Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER-III • EXAMINATION - WINTER • 2014** 

Subj	ect (	Code: 130501 Date: 23-12-2	014
Subj	ect l	Name: Organic Chemistry and Unit Processes	
Time	: 02	2.30 pm - 05.00 pm Total Marks:	70
Instru	ction	ns:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a)	Answer the following questions:	07
<b>V.</b> -	(4)	(i) Which of the following is an electrophile?	•
		NH <sub>3</sub> , CH <sub>3</sub> <sup>+</sup> , CN <sup>-</sup> , H <sub>2</sub> O	
		(ii) Define Carbocation.	
		(iii) Give example of polynuclear hydrocarbon which sublimes	
		on heating.	
		(iv) Differentiate between homolysis and heterolysis.	
		(v) Write chemical reaction for inversion of cane sugar.	
		(vi) Write chemical reaction of conversion of salicylic acid into	
		aspirin.	
		(vii) Which among phenol and picric acid is more acidic and	
		why?	
	<b>(b)</b>	•	04
	(c)	Write a note on Walden inversion.	03
0.1	(-)	What do you understand by unit muscosses? Evaloin culaboration unit	07
<b>Q.2</b>	(a)		
	<b>(b)</b>	process stating its significance.	
	<b>(b)</b>		4+3
		<ul><li>(i) Give classification of carbohydrates.</li><li>(ii) Define cetane number and octane number.</li></ul>	
		OR	
	(b)		
	(0)	(i) Carry out conversion of aldohexose to ketohexose and vice-	413
		versa.	
		(ii) Write in brief about fractional distillation of petroleum.	
<b>Q.3</b>	<b>Q.3</b> (a) Explain quick vinegar process of manufacturing acetic acid. How will you carry out following conversions?		<b>07</b>
		(i) Acetic acid to acetic anhydride	
		(ii) Acetic acid to acetamide	
	<b>(b)</b>		<b>07</b>
		(i) reformatsky (ii) Perkin reaction	
		OR	
Q.3	(a)		<b>07</b>
		(i) Explain esterification reaction, giving its mechanism.	
		(ii) Differentiate between soap and detergent	0=
	<b>(b)</b>		07
		(i) Cannizzaro reaction (ii) Wolf Kischner reaction	
Q.4	(a)	Write about manufacturing of naphthalene from coal tar? 03	
<b>V.</b> 4	(a) (b)		03
	(c)		07
	(-)	Juliant distribution of a job on the outle of	~ -

structure.

Q.4	(a)	What is the basis of classification of amino acids? Give example from each class.	03
	<b>(b)</b>	What do you understand by heterocyclic compound? Give example of any 5-membered heterocyclic compound and state its properties and uses.	04
	<b>(c)</b>	Explain colour and constitution theory of dyes.	07
Q.5	(a)	Differentiate between:  (i) Enantiomers and Disteromers  (ii) Meso and racemic mixture	04
	<b>(b)</b>	Write in brief about synthetic uses of Grignard agent.	05
	(c)	Write in brief about any process of manufacturing synthetic petrol. <b>OR</b>	05
Q.5	(a)	a) Explain optical isomerism of tartaric acid.	
	<b>(b)</b>	Expalin electrophilic substitution reaction taking suitable example.	05
	<b>(c)</b>	Write about properties and uses of polythene and ethanol	04

\*\*\*\*\*