2 RS 26052

THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, OCTOBER/NOVEMBER 2021.

SECOND SEMESTER

CHEMISTRY COURSE – II — ORGANIC AND GENERAL CHEMISTRY

(w.e.f. 2020 – 21 Admitted batch)

Time : Three hours Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 5 = 25 marks)

Answer any FIVE of the following questions.

Each question carries 5 marks.

1. Write the general methods of preparation of alkanes.

2. Write the elimination reactions of alkenes.

3. Explains the acidity of alkynes.

4. Write the Friedel-Crafts reactions of benzene.

5. Define Hardy-Schulze rule and gold number.

6. Explains the structure of ClF_3 by Valence bond theory.

7. Write the Pearson's concept of HSAB theory.

8. Define Enantiomers and Diasereomers and give two examples for each.

PART B — (5 × 10 = 50 marks)

Answer ALL the questions. Each carries 10 marks.

9. (a) Explains Baeyer Strain Theory. Draw the conformations of cyclohexane and explain their stability by drawing energy profile diagram.

Or

(b) Explain Halogination of alkenes. Explain the reactivity and selectivity in free radical substitutions.

10. (a) Explain the mechanism of Markownikoff and Anti-Markownikoff addition of HBr to alkene.

Or

(b) (i) How will you prepare carbonyl compounds from alkynes?

(ii) Write alkylation reaction of terminal alkynes.

11. (a) Define Huckel rule of aromatic compounds. What are benzenoid and nonbenzenoid aromatic compounds? Give examples.

Or

(b) Write a account on ortho, para and meta directing groups

12. (a) (i) Write the applications of adsorption.

(ii) Explain Langmuir adsorption isotherm.

Or

(b) Explain the Molecular orbital diagram for O_2, NO and explain their bond order and magnetic property.

13. (a) Write the different types of molecular representations.

Or

(b) (i) Define optical activity and specific rotation.

(ii) Draw the R- and S- isomers of alanine and glyceraldehydes.

(iii) Write the EO and Z-isomers of 2-butene.
