

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2018****Subject Code:2143607****Date:22/11/2018****Subject Name:Unit Processes in Organic Synthesis****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.

		MARKS
Q.1	(a) Explain nitration reaction with suitable example.	03
	(b) Differentiate between sulfonation and sulfation processes.	04
	(c) Explain synthesis of nitrobenzene.	07
Q.2	(a) Explain oxidation reaction with example.	03
	(b) What is sulfonation reaction? Write down two sulfonating agents.	04
	(c) Describe manufacture of ethyl acetate	07
	OR	
	(c) Explain in detail various methods of esterification	07
Q.3	(a) Explain chlorination with suitable example.	03
	(b) Define following terms: 1. Unit Operation 2. Unit Process 3. Functionality 4. Absolute alcohol	04
	(c) What are different industrial alcohols? Explain synthesis of any one alcohol in detail.	07
	OR	
Q.3	(a) What do you mean by Van't Hoff factor? Explain with example.	03
	(b) Write a note on halogenation process.	04
	(c) Explain various polymerization techniques.	07
Q.4	(a) Explain oxidation reaction with example.	03
	(b) Explain the different methods of reduction.	04
	(c) Explain Hydrogenation process with suitable example.	07
	OR	
Q.4	(a) Explain hydrolysis process in detail.	03
	(b) Discuss in detail trans-esterification process.	04
	(c) Explain the synthesis of aniline by ammonolysis.	07
Q.5	(a) Explain the various types of alkylation.	03
	(b) Explain Friedel Craft Alkylation and Acylation.	04
	(c) Elaborate the chemistry of aldehyde and ketone with suitable examples	07
	OR	
Q.5	(a) Write a note on alkylating agents.	03
	(b) Explain the synthesis of acetic acid.	04
	(c) Elaborate hydrogenolysis reactions with examples.	07
