GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm - SEMESTER–4 • EXAMINATION – SUMMER - 2021

Subject Code: BP401TT **Date:03/08/2021**

Subject Name: PHARMACEUTICAL ORGANIC CHEMISTRY-III

Time: 10:30 AM to 01:30 PM **Total Marks: 80**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define following terms. 1) Enantiomers 4) Atropisomers 2) Conformational isomer 5) Diastereoisomer 3) Heterocyclic compound 6) Chirality	**06**
	(b)	Write in detail about Resolution of Racemic mixture.	**05**
	(c)	What are Stereospecific and Stereoselective reactions? Explain in detail.	**05**
Q.2	**(a)**	Explain in detail about Geometric isomerism with suitable examples and describe method of determination of configuration of geometrical isomers.	**06**
	(b)	Describe Conformational isomerism of Cyclohexane.	**05**
	(c)	Write in detail about Stereochemistry of Biphenyl compounds.	**05**
Q.3	**(a)**	Write in detail about methods of preparation of Pyrrole.	**06**
	(b)	Justify followings 1. Thiophene is more aromatic than Pyrrole and Furan. 2. Pyridine is more basic than Pyrimidine.	**05**
	(c)	Draw structure of following heterocyclic rings. 1. Piperazine 3. Isoquinoline 5. Piperidine 2. Pyrazine 4. Quinoxaline	**05**
Q.4	**(a)**	Give different synthetiic methods of Pyrimidine in detail.	**06**
	(b)	Give application of Purine compounds in Pharmacy in detail.	**05**
	(c)	Write in detail about reactions of Pyrrole.	**05**
Q.5	**(a)**	Describe Conformational isomerism of n-Butane	**06**
	(b)	Write a detailed note on Asymmetric synthesis.	**05**
	(c)	Describe Sequence rule with example for nomenclature of Optical isomers.	**05**
Q. 6	**(a)**	Explain Clemmensen reduction in detail.	**06**
	(b)	Give synthetic methods of Thiazole in detail.	**05**
	(c)	Explain Oppenauer-oxidation reaction in detail.	**05**
Q.7	**(a)**	Describe Fischer indole synthesis and give medicinal importance of Indole.	**06**
	(b)	Give different reactions of Chiral molecules.	**05**
	(c)	Write in detail about requirements to possess optical activity for a molecule.	**05**

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