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Name.....................................

Reg. No.................................

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2014

(CUCSS)

Zoology

ZO 1C T01—BIOCHEMISTRY

Time : Three Hours

Maximum : 36 Weightage

Part A

I. Answer the following :—

1 Write the Haworth structure of Galactose.

2 What are epimers ? Give examples.

3 Write the purines and pyrimidine bases of RNA.

4 Define Iodine number and give its importance.

5 What is enthalpy ?

6 Give the role of any two Vitamins as coenzyme.

7 What are isoenzymes ?

8 Write the structure of any one steroid.

9 Define Redox potential.

10 What are homopolysaccharides ? Give examples.

11 Write the projection formula for glucose.

12 Write a note on the amphoteric property of an amino acid.

13 Explain the reaction of a reducing sugar with phenylhydrazine.

14 State the laws of thermodynamics.

$(14 \times 1 = 14$ weightage)

Part B

II. Answer any *seven* of the following :—

15 What are caroteinoids ? Give their biological role.

16 Explain allosteric enzymes and write a note on positive and negative regulators.

17 Write a brief note on Pyruvate dehydrogenase complex.

18 Explain the synthesis and breakdown of glycogen.

19 Describe the steps in mitochondrial breakdown of fatty acids indicating the energy yield.

20 Describe the metabolism of Phenyalanine.

Turn over

21 Explain the biosynthesis of Pyramidines and the allosteric regulation.

22 Write a note on the biological importance of HMP pathway in mammalian system.

23 Describe the classification of amino acids based on the polarity of the side chain.

24 Explain the substrate level phosphorylation reactions.

(7 × 2 = 14 weightag

Part C

III. Answer any *two* of the following :—

25 Explain the mitochondrial production of ATP.

26 Describe the role of TCA cycle as the common oxidative pathway.

27 Explain the biosynthesis of cholesterol. Indicate the rate limiting step.

28 Describe the different theories in the formation of enzyme-substrate complex.

(2 × 4 = 8 weightag