

Third Semester FYUGP Degree (Reg) Examination
NOVEMBER 2025
KU3DSCCHE215 - CHEMISTRY OF BIOMOLECULES
2024 Admission onwards

Time : 1.5 hours

Maximum Marks : 50

Section A

Answer any 6 questions. Each carry 2 marks.

1. What is electromagnetic radiation?
2. What is the wavelength range of visible light?
3. Differentiate between structural isomerism and stereoisomerism.
4. Differentiate between dextrorotatory and levorotatory compounds.
5. What is the product obtained from glucose reacts with bromine water
6. Mention any two properties of cellulose.
7. Mention one test for RNA.
8. Define proteins.

Section B

Answer any 4 questions. Each carry 6 marks.

9. Distinguish between epimers and anomers with example
10. Explain the classification of carbohydrate with suitable examples
11. Explain the structure of chitin.
12. Discuss the chemical properties of amino acids.
13. Discuss how protein structure is related to its function.
14. Distinguish between fibrous protein and globular proteins

Section C

Answer any 1 questions. Each carry 14 marks.

15. a) Discuss the applications of IR spectroscopy in qualitative and quantitative analysis
b) Discuss the Jablonski diagram to illustrate the processes involved in fluorescence and phosphorescence.
16. a) Draw and analyze all stereoisomers of tartaric acid. Justify why *méso* tartaric acid is optically inactive.
b) Tartaric Acid has two chiral centers. Construct all possible stereoisomers and identify enantiomers and diastereomers.