

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV(New) EXAMINATION – SUMMER 2016

Subject Code:2143607**Date:26/05/2016****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
Q.1	Short Questions	14
	1 Name any two methods of polymerization.	
	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:Oligomer	
	7 Name any two sulfating agents.	
	8 Give the structure of cellosolve.	
	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 chlorinating agents.	
Q.2	(a) Write a short note on alkali hydrolysis.	03
	(b) Explain chemistry of polymerization reactions.	04
	(c) Explain in detail 'Ease of Esterification' <i>and</i> 'Transesterification'.	07
	OR	
	(c) Discuss Bechamp reduction using suitable examples.	07
Q.3	(a) Discuss the formation of Nitryl ions in nitration process using mixed acids.	03
	(b) Define Nitric ratio and D.V.S with example.	04
	(c) Describe manufacture of Aniline by Ammonolysis of Chloro benzene using flow sheet diagram.	07
	OR	
Q.3	(a) Write a short note on Vapor phase oxidation.	03
	(b) Enlist various agents used in aromatic chlorination.	04
	(c) Discuss Suspension polymerization process in detail.	07
Q.4	(a) Give an account of various oxidizing agents.	03
	(b) Explain unit process for Halogenation with suitable example and process parameters.	04
	(c) Differentiate between unit process and unit operation. Give an account of oxy-	07

nitration of benzene.

OR

- Q.4** (a) Write a short note on alkylating agents. **03**
(b) Give a brief account of nitration of paraffinic hydrocarbon. **04**
(c) Enlist various polymerization techniques. Discuss Emulsion polymerization process with its advantages and disadvantages. **07**

- Q.5** (a) Explain mechanism of alkylation process. **03**
(b) Write a short note on sulfonation and sulfation with suitable examples. **04**
(c) Discuss in detail Hydrogenolysis reactions with examples. **07**

OR

- Q.5** (a) Give manufacture of any one : Hexyl resorcinaol or Anisole **03**
(b) Discuss Technical Hydrogenation process in detail. **04**
(c) Using a neat flow sheet diagram describe manufacture of ethyl acetate by batch process. **07**
