

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III (New) EXAMINATION – WINTER 2019

Subject Code: 2133605

Date: 30/11/2019

Subject Name: Organic Chemistry for Technologists

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) Write a short note on Inductive effect with example.	03
	(b) What is essential difference between a free radical reaction and an ionic reaction?	04
	(c) Explain SN^1 & SN^2 reaction with mechanism.	07
Q.2	(a) Write a note on Kolbe reaction.	03
	(b) Explain Saytzeff rule with example.	04
	(c) Explain mechanism of diazotization reaction.	07
	OR	
	(c) Explain Friedel Crafts Alkylation & Acylation with mechanism.	07
Q.3	(a) Write a note on Chloramine T.	03
	(b) How does aniline react with;	04
	1. Aldehyde	
	2. Bromine	
	3. Chloroform and alc. KOH	
	4. $NaNO_2$ at 0 to $5^\circ C$	
	(c) Explain Mannich reaction with mechanism.	07
	OR	
Q.3	(a) Give use & synthesis of DDT.	03
	(b) Draw structure corresponding to the following IUPAC names:	04
	i. 4-Hexen-3-one	
	ii. 2-Butenal	
	iii. 2-Methyl-4-oxobutanoic acid	
	iv. Ethyl propanoate	
	(c) Explain Curtius reaction with its mechanism.	07
Q.4	(a) Write a short note on Diels-Alder reaction.	03
	(b) Write the IUPAC names for each of the following compounds:	04
	i. $CH_3CH_2CH(OCH_3)CH_2COCl$	
	ii. $CH_3CH_2COCH_2CH_2COOH$	
	iii. $CH_3CH=CHCH_2CHO$	
	iv. $CH_2=CH-CH_2CH=CH_2$	
	(c) How will you convert primary amide to primary amine? Give name of the reaction and explain its mechanism also.	07
	OR	
Q.4	(a) Write a short note on Birch reduction.	03
	(b) How will you convert;	04
	a. benzene \rightarrow benzyl alcohol	
	b. Aniline \rightarrow m-Nitro aniline	
	(c) Explain Aldol and Cross aldol reaction with mechanism.	07

- Q.5 (a) Explain Reformatsky reaction with mechanism. **03**
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- (b) Explain why, **04**
1. p-nitroaniline is less basic than aniline.
2. p-Toluidine is more basic than aniline.
- (c) What products are obtained by reduction of nitrobenzene under different conditions? **07**

OR

- Q.5 (a) Explain Cannizzaro reaction with mechanism. **03**
(b) Enlist Hinsberg test. **04**
(c) Explain Arndt Estert reaction with its mechanism. **07**

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