

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

Time: 2:00 Hours

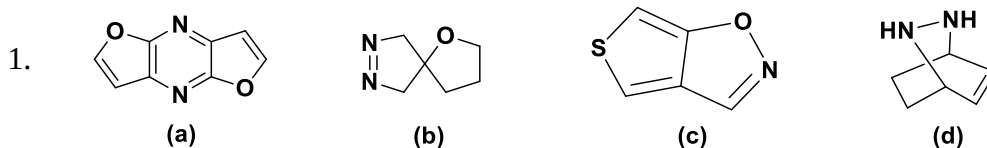
Marks: 56

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) Answer the following****4 Marks**

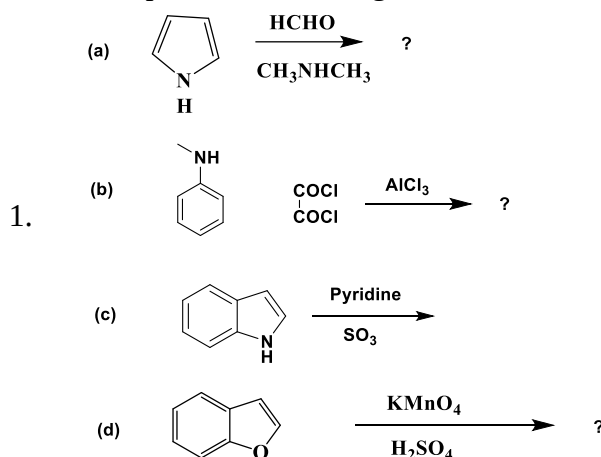
Give the IUPAC nomenclature of following compounds.

**Q.1 (b) Answer any two questions out of three.****Marks**

- | | | |
|-----|--|---|
| (1) | Explain the properties and two synthesis of Oxirane. | 5 |
| (2) | Discuss the two synthesis of 1,2-diazetidine. | 5 |
| (3) | Explain the IUPAC nomenclature system of spiro heterocyclic compounds. | 5 |

Unit-2 [14 marks]Answer ALL questions**Q.2 (a) Answer the following****4 Marks**

Complete the following reactions

**Q.2 (b) Answer any two questions out of three.****Marks**

- | | | |
|--------------------------------------|---|---|
| (1) | Discuss physical properties and two synthesis of Furan. | 5 |
| (2) | Describe physical properties and two preparation of Indole. | 5 |
| Discuss two synthesis of followings: | | |
| (3) | (1) Indolizine | 5 |
| | (2) Pyrrole | |

Unit-3 [14 marks]
Answer ALL questions

Q.3 (a)	Answer the following	4 Marks
1.	Why Pyrrole is less basic than Pyridine?	
Q.3 (b)	Answer any two questions out of three.	Marks
(1)	Explain three synthesis of Pyridazine.	5
	Write any two synthesis of followings:	
(2)	(1) Quinazoline (2) Thiazine	5
	Discuss two synthesis of followings:	
(3)	(1) Morpholine (2) Phenothiazine	5

Unit-4 [14 marks]
Answer ALL questions

Q.4 (a)	Answer the following	4 Marks
1.	Discuss the electrophilic reactions of Quinoline.	
Q.4 (b)	Answer any two questions out of three.	Marks
(1)	Discuss any Two synthesis of Benzopyran-2-one.	5
(2)	Describe chemical reactivity and two preparation of Acridine.	5
	Write any two synthesis of followings:	
(3)	(1) Benzopyran-4-one (2) Isoquinoline.	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 Thiazole.	
Q.5 (b)	Answer any two questions out of three.	Marks
(1)	Give two synthesis of Isoxazole.	5
(2)	Describe Chemical properties and two preparation of Pyrazole.	5
	Give two synthesis of followings:	
(3)	(1) Triazole (2) Imidazole	5
