

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2131304****Date: 05/06/2017****Subject Name: Chemical Engg Processes****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.

		MARKS
Q.1	Short Questions (One mark each)	14
	1 What are the raw materials for Nitric Acid manufacturing?	
	2 The intermediate formed during Urea production is known as _____	
	3 What is meant by hydrogenation in oil and fat industry?	
	4 What do you mean by the term "Purging"?	
	5 Complete the sentence: The suitable material for storing Nitric Acid would be. . .	
	6 What is MSDS?	
	7 Define Flash Point	
	8 Enlist the steps necessary to manage waste.	
	9 The chemical formula for acetic acid is _____	
	10 Draw a neat sketch of Batch distillation column	
	11 Why copper lining is done in the reactor used for methanol production?	
	12 State the reactor details for pyrolysis furnace used for Vinyl chloride monomer.	
	13 Give chemical reaction of Hydrogen Cyanide production	
	14 State the raw materials for Cellulose acetate	
Q.2	(a) Write down the reactions involved in production of Vinyl chloride	03
	(b) Discuss in brief how unit operations are different from unit processes	04
	(c) Explain, using a process flow diagram, Ethanol production from ethylene	07
	OR	
	(c) Discuss the sources of pollution and health & safety aspects of Nitric acid	07
Q.3	(a) Write down the reactions involved in monochloroacetic acid production	03
	(b) Why an environmental engineer needs to learn the subject Chemical Engineering Processes?	04
	(c) Explain process modification of Urea manufacturing	07
	OR	
Q.3	(a) Discuss the sources of pollution in phenol production	03
	(b) What is Biuret? How to prevent its formation?	04
	(c) Explain in detail hydrogenation of cotton seed oil	07
Q.4	(a) Enlist the uses of Phenol	03
	(b) State advantage of producing granular urea. How granular urea can be produced?	04
	(c) With reference to hydrogenation of cotton seed oil discuss major engineering problems involved.	07
	OR	
Q.4	(a) Discuss the health and safety aspects involved with Vinyl chloride manufacturing	03
	(b) State the uses of Nitric Acid	04
	(c) Discuss furfural production in detail	07
Q.5	(a) Give schematic representation of various reactors used in chemical process industries	03
	(b) Enlist the manufacturing methods for acetic acid	04
	(c) Draw a neat process flow diagram of Furfural production	07

OR

- Q.5** (a) Give schematic representation of the following: Centrifugal pump, reciprocating pump, jet ejector **03**
- (b) Name the sections of MSDS **04**
- (c) Draw only a neat process flow diagram of Cellulose Acetate manufacturing **07**
