

(6 pages)

Reg. No. :

Code No. : 6401

Sub. Code : HZOM 11

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2013.

First Semester

Zoology

BIOLOGICAL CHEMISTRY

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Atomic number represents the

- (a) Number of protons
- (b) Number of electrons
- (c) Number of neutrons
- (d) Both (a) and (b).

2. Which one of the following is an example for ionic bond

- (a) NaCl
- (b) CO₂
- (c) NH₃
- (d) CH₄.

3. The number of ATP molecules gained in glycolysis is

- (a) 6
- (b) 8
- (c) 10
- (d) 12.

4. The charge is specific related of an optically active compound is called

- (a) Mutation
- (b) Mutarotation
- (c) Mutadrive
- (d) None of these.

5. Identify the catabolic phase of amino acid

- (a) Oxidative deamination
- (b) Transamination
- (c) Decarboxylation
- (d) All of these.

6. Presence of alpha and beta helix is the characteristic features of

- (a) Primary structure of protein
- (b) Secondary structure of protein
- (c) Tertiary structure of protein
- (d) Quaternary structure of protein.

Page 2

Code No. : 6401



7. Lecithin is an example for
 (a) Simple lipid (b) Compound lipid
 (c) Derived lipid (d) None of these.
8. The identifying property of lipid is
 (a) Emulsification (b) Rancidity
 (c) Saponification (d) All of these.
9. Pepsin is an example for the class of enzymes namely
 (a) Oxido-reductase (b) Transferases
 (c) Hydrolases (d) Ligases.
10. Most thoroughly investigated iso enzyme is
 (a) Lactate dehydrogenase
 (b) Creatine phosphokinase
 (c) Alkaline phosphatase
 (d) Alcohol dehydrogenase.

PART B — (5 × 5 = 25 marks)

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

11. (a) Describe the structure of atom.
 Or
 (b) Explain the structural features of a molecule.

Page 3 Code No. : 6401

12. (a) Outline the protocol of glucose tolerance test and comment on its significance.

Or

- (b) Evaluate the metabolic significance of HMP shunt pathway.

13. (a) List down the properties of protein.

Or

- (b) Discuss the biological importances of protein.

14. (a) Write down the structural details of sterols.

Or

- (b) With suitable example classify lipids.

15. (a) Furnish the IUB system of enzyme classification with example.

Or

- (b) What are isoenzymes? Mention the properties with an example.

Page 4 Code No. : 6401
 [P.T.O.]



PART C — (5 × 8 = 40 marks)

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

16. (a) State the laws of thermodynamics and comment on the application in biological system.

Or

- (b) Bring out the essential features of acidosis and alkalosis.

17. (a) TCA cycle forms the centre part for all metabolic pathway-Substantiate.

Or

- (b) What is gluconeogenesis? Discuss the various routes and the significance.

18. (a) On the basis of polarity classify amino acids. Give example for each.

Or

- (b) Discuss the metabolic pathway of phenyl alanine.

19. (a) Illustrate the biosynthetic path way of cholesterol.

Or

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

Page 5 Code No. : 6401

20. (a) Trace the metabolic pathway of Haemoglobin.

Or

- (b) Critically evaluate the factors influencing enzyme action.
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Page 6 Code No. : 6401

