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(FOR THE CANDIDATES ADMITTED

SUB CODE 22UCY508

DURING THE ACADEMIC YEAR 2022 ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS): POLLACHI

END-OF-SEMESTER EXAMINATIONS: NOVEMBER 2024

B.Sc. CHEMISTRY

MAXIMUM MARKS: 50

SEMESTER: V

TIME: 3 HOURS

PART – III

22UCY508–Core Paper – VI ORGANIC CHEMISTRY – I

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS K1

1. Acetophenone on oxidation by perbenzoic acid gives phenyl acetate. The reaction is named as
a) Claisen condensation b) Baeyer-Villiger oxidation
c) Perkin's reaction d) Reformatsky reaction
2. The heterocyclic compound, which can undergo Diels-Alder reaction is
a) furan b) thiophene c) pyrrole d) pyridine
3. Sucrose on oxidation with con.HNO₃ gives
a) gluconic acid b) saccharic acid c) tartaric acid d) oxalic acid
4. Alkaloid present in black pepper is
a) piperine b) caryophyllene c) nicotine d) papaverine
5. Which one of the following is not a terpenoid?
a) citral b) nicotine c) camphor d) menthol

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

K2

6. Define molecular rearrangement.
7. How will you prepare thiophene from acetylene?
8. Give any two uses of maltose.
9. Define alkaloids.
10. What is isoprene rule?

SECTION – B

(5 X 3 = 15 MARKS)

ANSWER EITHER (A) OR (B) IN EACH OF THE FOLLOWING QUESTIONS

K3

11. a) Describe the mechanism of pinacol-pinacolone rearrangement.

(OR)

b) Sketch Claisen rearrangement with mechanism.

12. a) Explain Skraup synthesis of quinoline.

(OR)

b) Write a note on Birch reduction.

13. a) Give an account of muta-rotation.

(OR)

b) Write a note on cellulose.

14. a) Describe extraction of alkaloids from plants.

(OR)

b) Justify structural determination of piperine.

15. a) Classify the terpenoids.

(OR)

b) State and explain special isoprene rule and Gemdialkyl rule.

SECTION – C

(5 X 5 = 25 MARKS)

ANSWER EITHER (A) OR (B) IN EACH OF THE FOLLOWING QUESTIONS K4

16. a) Discuss the Beckmann rearrangements with mechanism.

(OR)

b) Illustrate the mechanism of Fries rearrangement.

17. a) Explain any five chemical properties of pyridine.

(OR)

b) Analyze organic reduction reactions by using LiAlH_4 .

18. a) Discuss the structural elucidation of glucose.

(OR)

b) Illustrate the preparation and uses of sucrose.

19. a) Describe structural elucidation of coniine.

(OR)

b) Elucidate the structure of nicotine.

20. a) Discuss structural elucidation of camphor.

(OR)

b) Elucidate the structure of α -terpineol.