

Total No. of Questions: 3

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Enrollment No.....



Faculty of Pharmacy

End Sem Examination Dec-2023

PY3CO09 Pharmaceutical Organic Chemistry-II

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
- Define Huckel's rule with example. 2
  - Write down the structure and uses of Saccharin and DDT. 2
  - Write any two qualitative tests for phenol. 2
  - Write down the uses of cresol and benzoic acid. 2
  - Define fats and oils with examples. 2
  - Write the significance of acid value. 2
  - Write the medicinal uses of Phenanthrene and Anthracene. 2
  - What are fused polynuclear hydrocarbons? Give examples. 2
  - Give any two reactions of Cycloalkanes. 2
  - What are the limitations of Baeyer's strain theory? 2

- Q.2
- Attempt any two:
- Define resonance in benzene. Why benzene is aromatic compound explain in detail with examples? Explain the mechanism of Friedel-Craft's acylation. 10
  - Give synthesis and reactions of Aromatic Amines. Discuss effect of substituents on basicity of aromatic acids. 10
  - (a) Discuss the mechanism of halogenation and nitration of benzene. 5  
(b) What are phenols? Explain acidity of phenols. Explain basicity of aromatic amines. 5

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

## Section - A

- Discuss Acid value or Ester value of fats and oils in detail. 5

- Explain about hydrolysis and drying oil of fats and oils. 5
- Write principle, procedure and significance of Saponification Value or Iodine value. 5

## Section - B

- Write synthesis, reactions and any two uses of Naphthalene. 5
- Explain synthesis, reactions, structure and medicinal uses of Phenanthrene in detail. 5
- Write down preparation and reactions of Diphenylmethane. 5

## Section - C

- Explain Coulson and Moffitt's modification theory of cycloalkanes. 5
- Write a note on Bayer's Strain theory. 5
- Explain Sachse Mohr's theory. 5

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## Marking Scheme

### PY3CO09 - Pharmaceutical Organic Chemistry-II

Q.1	i)	Huckel's rule with example. Ans hint: Cyclic planer molecule, $4n+2$ , $n=1$	(1 mark *2)	2
	ii)	Structure and uses of Saccharin and DDT. Ans hint: Artificial Sweetner food product and diagram	(1 mark *2)	2
	iii)	Two qualitative tests for phenol. Ans hint: Utmustest, Ferric Chloride, Liebermannistest.	(1 mark *2)	2
	iv)	Write down the uses of cresol and benzoic acid. Ans hint: Antiseptic, disinfectant (Perfumes, dyes, topical drug.	(1 mark *2)	2
	v)	Define fats and oils with examples. Ans hint: Triglyceride fats that liquid at room temp	(1 mark *2)	2
	vi)	Write the significance of acid value. Ans hint: Relative measure of Rancidily	(1 mark *2)	2
	vii)	Medicinal uses of Phenanthrene and Anthracene. Ans hint: dyes, plastics pesticides, red dye and diagram	(1 mark *2)	2
	viii)	Ans hint: HC made up two or more benzene Ring	(1 mark *2)	2
	ix)	Two reactions of Cycloalkanes.	(1 mark *2)	2
	x)	Limitations of Baeyer's strain theory.	(As per explanation)	2
Q.2	Attempt any two:			
	i.	Resonance in benzene	2 Marks	10
		Benzene is aromatic compound	3 Marks	
		Mechanism of Friedel-Craft's acylation	5 Marks	
	ii.	Give synthesis	3 Marks	10
		and reactions of Aromatic Amines.	2 Marks	
		Discuss effect	5 Marks	
	iii.	Mechanism of halogenation	2 Marks	5
		Nitration of benzene	3 Marks	

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

#### Section - A

i.	Discuss Acid value	2 Marks	5
	Ester value of fats and oil in detail	3 Marks	
ii.	Explain about hydrolysis and drying of fats and oils	2 Marks 3 Marks	5
iii.	Write principle	1 Marks	
	Procedure	2 Marks	
	and significance of acid number and iodine value.	2 Marks	
iv.	Write synthesis	1 Marks	5
	Reactions	2 Marks	
	Two uses of Naphthalene	2 Marks	
v.	Explain synthesis	1 Marks	5
	Reactions	1 Marks	
	structure and medicinal uses of Phenanthrene in detail.	3 Marks	5
vi.	Write down preparation and reactions of Diphenylmethane.	2 Marks 3 Marks	

#### Section - C

vii.	Coulson and Moffitt's modification theory	(1 Mark*5)	5
viii.	Note on Bayer's Strain theory.	(As per explanation)	5
ix.	Explain Sachse Mohr's theory.	(As per explanation)	5

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