



UN – 211

III Semester B.Sc. Examination, Nov./Dec. 2015

(F+ R / CBCS)

BIOTECHNOLOGY – III

Biochemistry and Biophysics

70 – 2012-13 and Onwards

60 – Prior to 2012-13

Time : 3 Hours

Max. Marks : 70/60

- Instructions :**
- 1) Part – I and Part – II must be answered in booklets.
 - 2) 70 marks for students of 2012-13 onwards/CBCS.
 - 3) 60 marks for repeater students prior to 2012-13.
 - 4) Part – I, Section D is compulsory for students of batch 2012-13 onwards/CBCS.
 - 5) Part – II, Section C is compulsory for students of batch 2012-13 onwards/CBCS.
 - 6) Draw the structures and neat labelled diagrams wherever necessary.

PART – I

(Biochemistry)

SECTION – A

I. Write short notes on the following :

(4×2=8)

1. Ascorbic acid
2. Peptide bond
3. Phospholipids
4. Cofactors.

SECTION – B

II. Answer any two of the following :

(2×6=12)

5. What is Michaelis-Menten equation ? Mention the significance of V_{Max} and K_m .
6. What is rancidity ? Give reasons for rancidity.
7. Explain the quaternary structure of protein with an example.

P.T.O.



SECTION – C

III. Answer **any two** of the following :

(2×10=20)

8. Explain the structure of starch. Describe the role of carbohydrates as a energy source.
9. Explain the classification of proteins based on structure and function.
10. Write a note on :
 - a) Steroid hormone
 - b) Vitamin B complex.

SECTION – D

(From 2012-13 Batch Onwards + CBCS)

IV. Answer the following :

(5×1=5)

11. What is active site of an enzyme ?
12. Name two coenzymes derived from Vitamins.
13. What is PUFA ? Give example.
14. What are the disaccharides ?
15. What are hydroxyl amino acids ? Give example.

PART – II
(Biophysics)

SECTION – A

I. Answer **any two** of the following :

(2×5=10)

1. Differentiate between ionic and covalent bonds.
2. What is radio activity ? Explain the importance of isotopes in biological studies.
3. Define buffer. Explain the mode of action of phosphate buffer.