D 93265 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (SUPPLEMENTARY) EXAMINATION NOVEMBER 2020

(CUCSS)

Zoology

ZO1C01—BIOCHEMISTRY AND CYTOGENETICS

(2016 Admissions)

Time : Three Hours Maximum : 36 Weightage

I. Answer *all* questions. Each question carries 1 weightage :

1 Write briefly on the chemical bonds of biomolecules.

2 Distinguish between structural isomerism and stereo isomerism.

3 What do you mean by pK value and Isoelectric point of amino acids.

4 Citing one example each, distinguish between hydroxyl and cyclic fatty acids.

5 What is Fischer's Template theory ?

6 Explain free energy concept.

7 Write on inhibitors of electron transport chain.

8 Why PFK is referred to as the pacemaker of glycolysis ?

9 What are cytoskeletons ?

10 Write on the role of carbon monoxide as a signaling molecule.

11 What do you know about repetitive DNA ?

12 Distinguish between Gap junction and Tight junction.

13 What is cell adhesion ?

14 What is cell coat ?

(14 × 1 = 14 weightage)

II. Answer any *seven* questions. Each question carries 2 weightage :

15 Write a concise account on cell permeability.

16 Explain the functional significance of cAMP.

17 Give the structural organization of ribosomes.

18 Explain the regulation of apoptosis.

19 Citing one example each, write briefly on the classification of lipids.

20 Describe the biological roles of nucleotides and nucleic acids.

21 Explain HMP pathway.

22 Briefly enumerate the biosynthesis of cholesterol.

23 Explain transamination and deamination reactions in biological system.

24 Illustrate the methods of representation of sugars.

(7 × 2 = 14 weightage)

III. Answer any *two* questions. Each question carries 4 weightage :

25 Elaborate on extrachromosomal inheritance.

26 Describe different kinds of enzyme inhibition.

27 Explain the secondary structure of protein.

28 Enumerate the structure and functions of homopolysaccharides.

(2 × 4 = 8 weightage)