

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Heterocyclic Chemistry

Subject Code : 5SC03HTC1

Branch : M.Sc. (Chemistry)

Semester : 3

Date : 01/12/2018

Time : 02:30 To 05:30

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)**
- a. Illustrate the heterocyclic compounds with definition. **01**
 - b. Draw any two structures of five member saturated heterocyclic compounds. **01**
 - c. List out the suffixes X and Y in below table. **01**
- | Ring Size | Suffixes for fully unsaturated compounds | |
|-----------|--|-----------|
| | With N | Without N |
| 7 | X | Y |
- d. Draw the structure of Benzo[c]pyridine heterocycle. **01**
 - e. Write the three isomeric structures of diazines. **01**
 - f. Write down the prefix name used for P and As hetero atoms. **01**
 - g. Draw the structure of 2, 3-Benzopyrrole. **01**
- Q-2 Attempt all questions (14)**
- a. Write a short note on 2-Azetidinone. **05**
 - b. Describe Diazirine with preparations and chemical properties. **05**
 - c. Write the different ring opening reactions of Oxetane. **04**
- OR**
- Q-2 Attempt all questions (14)**
- a. Write a brief note on Thiirane. **07**
 - b. Write a brief note on Azetidines. **07**
- Q-3 Attempt all questions (14)**
- a. Write a note on Pyrrole. **07**
 - b. Explain Thiazole heterocycle briefly. **07**
- OR**
- Q-3 Attempt all questions (14)**
- a. Write a note on α -Pyrone. **05**
 - b. Write the different preparations of Furan. **05**
 - c. Describe briefly the various chemical properties of Pyrazole. **04**



SECTION – II

- Q-4** Draw the structures of following heterocycles. (07)
- a. Thietane 01
 - b. Pyrylium salt 01
 - c. Oxazole 01
 - d. Isoindole 01
 - e. Phthalazine 01
 - f. Pyrazine 01
 - g. Isobenzofuran 01
- Q-5** Attempt all questions (14)
- a. Write briefly about Isobenzothiophene. 05
 - b. Write Bischler-Napieralski and Pomeranz-Fritsch synthesis for Isoquinoline. 05
 - c. Write a note on Benzofuran. 04
- OR**
- Q-5** Attempt all questions (14)
- a. Describe a short note on Quinoline. 07
 - b. Explain in brief an Indole heterocycle. 07
- Q-6** Attempt all questions (14)
- a. Write a note on Pyrimidine. 07
 - b. Explain Cinnoline heterocycle briefly. 07
- OR**
- Q-6** Attempt all questions (14)
- a. Describe note on Benzimidazole. 07
 - b. Write a note on Quinoxaline. 07

