647510 **MSC4OrgC403x** **Seat No :_____**

M.Sc.(Chem.) Semester - 4 (*CBCS*) Examination
August/September -2020 [NEW COURSE]
Heterocyclic Chemistry (Core)

Time: 2:00 Hours **Marks: 56**

Instructions:

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any four of the following questions.

Unit-1 [14 marks]

Answer **ALL** questions

Q.1 (a)	**1 Question of 4 Marks OR 2 Questions of 2 Marks Each.**	**4 Marks**
1.	Explain the IUPAC nomenclature system of spiro heterocyclic compounds.	
Q.1 (b)	**Answer any two questions out of three.**	**10 Marks**
(1)	Discuss rules for selection of base component in multiple fused heterocyclic ring systems with examples.	5
(2)	Discuss the chemical reactivity and two synthesis of Aziridine.	5
(3)	Explain the properties and Two synthesis of Oxirane.	5

Unit-2 [14 marks]

Answer **ALL** questions

Q.2 (a)	**1 Question of 4 Marks OR 2 Questions of 2 Marks Each.**	**4 Marks**
1.	Give any Two synthesis of Furan.	
Q.2 (b)	**Answer any two questions out of three.**	**10 Marks**
(1)	Discuss physical properties and Two synthesis of Thiophene.	5
(2)	Describe physical properties and Two preparation of Benzofuran.	5
(3)	Discuss two synthesis of followings: (1) Indole (2) Pyrrole	5

Unit-3 [14 marks]

Answer **ALL** questions

Q.3 (a)	**1Question of 4 Marks OR 2 Questions of 2 Marks Each.**	**4 Marks**
(1)	Why Pyridine is more basic then pyrrole?	
Q.3 (b)	**Answer any two questions out of three.**	**10 Marks**
(1)	Explain three synthesis of Pyrimidine.	5
(2)	Write any two synthesis of followings: (1) Phenothiazine (2) Pyridazine.	5
(3)	Discuss two synthesis of followings: (1) Morpholine (2) Quinazoline	5

Unit-4 [14 marks]

Answer **ALL** questions

Q.4 (a)	**1 Question of 4 Marks OR 2 Questions of 2 Marks Each.**	**4 Marks**
(1)	Discuss the electrophilic reactions of Isoquinoline.	
Q.4 (b)	**Answer any two questions out of three.**	**10 Marks**
(1)	Discuss any Two synthesis of Benzopyran-4-one.	5
(2)	Describe chemical reactivity and Two preparation of Quinoline.	5
(3)	Write any two synthesis of followings: (1) Benzopyran-2-one (2) Acridine.	5

Unit-5 [14 marks]

Answer **ALL** questions

Q.5 (a)	**1 Question of 4 Marks OR 2 Questions of 2 Marks Each.**	**4 Marks**
(1)	Explain any Two synthesis of Oxazole.	
Q.5 (b)	**Answer any two questions out of three.**	**10 Marks**
(1)	Give two synthesis of Isothiazole.	5
(2)	Describe Chemical properties and Two preparation of Thiazole.	5
(3)	Give two synthesis of followings: (1) Imidazole (2) Thiadiazole	5

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