QP CODE: 24800572

24800572

Reg No : .....

Name : .....

INTEGRATED MSC DEGREE EXAMINATION, DECEMBER 2023

Sixth Semester

INTEGRATED MSC BASIC SCIENCE-CHEMISTRY

CORE - ICH6CR03 - ORGANIC CHEMISTRY - IV

2020 Admission Onwards

E8D25BAD

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. List the names of two fused heterocyclic compounds draw their structures.
2. Describe two methods for the preparation of tetrahydrofuran (THF)
3. Illustrate the chemical name and structure of Alizarin.
4. Describe the vulcanisation of rubber.
5. Justify the need for using optical brighteners in detergents.
6. Illustrate the structure of cholesterol and number it.
7. Amino acids containing unprotected amino and carboxyl groups are not suitable for peptide synthesis. Justify the statement.
8. Discuss the tertiary structure of proteins.
9. Discuss the structure of nucleosides.
10. Discuss the characteristics of enzymes.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. i. Illustrate Knorr- Pyrrole synthesis. ii. Write the products of oxidation of isoquinoline by potassium permanganate.

12. Write the synthesis of phenolphthalein and how does it function as an acid-base indicator.
13. Write short notes on the physiological activity of piperine and nicotine.
14. Compare and contrast the biological functions of saturated and unsaturated fats.
15. Sketch the structure of vitamin D, properties, functions an deficiency diseases of vitamin D.
16. Elaborate on the classification of amino acids.
17. Explain how the genetic code gets transmitted to new generation by DNA molecule.
18. Explain different types of enzyme inhibitors.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Discuss the synthesis, electrophilic substitution reaction and aromaticity of indole.
20. Explain classification of dyes based on their application with suitable examples.
21. Compare and contrast the structure and reactions of citral and geraniol.
22. Explain the different end group analyses that have been used in the determination of primary structure of proteins.

(2×5=10 weightage)