

(6 pages)

Reg. No. :

Code No. : 6426

Sub. Code : ZZOM 14

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Zoology – Core

BIOCHEMISTRY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The buffer which remove the CO₂ is
(a) Carbonate (b) Bicarbonate
(c) Proton (d) Electron
2. Glutathione is
(a) Dipeptide (b) Tripeptide
(c) Oligopeptide (d) Polypeptide

3. The monosaccharides like glucose and fructose exist _____.
(a) only in open straight chain
(b) only in ring form
(c) both open straight chain and ring form
(d) none of these
4. Mostly all the sugars in the plants are
(a) D-sugar (b) L sugar
(c) Arabinose (d) Sucrose
5. Amino acids basically contain
(a) NH₂ and COOH group
(b) COOH group only
(c) NH₂ group only
(d) None of the above
6. Intermediate of which of the following metabolic pathway have not been used in the synthesis of amino acids?
(a) Glycolysis
(b) Fatty acid biosynthesis
(c) Citric acid cycle
(d) Pentose phosphate pathway

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7. β -oxidation is well established by
- saturated fatty acid
 - unsaturated fatty acid
 - both (a) and (b)
 - none of the above
8. Sterol widely present in
- Animal tissue only
 - Plant tissue only
 - Both Animal and Plant tissues
 - None of these
9. Gout is a disorder of
- Hypercholesterolemia
 - Amino acid metabolism
 - Protein metabolism
 - Uric acid metabolism
10. Which vitamin is useful for the synthesis of Prothrombin?
- | | |
|---------------|---------------|
| (a) Vitamin B | (b) Vitamin E |
| (c) Vitamin C | (d) Vitamin A |

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the structure of atoms and molecules.

Or

- (b) Explain the properties of water in relation to life processes.

12. (a) Briefly explain carbohydrate metabolism.

Or

- (b) Write an account on regulation of blood sugar.

13. (a) Describe the chemical properties and functions of Phospholipids.

Or

- (b) Write short notes on :
- Hypercholesterolemia
 - Hyperlipoproteinemia.

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[P.T.O.]



14. (a) Give a detailed account on Biological importance of Lipids.

Or

- (b) Briefly explain the biosynthesis of fatty acids.

15. (a) Write an account on fat soluble vitamins.

Or

- (b) Describe the 'salvage pathways' in nucleic acid synthesis.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, by choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Define Covalent bond and explain the types, properties and examples.

Or

- (b) Derive the Henderson Hassel Balch equation.

17. (a) Describe the classification, structure and properties of Carbohydrates.

Or

- (b) Write detailed account on glycolysis.

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18. (a) Explain the mechanism of enzyme action.

Or

- (b) Describe the Urea cycle.

19. (a) Describe Beta oxidation of fatty acids.

Or

- (b) Explain the role of liver in fat metabolism.

20. (a) Briefly discuss about water soluble and fat soluble vitamins.

Or

- (b) Write an essay on Nucleic acid metabolic disorders.

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