Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) EXAMINATION – WINTER 2018

Subject Code:2143606 **Date:12/12/2018**

Subject Name:Advanced 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.**

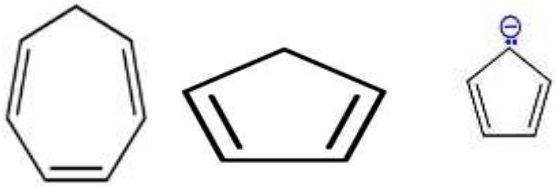
MARKS

Q.1 **(a)** Write short note on Markovnikov's Rule. **03**

(b) Write short notes on: Racemic Mixture & Meso compounds **04**

(c) Define Aromaticity. Explain Huckel rule in detail showing the behavioural approach of different Organic molecules in proving their aromatic characteristics. **07**

Q.2 **(a)** State whether the following compounds are aromatic or non-aromatic **03**



(b) Explain Claisen - Dieckmann condensation in details. **04**

(c) Explain why, **07**

1. Pyridine is more basic than pyrolle.
2. Pyridine is less basic than aliphatic amine.
3. Pyridine is more basic than aniline

OR

(c) Discuss Pinacol-Pinacolon rearrangement in detail. **07**

Q.3 **(a)** Write a note on conformational isomerism. **03**

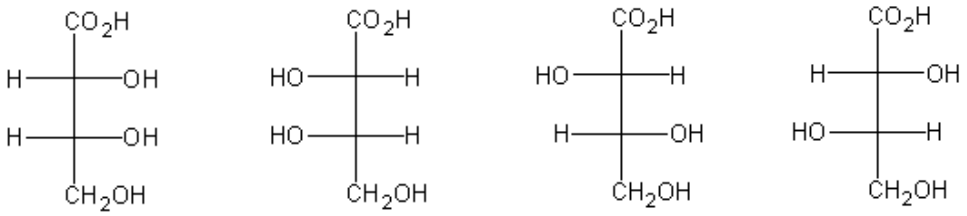
(b) Explain Hydroboration reaction with suitable examples. **04**

(c) Write detailed mechanism of SN1 & SN2 reactions with suitable examples. **07**

OR

Q.3 **(a)** Give Oxidation reaction in detail. **03**

(b) Identify enantiomeric and diasteromeric pairs from following **04**



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(c) Write detailed mechanism and applications of Knoevenagel condensation. **07**

Q.4 **(a)** Write a note on: Opposite behavior of Halogen group. **03**

(b) Write down electrophilic substitution reaction of Pyrrole. **04**

(c) Explain detailed mechanism of Clemmensen reduction. **07**

OR

Q.4	**(a)**	Show optical activity of Lactic acid.	**03**
	(b)	Explain detailed mechanism of Michael reaction.	**04**
	(c)	Write a note on aromaticity of Heterocyclic compounds. Also write Nitration, Sulphonation and Acylation reactions of Furan.	**07**
Q.5	**(a)**	Write a short notes on: Petroleum as sources of aromatic compounds	**03**
	(b)	Enlist chemical reactions of Naphthalene.	**04**
	(c)	Write detailed mechanism and applications of Leuckart reaction.	**07**

OR

Q.5	**(a)**	Explain why, Nitro (-NO_2 group) acts as ortho-para director.	**03**
	(b)	Write a note on Benzidine rearrangement.	**04**
	(c)	Write a note on NGP.	**07**

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