

C. U. SHAH UNIVERSITY

Winter Examination-2022

Subject Name: Heterocyclic Chemistry

Subject Code: 5SC03HTC1

Branch: M.Sc. (Chemistry)

Semester: 3

Date: 23/11/2022

Time: 11:00 To 02:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

SECTION – I

- Q-1 Attempt the Following questions (07)**
- Define: Heterocyclic compounds **01**
 - Write down the prefix for N and S. **01**
 - Give the suffix for five membered unsaturated compound having nitrogen. **01**
 - Draw any two structures of four membered unsaturated Heterocyclic compounds. **01**
 - Write a uses of Heterocyclic compounds. **01**
 - Draw the structure of azocine and 1,2 Oxazetidine. **02**
- Q-2 Attempt all questions (14)**
- Write a note on Aziridine. **07**
 - Discuss about Pyrrole in detail. **07**
- OR**
- Q-2 Attempt all questions (14)**
- Discuss synthesis, physical and chemical properties of Oxetane. **07**
 - Write a note on Pyridine. **07**
- Q-3 Attempt all questions (14)**
- Write any two synthesis of Thiirane and Azetidione. **07**
 - Give only chemical properties of Furan and thiazole. **07**
- OR**
- Q-3 Attempt all questions (14)**
- Discuss synthesis, physical and chemical properties of Diazirine. **07**
 - Write a note on Azetidione. **07**



SECTION – II

- Q-4** **Attempt the Following questions** **(07)**
- a. Give IUPAC name of Carbazole. **01**
 - b. Draw the structure of Acridine. **01**
 - c. Which Heteroatom is present in Phthalazine? **01**
 - d. Write only one reaction for the synthesis of benzofuran. **01**
 - e. Draw the structure of Phenanthridine. **01**
 - f. Give the any two structure of Hetero cycle having two nitrogen. **01**
 - g. Which starting material is use for the synthesis of Isoquinoline by Bischler-Napieralski reaction? **01**
- Q-5** **Attempt all questions** **(14)**
- a. Write a note on Isoindole. **07**
 - b. Write synthesis and chemical properties of Pyrimidine. **07**
- OR**
- Q-5** **Attempt all questions** **(14)**
- a. Write any two synthesis of Cinnoline and Quinazoline. **07**
 - b. Write any two synthesis of carbazole and isobenzofuran. **07**
- Q-6** **Attempt all questions** **(14)**
- a. Write a note on Benzothiophene. **07**
 - b. Write a note on Pyrazine. **07**
- OR**
- Q-6** **Attempt all Questions** **(14)**
- a. Discuss chemical properties of Azepine and Oxepine. **07**
 - b. Write a note on Quinoline. **07**

