Seat No.:	Enrolment No.

Subject Code:2132604

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (New) EXAMINATION – WINTER 2015

Date:02/01/2016

_		: Advanced Engineering Chemistry to 5:00pm	Total Marks: 70
Instruction	_	10 2.00pm	Tour Marks. 70
		pt all questions.	
2.	Make	suitable assumptions wherever necessary.	
3.	Figure	s to the right indicate full marks.	
			MARKS
Q	.1	Short Questions	14
•	1	Give any one example of addition reaction	
	2	Which among the following acid is the strongest acid	1?
		HCOOH, CH ₃ COOH, CCl ₃ COOH, CH ₃ CH ₂ COOH	
	3	Give one difference between DNA and RNA	
	4	What do mean by chiral carbon?	
	5	What is pH of .01 N HCl solutions?	
	6	Give example of an azo dye.	
	7	What is meant by octane number?	
	8	Define buffer solution?	
	9	Give one difference between meso isomer and racem	ic
		mixture.	
	10	Give example of any sulphonating agent.	
	11	Name monomer of following polymers: (i) starch (i	i)
		Nylon 66	,
	12	•	
	13	Arrange following carbocation in increasing order of	of
	10	stability: methyl carbocation, benzyl carbocation	
		secondary propyl carbocation	· ,
	14	Which among the following groups are o- and p	
	14	directing: -OH, CHO, NH ₂ , -Cl, -COOH, CH ₃)-
0	• ()	-	0.2
Q		1 1	03
	(b)	Write a note on properties of polymers.	04
	(c)	Giving suitable diagram explain fractional distillation of petroleum.	of 07
		OR	
	(c)	What do you understand by polymerization reaction	n? 07
	(C)	Differentiate between addition and condensation	
		polymerization.)11
Q	.3 (a)	Explain resonance in aromatic compounds.	03
V	(b)	Explain the terms: (i) Auxochrom (ii) CHromophore	04
	(c)	What are different types of organic reactions	
	(0)	Differentiate between S_N^1 and S_N^2 reactions.	· · · · · · · · · · · · · · · · · · ·
		OR	
Q	.3 (a)	Write mechanism of aldol condensation.	03
	(b)	Give classification of dyes in brief based on structure.	04
	(c)	Give industrial manufacturing of acetic acid and state i	ts 07
		uses.	
0	4 (a)	Write chemical reaction for Friedel Craft's Alkylatic	on 03

		and Acylation.	
	(b)	Explain following types of dyes: Disperse dye and Vat	
		dye	
	(c)	Explain colour and constitution theory of dyes.	07
		OR	
Q.4	(a)	Write a note on Walden Inversion	03
	(b)	Differentiate between natural and synthetic polymers.	04
	(c)	What are carbohydrates? Give classification of	07
		carbohydrates with suitable examples and state their	
		applications in brief.	
Q.5	(a)	What do you mean by inductive effect? Give example of	03
		+I and –I effect imparting group.	
	(b)	Differentiate between unit process and Unit operation.	04
	(c)	Explain optical isomerism in lactic acid	07
		OR	
Q.5	(a)	Give any one method of preparation two synthetic uses of	03
		ethanol.	
	(b)	Explain nitration unit process	04
	(c)	Explain fuel cell.	07
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