

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER –IV• EXAMINATION – SUMMER - 2017

Subject Code: 3340505**Date: 05-05-2017****Subject Name: Safety & Hazard Management in Chemical Industry****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. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** Answer any seven out of ten. **14**
1. Define: Safety and Hazard.
 2. Define: color code.
 3. Differentiate: Fire and Explosion.
 4. Write full name of OHSAS and ISO.
 5. Write full name of HAZAN & HAZOP.
 6. Define: Accident and Risk.
 7. List various hazards.
 8. List hazardous chemicals.
 9. List various methods for Risk Assessment.
 10. Define fire extinguisher.
- Q.2** (a) Justify the sentence “Shoes First, Step Next”. **03**
OR
(a) Justify the sentence: “Safety is a thing to remember, from January to December”. **03**
(b) Explain OHSAS -18001 **03**
OR
(b) Explain in brief : Indian Standards for safety & health **03**
(c) Explain classification of chemical hazards and control methods used for them. **04**
OR
(c) Explain Radiation hazards. **04**
(d) Discuss: Chemicals as a cause of occupational diseases and poisoning **04**
OR
(d) Explain preventive measures of diseases due to chemical effect. **04**
- Q.3** (a) Explain about Ventilation and Lighting as engineering control methods for hazard reduction. **03**
OR
(a) Write hazardous characteristics of caustic soda. **03**
(b) Explain: ETA giving an example. **03**
OR
(b) Explain: FTA giving an example. **03**
(c) Explain in detail various classes of Fire. **04**
OR
(c) Define fire hazard. List the causes of Fire hazards **04**

	(d)	Explain construction and working of DCP fire extinguisher.	04
		OR	
	(d)	Explain construction and working of CO ₂ fire extinguisher.	04
Q.4	(a)	Write hazardous properties of Ammonia	03
		OR	
	(a)	Write hazardous properties of Sulfuric acid.	03
	(b)	Write the scope, requirements and methodology of HAZOP.	04
		OR	
	(b)	Explain in detail: HAZAN	04
	(c)	Explain fire triangle. Draw a suitability chart for fire classes and fire extinguishers.	07
Q.5	(a)	Explain: Transportation of hazardous chemicals.	04
	(b)	Define: PPE. Classify PPE with examples.	04
	(c)	Explain: Color codes for gas cylinders.	03
	(d)	Write the importance of Industrial safety.	03
