NS3 - 331

B.Sc. DEGREE EXAMINATIONS :: DECEMBER, 2023
THIRD SEMESTER
PART - II
CHEMISTRY
Paper – III : Organic Chemistry and Spectroscopy
(New Regulation 20 - 21)

Time : 3Hours Max. Marks: 75

PART – A

Answer any FIVE of the following questions.
Each carries 5 marks (5 × 5 = 25 marks)

1. Prosperities of Alkyl halides
2. Claisen rearrangement with Mechanism
3. Fries rearrangement with mechanism
4. Keto-enol tautomerism
5. Perkin reaction
6. Spin – Spin Carpling
7. Electron transition in UV Spectroscopy
8. IR spectra of carbonyl compounds

PART – B

Answer ALL the questions
Each carries 10 marks (5 × 10 = 50 marks)

9. a) Explain SN^1 and SN^2 mechanisms with their stereochemistry

(Or)

b) Write the following
i) Two preparative methods of Alkyl halides
ii) Pinacol–Pinacolone rearrangement

10. a) Write the following
i) Acidity of Phenols
ii) Claisen rearrangement with mechanism

(Or)

b) Write the following.
(I) Baeyer Villiger Oxidation
(ii) Effect of substituents on acidic

11. a) Explain Curtius rearrangement and Claisen condensation with mechanism

(Or)

b) Write the following
I) Schimdt reaction
ii) Esterification
iii) HVZ reaction
iv) Arndt-Eistert Synthesis

12. a) Explain vibrational degree of freedom for poly atomic molecules and modes of vibration

(Or)

b) Write the following.
(I) Bathochromic and Hyprochromic shifts
(ii) Applications of NMR in 1, 1, 2 – tribromo ethane

13. a) Write the following
I) Molecular Vibrations
II) Principle of NMR

(Or)

b) Write the following
I) Chemical shift
ii) Infrared radiation

• • •