

C 21109

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS-UG)

Zoology

ZOL 6B 10—BIOCHEMISTRY

Time : Three Hours

Maximum : 80 Marks

A. Answer *all* questions. Each carries 1 mark :

1. The two-strands in the double helix of DNA are held together by _____ bonds.
2. Name the storage form of carbohydrates in mammals.
3. What role does the addition of NaOH have in protein analysis ?
4. Draw the chemical structure of glycine.
5. What is a peptide bond ?
6. What is the separation technique used to resolve DNA molecules ?
7. Expand the abbreviations (a) FAD; (b) NAD.
8. The lock and key hypothesis of enzyme action was put forward by _____.
9. The powerhouse of the cell is _____.
10. Name the final electron acceptor in the ETC.

(10 × 1 = 10 marks)

B. Answer any *ten* questions in two or three sentences each. Each carries 2 marks :

11. How do hydrophobic interactions influence the integrity of the plasma membrane ?
12. Highlight the importance of glucose in biological systems.
13. What are the applications of a UV spectrophotometer ?
14. What do you understand by the term 'denaturation of proteins' ?
15. Define isoelectric point.
16. Explain secondary structure of a protein.
17. What is a phospholipid? Where is it mostly seen in living organisms ?
18. Distinguish between an isozyme and a ribozyme.
19. What is enzyme inhibition ?
20. Why is Kreb's cycle called 'amphibolic' ?
21. What is HMP shunt ?
22. Define 'Pasteur effect'.

(10 × 2 = 20 marks)

Turn over

- C. Answer any *five* questions in not more than a paragraph each. Each carries 6 marks :
23. Citing *one* example each, distinguish between hydrophobic and hydrophilic interactions.
 24. Write down the principle involved in Benedict's test.
 25. Give a brief description of the classification of amino acids.
 26. What are the different factors that influence the separation of proteins in PAGE ?
 27. Explain the chemiosmotic theory.
 28. How is glycolysis regulated ?
 29. Highlight the importance of ATP.
 30. What role does de-amination and transamination play in metabolic activities ?
- (5 × 6 = 30 marks)
- D. Write essays on any *two* of the following. Each carries 10 marks :
31. Write an essay on the different types of bonds seen in biological molecules. Add a note on their physiological significance.
 32. Write an essay on various types of electrophoretic separation techniques and their applications.
 33. Describe the theories put forward to explain enzyme action.
 34. Giving proper illustrations, describe the structure of DNA..
- (2 × 10 = 20 marks)