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Reg. No.

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III Semester B.Sc. Degree Examination, March/April - 2021

BIOTECHNOLOGY
Biochemistry And Biophysics
(CBCS Scheme)

Paper : III



Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

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

PART - I
BIOCHEMISTRY
SECTION - A

I. Write short notes on the following :**(4×2=8)**

1. Glycosidic Bond
2. Active site of an enzyme.
3. Co.factors
4. Iodine Number

SECTION - B

II. Answer any two of the following :**(2×6=12)**

5. Mention the characteristics of α - helix structure of a protein.
6. Explain the dietary source biological role and deficiency disease of vitamin C, B₆ and E.
7. Explain the following :
 - a. Lock and Key Theory
 - b. Properties of Protein

SECTION - C

III. Answer any two of the following :**(2×10=20)**

8. Classify proteins giving suitable example. Add a note on their biological importance.
9. Write short notes on
 - i. The effect of PH and temperature on enzyme catalyzed reaction.
 - ii. Michaelis - Menten equation.
10. Classify steroid hormones and explain estrogen.

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SECTION - D

- IV. Answer the following in a word or sentences each. (5×1=5)**
11. Name any two hydrophobic amino acids.
 12. Give the chemical name of Vitamin B₁₂.
 13. What is the non - protein part of holoenzyme.
 14. Expand PUFA.
 15. What is Rancidity?

PART - II

BIOPHYSICS

SECTION -A

- V. Answer any two of the following : (2×5=10)**
16. Write Henderson - Hasselbalch equation. Explain its significance.
 17. Explain the scintillation counter
 18. Write the characteristics of Hydrogen Bonds.

SECTION -B

- VI. Answer any One of the following : (1×10=10)**
19. Discuss the principles and applications of column chromatography.
 20. Explain Ultraviolet and visible light spectroscopy, its principle and applications.

SECTION -C

- VII. Answer the following in a word or sentence each. (5×1=5)**
21. Define Biophysics.
 22. Give an example of an acidic buffer
 23. What is R_f value.
 24. Define Spectroscopy.
 25. Name the radioactive isotope used in medical treatment.
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