

P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination

November 2022

SECH2030 Unit Process in Organic Synthesis

03.12.2022, Saturday

Time: 10:00 a.m. To 12:30 p.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]	CO	BTL
(i)	What is Amination?	[01]	1	1
(ii)	Explain Batch and Continuous Process	[01]	1	1
(iii)	Explain Nitration	[01]	1	1
(iv)	Draw the diagram of biazs nitrator	[01]	2	1
(v)	Write amination reaction.	[01]	4	1
(vi)	Write bechamp reduction reaction?	[01]	3	1
(vii)	What is Unit Process?	[01]	4	1
Q - 2 (a)	Explain Unit Process example each. Also explain difference between them.	[05]	4	2
Q - 2 (b)	Explain batch nitration in detail.	[05]	4	2

OR

Q - 2 (a)	Explain Hydrogenation with its scope in detail.	[05]	4	2
Q - 2 (b)	Explain different nitrating agents in detail.	[05]	2	2
Q - 3 (a)	Explain Schimid nitrator in detail with diagram.	[05]	2	2
Q - 3 (b)	Explain the synthesis of mono-nitro toluene.	[05]	3	2

OR

Q - 3 (a)	Explain about batch and continuous process.	[05]	3	2
Q - 3 (b)	Explain various methods of reductions.	[05]	3	2
Q - 4	Attempt anyone.	[05]		
(i)	Explain different types of oxidative reactions.		1	2
(ii)	Explain different Properties of hydrogen.		1	2

SECTION - II

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]		
(i)	Give definition of Ester.		1	1
(ii)	Explain the definition of Polymer.		1	1
(iii)	Write any two oxidative reaction		2	1
(iv)	Write any two Amination reactions.		2	2
(v)	Mention the name of halogen compound with significance.		2	2
(vi)	What do you mean by sulfonation reaction?		2	1
(vii)	Explain Hydrolysis process.		2	1
Q - 2 (a)	Explain manufacturing of Acetic acid from ethanol	[05]	3	4
Q - 2 (b)	Explain in detail about oxidation of Toluene.	[05]	3	2

OR

- Q - 2 (a) Explain different types of equipment used in industrial halogenation reaction or manufacturing process. [05] 2 4
- Q - 2 (b) Explain Sulfonation and sulfation. [05] 4 1
- Q - 3 (a) Give the definition of halogenation and the scope of halogenation reaction. [05] 2 1
- Q - 3 (b) Explain classification of polymerization reaction in detail. [05] 1 2

OR

- Q - 3 (a) Explain sulfonation of lauryl alcohol. [05] 3 1
- Q - 3 (b) Explain types of polymer in detail. [05] 1 2
- Q - 4 Attempt any one/two. [05]
- (i) Explain catalyst used in ammonolysis 3 1
- (ii) Explain Ester and Esterification in detail. 1 2

CO : Course Outcome Number

BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create