

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019

Subject Code: 2133605
Date: 07/06/2019
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 note on: Hyperconjugation.	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) What do you understand by the term principal functional group? When the following groups are present in a molecule what will be its class name: 1. -OH, -COOH, -NO ₂ 2. -NO ₂ , -NH ₂ , -CONH ₂	03
(b) Write a short note on mesomeric effect.	04
(c) Explain mechanism of diazotization reaction.	07
OR	
(c) Who were the pioneers of Alkylation & Acylation reaction? Explain its mechanism.	07
Q.3 (a) Write a note on Chloramine T.	03
(b) How does aniline react with; 1. Acetyl Chloride 2. Br ₂ 3. Chloroform and alc. KOH 4. NaNO ₂ at 0 to 5°C	04
(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: i. 4-Penten-3-one ii. 2-Butenal iii. 2-Methyl-3-oxobutanoic acid iv. 1-methoxy-1-propanol	04
(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: i. CH ₃ CH ₂ CH(OCH ₃)CH ₂ COCl ii. CH ₃ CH ₂ COCH ₂ CH ₂ COOH iii. CH ₃ CH=CHCH ₂ OH iv. CH ₂ =CH-CH ₂ CH=CH ₂	04
(c) Explain Aldol and Cross aldol reaction with mechanism.	07
OR	
Q.4 (a) Write a short note on Birch reduction.	03
(b) How will you convert;	04

a. benzene \rightarrow benzyl alcoholb. Aniline \rightarrow m-Nitro aniline

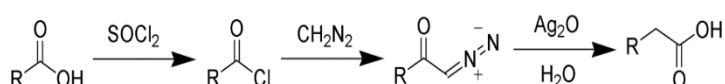
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- (c) How will you convert primary amide to primary amine? Give name of the reaction and explain its mechanism also. **07**
- Q.5** (a) Explain Cannizaro reaction with mechanism. **03**
- (b) Explain why, **04**
1. p-nitroaniline is less basic than 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 Reformatsky reaction with mechanism. **03**
- (b) How will you distinguish between aniline & N-methylaniline? **04**
- (c) Name the following reaction and Explain its mechanism **07**



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