

Code No: 182AT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech I Year II Semester Examinations, September - 2023

PHARMACEUTICAL CHEMISTRY

(Pharmaceutical Engineering)

Time: 3 Hours

Max. Marks: 60

Note: This question paper contains two parts A and B.

i) **Part - A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART - A**(10 Marks)**

- 1.a) Discuss the common bonding patterns in organic compounds with examples. [1]
- b) Discuss the polarity of bonds. [1]
- c) Explain geometrical isomerism. [1]
- d) Explain the conformational analysis of 1, 2-dichloroethane. [1]
- e) What are carbanions? Explain its stability. [1]
- f) Discuss the structure and reactivity of naphthalene. [1]
- g) What is markonikov's rule? [1]
- h) Discuss the orientation in elimination reaction. [1]
- i) What are the sources of impurities? [1]
- j) Write the principle involved in the limit test for Sulphates. [1]

PART - B**(50 Marks)**

- 2.a) Discuss the molecular and intermolecular forces.
 - b) Give a brief note on bond dissociation energies. [5+5]
- OR**
- 3.a) Write in detail about hyperconjugation.
 - b) What is resonance? Explain the concept of resonance. [5+5]
- 4.a) Discuss the optical isomerism in tartaric acid.
 - b) Explain the conformational analysis of cyclohexane. [5+5]
- OR**
- 5.a) What is R and S nomenclature.
 - b) Explain sequence rules. [5+5]
- 6.a) What is Huckle's rule? Explain aromaticity.
 - b) Explain the structure and reactivity of Azulene. [5+5]
- OR**
7. Write the definition, generation, stability and reactivity of carbo-cations. [10]

8.a) Explain solvent effects on SN1 and SN2 Reactions. [5+5]
b) Explain E1 and E2 mechanism.

OR

9.a) Write any three electrophilic addition reactions of Alkynes. [5+5]
b) Write the reaction and mechanism of SN1.

10. What is pharmacopoeia? Write the history of pharmacopoeia. [10]

OR

11. Explain the principle and procedure involved in the limit test for chlorides. [10]

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