

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2131304****Date: 11/06/2019****Subject Name: Chemical Engg Processes****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) Why an environmental engineer needs to teach the subject Chemical Engineering Processes?	<b>03</b>
	(b) What is Material Safety & Data Sheet? Name the sections of MSDS.	<b>04</b>
	(c) With the help of a flow sheet, explain the manufacturing process of Urea.	<b>07</b>
<b>Q.2</b>	(a) Discuss the health and safety aspects involved with Acetic Acid manufacturing.	<b>03</b>
	(b) Write down Properties, uses and Chemical Equation for manufacturing process of the Nitric Acid.	<b>04</b>
	(c) Discuss about following Unit operation: (i) Distillation (ii) Extraction (iii) Heat Exchanger	<b>07</b>
	<b>OR</b>	
	(c) Discuss about following Unit Processes: (i) Hydrogenation (ii) Halogenation (iii) Oxidation	<b>07</b>
<b>Q.3</b>	(a) Discuss the health and safety aspects involved with Ethylene Chloro-Hydrin manufacturing.	<b>03</b>
	(b) Write down Properties, uses and Chemical Equation for manufacturing process of the Aniline.	<b>04</b>
	(c) With the help of a flow sheet, explain the manufacturing process of Ethanol by sulphonation.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Discuss the health and safety aspects involved with Hydrogen Cyanide manufacturing.	<b>03</b>
	(b) Write down Properties, uses and Chemical Equation for manufacturing process of the Acetic Acid.	<b>04</b>
	(c) With the help of a flow sheet, explain the manufacturing process of Cellulose Acetate.	<b>07</b>
<b>Q.4</b>	(a) Explain the sources of pollution related to the manufacturing process of Acetic Acid.	<b>03</b>
	(b) Write down Properties, uses and Chemical Equation for manufacturing process of the Hydrogen Cyanide.	<b>04</b>
	(c) With the help of a flow sheet, explain the manufacturing process of Vinyl Chloride.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Discuss the health and safety aspects involved with Mono-Chloro-Acetic Acid manufacturing.	<b>03</b>
	(b) Write down Properties, uses and Chemical Equation for manufacturing process of the Phenol.	<b>04</b>
	(c) With the help of a flow sheet, explain the manufacturing process of Ethanol by Hydrolysis.	<b>07</b>

- Q.5 (a)** Explain the sources of pollution related to the manufacturing process of Nitric Acid. **03**
- (b)** Explain the process of Hydrogenation of Cotton seed oil. **04**
- (c)** With the help of a flow sheet, explain the manufacturing process of Ethylene Chloro-Hydrin. **07**

**OR**

- Q.5 (a)** Discuss the health and safety aspects involved with Methanol manufacturing. **03**
- (b)** Discuss the health and safety aspects involved with Ethyl Acetate manufacturing. **04**
- (c)** With the help of a flow sheet, explain the manufacturing process of Vinyl Acetate. **07**

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