

DOCTOR OF PHARMACY
First Year Pharm. D. : SUMMER : 2022
SUBJECT : PHARMACEUTICAL ORGANIC CHEMISTRY

Day : Saturday
Date : 14-05-2022

S-5727-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 70

N.B.:

- 1) **Q. No. 1 and Q. No. 5** are **COMPULSORY**. Out of remaining solve **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to the both sections should be written in **SEPARATE** answer books.

SECTION – I

- Q.1 A** Solve **ANY FOUR** of the following: **(08)**
- a) Write structure and IUPAC name of any two aldehydes.
 - b) Define Saytzeff and Hoffmann rule.
 - c) What is protic and aprotic solvent? Explain with examples.
 - d) What is effect of dipole moment on physical properties of compound? Explain with example.
 - e) Draw structure and IUPAC name of any two alcohols.
- B** Explain structural isomerism. **(03)**
- Q.2** Explain reaction mechanism, stereochemistry and factors affecting reaction for **E1** reaction. **(12)**
- Q.3 a)** What is free radical chain reaction? Explain with example and mechanism of termination reaction. **(07)**
- b)** Differentiate between **SN1** and **SN2** reactions. **(05)**
- Q.4** Write a note on **ANY THREE** of the following: **(12)**
- a) Conformations of cyclohexane and their stability
 - b) Geometric isomerism
 - c) Diastereomerism
 - d) Acid base theories

SECTION – II

- Q.5 A** Solve **ANY FOUR** of the following: **(08)**
- a) Define the term with example: (i) Free radical (ii) Electrophile
 - b) Why phenols are acidic in nature?
 - c) Give medicinal use of chlorbutol and urea.
 - d) How will you convert carboxylic acid to its corresponding amide? Give reaction.
 - e) Explain effect of nature of substituent on basicity of amines.
- B** Explain reactivity and orientation in case of free radical addition to conjugated dienes. **(03)**
- Q.6** Explain in detail nucleophilic substitution reactions with suitable examples. **(12)**
- Q.7 a)** Explain mechanism of nitration and halogenation reaction in benzene with respect to electrophilic substitution reaction. **(07)**
- b)** Explain reactivity and orientation for electrophilic substitution reactions in monosubstituted benzene. **(05)**
- Q.8** Write a note on **ANY THREE** of the following: **(12)**
- a) Aldol condensation
 - b) Perkin condensation
 - c) Wittig reaction
 - d) Williamson's synthesis