Total No. of Questions: 3 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Pharmacy
End Sem Examination May-2024
PY3CO06 Pharmaceutical Organic Chemistry -I

Programme: B. Pharm. Branch/Specialisation: Pharmacy

Duration: 3 Hrs. **Maximum Marks: 75**

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1	i.	Give the IUPAC names for the following compounds: (a) CH_2=CH-CH_2 COOH (b) CH_2=CH-CHO	**2**
	ii.	Define organic compounds, and give examples.	**2**
	iii.	What is hybridization? Write about orbital structure of methane.	**2**
	iv.	What is Saytzeff rule? Give an example.	**2**
	v.	Explain the following terms with suitable examples: carbonium ions and carbanions.	**2**
	vi.	Draw the structure of glycerol and benzyl alcohol.	**2**
	vii.	Write two uses of Vanillin and Hexamine.	**2**
	viii.	Define and classify the electromeric effect.	**2**
	ix.	Write any two qualitative tests of aliphatic amines.	**2**
	x.	Write any two uses of salicylic acid.	**2**
Q.2		Attempt any two:	
	i.	Write IUPAC nomenclature rules for the naming of carbocyclic and aromatic compounds.	**10**
	ii.	Write the reaction, mechanism, kinetics, and order of reactivity of E1 and E2 reactions.	**10**
	iii.	(a) What is isomerism? Classify and explain it with suitable examples. (b) What are Dienes? Classify it. Give Markovnikov's orientation of alkene.	**5** **5**

Q.3		Attempt any seven: Two questions from each section is compulsory.	
		Section – A	
	i.	Discuss the mechanism of S_N 1 and S_N 2 reactions of alkyl halides.	**5**
	ii.	Give any five qualitative tests of alcohol.	**5**
	iii.	Write rearrangement of carbocations. Explain the Hydride shift and alkyl shift.	**5**
		Section – B	
	iv.	What are Nucleophilic addition reactions? Discuss any two nucleophilic addition reactions.	**5**
	v.	Discuss aldol condensation with its mechanism.	**5**
	vi.	Write Benzoin condensation with its mechanism.	**5**
		Section – C	
	vii.	Why carboxylic acids are more acidic than alcohols? Discuss the effect of substituents of acidity.	**5**
	viii.	Give the structure and uses of Aspirin and citric acid.	**5**
	ix.	Why Aliphatic amines are more basic than aromatic amines and ammonia? Give reason with example.	**5**

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Marking Scheme

Pharmaceutical Organic Chemistry -I (T) - PY3CO06 (T)

Q.1	i)	IUPAC name -	1 Marks each	**2**
	ii)	Define-	1Marks	**2**
		Examples -	1 Marks	
	iii)	Definition-	1Marks	**2**
		Orbital structure-	1Marks	
	iv)	Definition-	1 Marks	**2**
		Example-	1 Marks	
	v)	Terms-	1 Marks	**2**
		Examples-	1 Marks	
	vi)	Structure-	1 Marks each	**2**
	vii)	Uses-	1 Marks each	**2**
	viii)	Define-	1 Marks	**2**
		Classify-	1Marks	
	ix)	Tests-	1 Marks each	**2**
	x)	Uses-	1 Marks each	**2**

Q.2 Attempt any two:

i.	IUPAC nomenclature rules carbocyclic -	5 Marks	**10**
	IUPAC nomenclature rules aromatic compounds-	5 Marks	
ii.	Reaction -	2 Marks	**10**
	Mechanism-	4 Marks	
	Kinetics-	2 Marks	
	order of reactivity-	2 Marks	
iii.	Definition-	1 Marks	**5**
	Classification-	2 Marks	
	Examples-	2 Marks	
	Definition-	1 Marks	**5**
	Classification-	2 Marks	
	Give- orientation	2 Marks	

Q.3 Attempt any seven: Two questions from each section is compulsory.

Section – A

i.	Mechanism of S_N1-	3 Marks	**5**
	Mechanism of S_N2-	2 Marks	
ii.	Five Test -	1 Marks each	**5**
iii.	Rearrangement of carbocations-	1 Marks	**5**
	Hydnd sheft	2 Marks	
	Alkylsheft	2 Marks	

Section – B

iv.	Definition -	1 Marks	**5**
	Two Reactions -	2 Marks each	
v.	Reaction-	2 Marks	**5**
	Mechanism-	3 Marks	
vi.	Reaction-	2 Marks	**5**
	Mechanism-	3 Marks	

Section – C

vii.	Why carboxylic acids and more acidic than alcohols -	3 Marks	**5**
	Discuss the effect of substituents of acidity-	2 Marks	
viii.	Structure-	2 Marks	**5**
	Uses-	3 Marks	
ix.	Reason aliphatic amines are more basic than aromatic amines-	3 Marks	**5**
	Aliphatic amines are more basic than ammonia -	2 Marks	

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