

QP CODE: 24046333



Reg No :

Name :

**B.Sc DEGREE (CBCS) IMPROVEMENT/REAPPEARANCE/MERCY CHANCE
EXAMINATIONS, DECEMBER 2024**

First Semester

**Complementary Course - BC1CMT01 - BIOCHEMISTRY-ELEMENTARY
BIOCHEMISTRY**

(Common to B.Sc Botany Model I, B.Sc Botany Model II Environmental Monitoring And Management, B.Sc Botany Model II Food Microbiology, B.Sc Botany Model II Horticulture and Nursery Management, B.Sc Botany Model II Plant Biotechnology, B.Sc Zoology Model I, B.Sc Zoology Model II Aquaculture, B.Sc Zoology Model II Food Microbiology, B.Sc Zoology Model II Medical Microbiology, B.Sc Biological Techniques and Specimen Preparation Model III, B.Sc Biotechnology Model III, B.Sc Botany and Biotechnology Model III Double Main, B.Sc Microbiology Model III, B.Sc Zoology and Industrial Microbiology Model III Double Main)

2017 Admission Onwards

671F584B

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What do you mean by a hydrogen bond?
2. Choose the weaker acid? 1. Lactic acid (pKa-3.86) 2. Acetic acid (pKa-4.76)
3. Why membranes are called semipermeable?
4. Name two phenomena involving Donnan equilibrium in biological systems.
5. What are thylakoids?
6. How carbon fixation takes place in plants?
7. Name two C3 plants.
8. What are the main classes of secondary metabolites?
9. State Beer-Lambert's law.
10. Note down two applications of affinity chromatography.
11. Define Southern blotting.





12. Name the different types of blotting techniques and the type of molecules analysed using each method.

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Illustrate the concept of pH.
14. Differentiate between primary and secondary active transport.
15. Write notes on nitrogen fixation.
16. Differentiate between colorimetry and spectrophotometry.
17. What is R_f value? Explain its significance.
18. Discuss gel filtration chromatography.
19. Write notes on PAGE.
20. Elaborate on AGE.
21. Briefly explain the role of MALDI-TOF MS in proteomics and its applications.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Derive Henderson Hasselbalch and explain its importance.
23. Give an account on classification of membrane proteins and elaborate on their functions.
24. Explain cyclic and non-cyclic photophosphorylation.
25. What is western blotting? Outline its technique and applications.

(2×10=20)

