GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) - EXAMINATION - SUMMER 2017

Subject	Subject Code: 2130501		Date: 13/06/2017	
•		me: Organic Chemistry and Unit Processes	T	
) AM to 01:00 PM	Total Marks: 70	
Instruction				
		empt all questions.		
2.		ke suitable assumptions wherever necessary. ures to the right indicate full marks.		
3.	rıg	ures to the right indicate run marks.		
Q.1		Short Questions	14	
	1	Define the following terms: (a)Carbene (b)Free Radical		
	2	Write the derivatives of carboxylic acid.		
	3	Explain the terms Heterocyclic compound and	polynuclear	
	_	compound.		
	4	Draw the structure of RNA and DNA.		
	5	Glucose on reaction with ammonical silver nitrate gives	·	
	6	Draw the structure of Methyl orange.		
	7	What are drugs?		
	8	Define the terms one step and two step reactions.		
	9	Define the terms octane number and Cetane numbers.		
	10	What is optical activity?		
	11	State Nitrating and Sulphonating agents.		
	12	Distinguish between unit process and unit operation.		
	13	Give two points of difference between Electrophile and I	Nucleophle.	
	14	Write the applications of Sandmeyer and Wolf Kishner	reactions.	
Q.2	(a)	Classify Dyes based on: (i) mode of application and (ii)structural 03	
		representation.		
	(b)	Explain Diazotization reaction with its mechanism.	Write its 04	
		application also.		
	(c)	How will you manufacture cane sugar from sugar cane	explain in 07	
		detail with flow sheet diagram.		

		OR	
	(c)	Discuss the fractional distillation of crude oil and state the various important fractions and their uses	07
0.3	(a)	How you will convert phenol into salicylic acid.	03

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	(b)	Give the Haworth preparation of Naphthalene.	04
	(c)	Write in brief about: Preparation, properties and uses of Pyrrrole.	07
		OR	
Q.3	(a)	Explain Isoelectric point and Zwitterion of Amino acid.	03
	(b)	How will you carry out following conversions:	04
	` /	(i) Glucose to Fructose (ii) Fructose to Glucose	

	(c)	(1) Glucose to Fructose (11) Fructose to Glucose How will you synthesize: Asprin and Paracetamol.	07
1	(a)	Write in brief about Wolden Inversion	Ω

	(c)	How will you synthesize: Asprin and Paracetamol.	07
Q.4	(a) (b)	Write in brief about Walden Inversion. Write in brief about the following terms: (i)Antipyretics (ii)Analgsics(iii)Tranquillizers (iv)Antimalarials.	03 04

	(c)) How amino acids can be synthesized from the following:		
		(1)From acids (2)Strecker Synthesis (3)Gabriel phthalimide		
		synthesis (4)Koop's synthesis.		
		OR		
Q.4	(a)	Explain how Anthracene can be isolated from Anthracene oil.	03	
	(b)	Explain in detail about Isomerism in Tartaric acid.	04	
	(c)	Write different manufacturing processes of Acetic acid.	07	
Q.5	(a)	Explain different qualitative test of protein.	03	
	(b)	Explain preparation of "Synthetic Petrol" by Bergius method.	04	
	(c)	Write in Detail about Electrophilic reactions of Anthracene.	07	
		OR		
Q.5	(a)	Write in brief about cracking.	03	
	(b)	What is Polarimeter? Give its construction and application pertaining to chemical industry. (draw neat and labeled diagram also)	04	
	(c)	Explain different theories of colour concept.	07	
