss various types of fire safety equipment employed in industries.	05
	(B) Apply the concept of LOPA to analyze the safety systems associated with Bhopal gas disaster using a neat diagram.	05
	OR	
	(B) Discuss any 3 sections of MSDS.	05