

Q.P. Code : 11334

Third Semester B.Sc. Degree Examination,
November/December 2019

(CBCS Scheme)

Biotechnology

Paper III - BIOCHEMISTRY AND BIOPHYSICS

[Max. Marks : 70

Time : 3 Hours]

Instructions to Candidates :

- 1) Part - I and Part - II must be answered in single/same booklet.
- 2) Draw the structures and neat labeled diagrams wherever necessary.

PART - I
(BIOCHEMISTRY)

SECTION - A

I. Write short notes on the following :

(4 × 2 = 8)

1. Dipeptide bond
2. Saponification
3. Saturated fatty acids
4. Denaturation

SECTION - B

II. Answer any **TWO** of the following :

(2 × 6 = 12)

5. Explain the classification of amino-acids based on its polarity.
6. Discuss about the general characteristics of enzymes. Add a note on its uses.
7. Write short notes on :
 - (a) Fat soluble vitamins
 - (b) Steroid hormones.

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SECTION - C

- III. Answer any **TWO** of the following : (2 × 10 = 20)
8. Explain the classification of carbohydrates in detail with an example each.
9. Write short notes on :
- (a) Primary structure of protein
 - (b) Tertiary structure of protein.
10. Explain about
- (a) Co-enzymes and cofactors
 - (b) Competitive and non-competitive inhibition.

SECTION - D

- IV. Answer the following in a word or sentence each : (5 × 1 = 5)
11. Name a disease associated with deficiency of Vitamin A.
12. What is the chemical name of Vitamin B12?
13. Name a disease caused by deficiency of iodine.
14. Give an example of polypeptide hormone.
15. What are Gangliosides?

PART - II
(BIOPHYSICS)

SECTION - A

- V. Answer any **TWO** of the following : (2 × 5 = 10)
16. Define Buffer. Explain its types. Add a note on its Biological significance.
17. Differentiate between ionic and covalent bonds.
18. Explain the construction of GM counter.

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SECTION - B

- VI. Answer any **ONE** of the following : (1 × 10 = 10)
19. Define chromatography. Explain TLC and paper chromatography in detail.
20. Explain NMR and its applications in detail.

SECTION - C

- VII. Answer the following in a word or sentence each : (5 × 1 = 5)
21. Write two applications of Biophysics.
22. Define pH.
23. What is EMR?
24. What are amphoteric substances?
25. Expand HPLC.
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