

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Summer 2022-23 Examination

Semester: 4
Subject Code: 11205253
Subject Name: Chemistry of Heterocyclic compounds

Date: 24/03/23
Time: 2:00pm to 4:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Answer in detail: (Each of 04 marks) (08)**
(a) Give resonating structure and two preparation reactions of Pyridine.
(b) Give properties and two chemical reactions of Pyridine.
- Q.1. B) Answer the following questions (Any two) (04)**
(a) Answer the followings: (Each of 02 marks) (04)
1. Give the structure of Oxirane and Thiolane.
2. Give the structures of Indole and Quinoline.
(b) Give two preparation and two chemical reactions of Pyridazine. (04)
(c) Write preparation of Pyrimidine and Pyrazine (two reactions of each). (04)
- Q.2. A) Answer the following questions. (04)**
(a) Answer the followings: (Each of 02 marks) (04)
1. Write structure and properties of Iso-quinoline.
2. Write two chemical reaction of Quinoline.
(b) Give synthesis and chemical reactions of Indole. (04)
- Q.2. B) Answer the following questions (Any two) (03)**
(a) Write structure and synthesis of Cinnoline. (03)
(b) Write structure and synthesis of Quinazoline. (03)
(d) Explain general properties of Indole derivatives. (03)
- Q.3. A) Answer in detail: (Each of 04 marks) (08)**
(a) Describe the structures of the Heterocyclic compounds containing O-as Hetero atom.
(b) Explain synthesis and chemical reactions of Imidazole.
- Q.3. B) Answer the following questions (Any two) (04)**
(a) Answer the followings: (Each of 02 marks) (04)
1. Define Azoles? Give two structures.
2. Write the structure of 4-Pyrone.
(b) Explain synthesis and chemical reactions of Pyrazole. (04)
(c) Describe synthesis Benzopyrones and its properties. (04)
- Q.4. A) Answer the following questions. (04)**
(a) Answer the followings: (Each of 02 marks) (04)
1. Define Supramolecular compounds.
2. What is Host-Guest interaction?
(b) Describe the role of Molecular receptor in supramolecular chemistry. (04)
- Q.4. B) Answer the following questions (Any two) (03)**
(a) What are Cryptands? Give their one structure. (03)
(b) What are Catenanes? Give their one structure. (03)
(c) Write a short note on Molecular Self-assembly. (03)