

M.Sc.(Chem.) Semester - 4 (CBCS) Examination
May/June-2021 (NEW COURSE)
Heterocyclic Chemistry (Core)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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Que-1(A) Discuss the IUPAC nomenclature system of spiro heterocyclic compounds. (04)

Que-1(B) **Answer any two questions out of three.** (10)

1. Give Two synthesis of followings:
I. 1,3-Dithietane II. Oxirane
2. Explain the properties and three synthesis of Thiirane.
3. Discuss rules for selection of base component in multiple fused heterocyclic ring systems with examples.

Que-2(A) Provide chemical reactions of Benzofuran. (04)

Que-2(B) **Answer any two questions out of three.** (10)

1. Discuss Two synthesis of followings:
I. Isatin II. Indolizine
2. Describe physical properties and two preparation of Indole.
3. Enlist physical properties and discuss two preparation of Thiophene.

Que-3(A) Why Pyrrole is less basic than Pyridine? (04)

Que-3(B) **Answer any two questions out of three.** (10)

1. Write any Two synthesis of followings:
I. Quinazoline II. Pyridazine.
2. Explain Nucleophilic reactions and two synthesis of Pyridine.
3. Discuss any three synthesis of Pyrimidine.

Que-4(A) Explain any Two synthesis of Benzopyran-2-one. (04)

Que-4(B) **Answer any two questions out of three.** (10)

1. Elaborate any Two synthesis of followings:
I. Acridine II. Benzopyran.
2. Describe chemical reactivity and two preparation of Isoquinoline.
3. Note down Physical properties and describe two preparation of Quinoline.

Que-5(A) Explain Two synthesis of Oxadiazole. (04)

Que-5(B) **Answer any two questions out of three.** (10)

1. Give Two synthesis of followings:
I. Isoxazole II. Thiadiazole
2. Describe Chemical properties and two preparation of Thiazole.
3. Give two synthesis of followings:
I. Imidazole II. Pyrazole
