

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2143607****Date: 30/05/2017****Subject Name: Unit Processes in Organic Synthesis****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
<b>Q.1</b>	<b>Short Questions</b>	<b>14</b>
	1 Give the structure of cellosolve.	
	2 Define the term: esterification	
	3 Name any two nitrating agents.	
	4 Define the term: Ammonolysis	
	5 Give full form of DVS.	
	6 Define the term: functionality	
	7 Name any two halogenating agents.	
	8 Define the term: Unit operation	
	9 What is absolute alcohol?	
	10 Define the term: Saponification	
	11 Give the reaction of acid catalysed hydrolysis of ethyl acetate.	
	12 Name two catalysts used in amination reaction.	
	13 Define the term: hydrolysis.	
	14 Name any two agents sulfonating agents.	
<b>Q.2</b>	(a) Write a short note on alkali hydrolysis.	<b>03</b>
	(b) Explain in detail utility of various agents used in aromatic chlorination.	<b>04</b>
	(c) Explain in detail various methods of esterification.	<b>07</b>
	<b>OR</b>	
	(c) Describe manufacture of ethyl acetate by batch process with flow sheet diagram.	<b>07</b>
<b>Q.3</b>	(a) Discuss mechanism of aromatic nitration.	<b>03</b>
	(b) Explain chemistry of polymerization reactions.	<b>04</b>
	(c) Describe manufacture of Aniline by Ammonolysis of Chloro benzene using flow sheet diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Write a short note on Epoxy Resins.	<b>03</b>
	(b) Define Nitric ratio and D.V.S with example.	<b>04</b>
	(c) Enlist various polymerization techniques. Discuss in brief Suspension polymerization process including its advantages and disadvantages.	<b>07</b>
<b>Q.4</b>	(a) Give an account of various oxidizing agents.	<b>03</b>
	(b) Explain difference between batch nitration and continuous nitration.	<b>04</b>
	(c) Discuss Technical Hydrogenation process in detail.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Write a short note on alkylating agents.	<b>03</b>
	(b) Give a brief account of nitration of paraffinic hydrocarbon.	<b>04</b>
	(c) Define oligomer, monomer and degree of polymerization. Explain classification of polymers.	<b>07</b>

- Q.5** (a) Give manufacturing of any compound using oxidation. **03**  
(b) Enlist different methods of reduction. **04**  
(c) Discuss in detail Hydrogenolysis reactions with examples. **07**
- OR**
- Q.5** (a) Give manufacture of cellosolve. **03**  
(b) Explain unit process for Halogenation with suitable example and process parameters. **04**  
(c) Discuss Bechamp reduction using suitable examples. **07**

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