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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2020-21 ONLY)

SUBJECT CODE 20UCY508

REG.NO.

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

END-OF-SEMESTER EXAMINATIONS : DECEMBER - 2022

B.Sc. – CHEMISTRY **MAXIMUM MARKS: 70**

V SEMESTER **TIME : 3 HOURS**

PART - III
ORGANIC CHEMISTRY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Identify the rearrangement, when a ketoxime is converted into a substituted amide……
   a) Beckmann b) Benzidine c) Fries d) Cope
2. Which one of the following is a six membered heterocyclic compound?
   a) furan b) pyrrole c) thiophene d) pyridine
3. Which one is monosaccharide among the following?
   a) sucrose b) cellulose c) maltose d) glucose
4. Which of the following is the common functional group in an alkaloid structure?
   a) amine b) carboxylic acid c) amide d) ketone
5. Find monocyclic terpenoid in the following……..
   a) phytol b) nerolidol c) citral d) vitamin A1

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. (K2)

6. Define molecular rearrangement.
7. Indicate the uses of $LiAlH_4$ in organic synthesis.
8. Define Polysaccharides with example.
9. Define alkaloid.
10. What is special isoprene rule?

SECTION – B (5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Describe the mechanism of Pinacol-Pinacolone rearrangement .

(OR)

b) Explain Baeyer-Villiger rearrangement.

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(CONTD…….2)

12. a) Show Fischer-Indole synthesis.

(OR)

b) Sketch Birch reduction with mechanism.

13. a) What is muta rotation? How is it explained?

(OR)

b) Describe inter conversion of D-glucose to D-fructose. .

14. a) Write short notes on occurrence of alkaloids

(OR)

b) Outline the synthesis of Papaverine.

15. a) Classify terpenoids based on ring structure.

(OR)

b) Describe the structural elucidation of menthol.

SECTION – C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS
(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS (FROM Qn. No : 17 to 21) (K4 (Or) K5)

16. Explain the following rearrangements with mechanism.

(i) Hoffmann (ii) Fries

17. Illustrate the mechanism of Cope and Claisen rearrangements.

18. Discuss the preparation and properties of pyridine.

19. Elucidate the structure of glucose.

20. Explain structural elucidation of nicotine.

21. Discuss the structure of camphor and its preparation from camporic acid.

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