

C.U.SHAH UNIVERSITY

Winter Examination-2022

Subject Name : Pharmaceutical Organic Chemistry III - Theory

Subject Code : BP401T

Branch: B.Pharm

Semester: 4

Date: 19/09/2022

Time: 02:30 To 05:30

Marks: 75

Instructions:

- (1) Use of Programmable calculator & 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.

- Q-1 Attempt the following questions: (20)**
- Differentiate: cis and trans isomerism. 2
 - Define: Enantiomers and Diastereomers. 2
 - What do you mean by E and Z geometric isomers? Give one example of them. 2
 - Give definition of heterocyclic compound and hetero atom. Give any two example of heterocyclic ring. 2
 - Write structure of the followings: 2
 - 1) Pyrimidine
 - 2) Indole
 - 3) Thiophene
 - 4) Acridine
 - Write medicinal uses of oxazole and purine. 2
 - Define: chiral compound and chirality. Draw structure of any one chiral compound with name. 2
 - Write definition of meso compound. Give one example of meso compound with its structure. 2
 - Give comment on: Thiophene is aromatic. 2
 - Justify the statement: Pyrrole undergoes electrophilic substitution reaction at 2nd position. 2

Attempt the following questions:

- Q-2 Attempt any two of following : (20)**
- What do you mean by configuration? Explain in detail about RS system of nomenclature of optical isomers with sequence rules. 10
 - Write two synthesis, two reactions, and two medicinal uses of following: 10
(Any two)
 - 1) Pyrazole
 - 2) Imidazole
 - Explain the following name reactions by giving reaction and mechanism: 10
(Any two)
 - 1) Clemmensen reduction
 - 2) Dakin reaction

- Q-3 Attempt any Seven of following : (35)**
- Define racemic mixture and resolution. Discuss about different 5



- techniques for resolution of racemic mixture.
- B** Give definition of atropisomerism. Explain stereoisomerism in biphenyl compounds. **5**
- C** Discuss in detail about stereoselective. **5**
- D** Define conformational isomers. Explain in detail about conformational isomerism in cyclohexane. **5**
- E** Draw structure of pyridine. Explain in brief about basicity of pyridine. **5**
- F** Explain in detail about Birch reduction reaction with mechanism. **5**
- G** Write Beckmann rearrangement reaction with mechanism. **5**
- H** What do you mean by metal hydride? Give examples of metal hydride. **5**
Discuss metal hydride reduction reaction with mechanism.
- I** Draw structures of following compounds: **5**
- 1) 2-Nitroimidazole
 - 2) 3-Chloroquinoline
 - 3) 2-Bromothiazole
 - 3) 2,4-Difluoropyrimidine
 - 5) 2-Iodofuran

