

QP CODE: 25050598



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION, DECEMBER 2025

First Semester

M Sc MICROBIOLOGY

Core Courses - MG030102 - FUNDAMENTALS OF BIOCHEMISTRY

2019 Admission Onwards

4AE2764D

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Explain briefly the structure of lactose .
2. Compare and contrast starch and cellulose.
3. Explain the need for characterisation of polysaccharides from biological system.
4. How are lipids classified?
5. What role do prostaglandins play in the inflammatory response?
6. ATP synthase is a molecular motor. Substantiate
7. What is protein refolding ?
8. Spell the role of topoisomerase .
9. Define a gene.
10. Define HMG box.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Carbohydrate derivatives act as informational molecules. Justify?
12. Discuss the structural characteristic and functions of hyaluronic acid and heparin.
13. Explain the structure and functions of phosphatidyl glycerol and cardiolipin.
14. Explain in detail about the plant steroids.





15. Explain the various fragmentation methods used in protein sequencing.
16. List out the major differences between DNA and RNA
17. Outline the structure and significance of histone proteins.
18. Explain RNA recognition motifs.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Comment on the structure and functions of glycoproteins.
20. Explain in detail the structure and functions of sphingolipids.
21. What are the quaternary structural changes that takes place when hemoglobin binds to oxygen.
22. Explain protein denaturation, reassociation and reassociation kinetics.

(2×5=10 weightage)

