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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 20 ONLY)

SUB CODE 24PCY205

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS :MAY-2025

MSc CHEMISTRY **MAXIMUM MARKS: 75**

SEMESTER-II **TIME : 3 HOURS**

ORGANIC CHEMISTRY-II-ORGANIC REACTIONS AND STEREO CHEMISTRY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.(K1)

1. What is the solvent for Dess-Martin oxidation? (K1)

(a) Dichloro methane (b) Chloroform (c) Both solvents (d) None of these

2. Which of the following are the principle laws of photochemistry? (K1)

(a) Grothus-Draper and Stark-Einstein law (b) Raoult's and Dalton's law (c) Raoult's and Henry's law (d) Lambert's and Beer's law

3. What is an example of a cycloaddition reaction in a pericyclic reaction? (K1)

(a) Perkin reaction (b) Diel's-Alder reaction (c) Claisen reaction (d) Kolbe reaction

4. Which of the following can make difference in optical isomers? (K1)

(a) Heat (b) Temperature (c) Pressure (d) Polarized light

5. Which of the following is an example of pseudo alkaloid? (K1)

(a) Morphine (b) Caffeine (c) Ephedrine (d) Reserpine

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

6. Expand- DDQ and DMSO.(K2)

7. What is Beer-Lambert law?(K2)

8. Define-Sigmatropic rearrangement (K2)

9. Define- Optical isomerism (K2)

10. How are alkaloids classified? (K2)

SECTION – B (5 X 5 = 25 MARKS)

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

11. a) List and explain the chromyl chloride oxidation reactions. (K3)

(OR)

b) Describe the reaction mechanism of Wolfkishner reduction reactions.(K3)

12. a) Compare Norrish type I and Norrish type II reactions.(K3)

(OR)

b) Describe the photo substitution reactions of benzene derivatives. (K3)

13. a) List and explain Woodward-Hoffman selection rule for cyclo addition reactions.(K3)

(OR)

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b) Describe the Di-pi methane sigmatropic rearrangement.(K3)

14. a) Compare between optical isomerism and geometrical isomerism.(K3)

(OR)

b) Describe the optical isomerism of biphenyls.(K3)

15. a) Elucidate the structure of morphine. (K3)

(OR)

b) Describe the elucidation of reserpine.(K3)

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4/K5)

16. a) Analyze the oxidation reactions involving ozone as a reagent.(K4)

(OR)

b) Defend the Clemmensen reduction and Hydroboration reactions..(K5)

17. a) Discuss the Jablonski diagram of photochemical reactions.(K4)

(OR)

b) Summarize the Bartons reaction and Patterno-Buchi reaction.(K5)

18. a) Point out the analysis of sigmatropic rearrangements by FMO method.(K4)

(OR)

b) Discuss the electrocyclic reactions with suitable examples.(K4)

19. a) Outline the stereo chemistry of sulphur and nitrogen compounds.(K4)

(OR)

b) Analyze the stereoisomerism of cyclic compounds.(K4)

20. a) Elucidate the structure and synthesis of Quinine.(K4)

(OR)

b) Defend the structure and synthesis of Nicotine.(K5)

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