

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCSS—PG)

Zoology

ZO 1C T01—BIOCHEMISTRY AND CYTOGENETICS

(2016 Syllabus Year)

Time : Three Hours

Maximum : 36 Weightage

I. Answer the following questions :

- | | |
|------------------------------|------------------------|
| 1 Isoelectric point. | 8 Heparin. |
| 2 Enantiomer. | 9 Prostaglandins. |
| 3 Energy of activation. | 10 Micro-RNAs. |
| 4 Allosteric inhibition. | 11 Membrane potential. |
| 5 Zwitterions. | 12 Peroxisomes. |
| 6 Oxidative phosphorylation. | 13 Co-enzymes. |
| 7 Pyruvate dehydrogenase. | 14 Desmosomes. |

(14 × 1 = 14 weightage)

II. Answer any *seven* of the following :

- 15 Describe the structure and functions of cellulose.
- 16 Write the classification of amino acids based on the chemical composition of side chains.
- 17 Write note on Ramachandran plot.
- 18 Explain oxidation of fatty acids.
- 19 Describe pentose-phosphate pathway.
- 20 Explain the biosynthesis of tryptophan.
- 21 Write a brief note on different classes of ATP powered pumps.
- 22 Briefly explain interrupted genes.
- 23 Write note on maternal inheritance.
- 24 Explain the role of cadherins in cell-cell adhesion.

(7 × 2 = 14 weightage)

Turn over

III. Answer any *two* of the following :

- 25 Write an account on cell surface hormone receptors.
- 26 Derive Michaelis-Menten equation and explain the effect of substrate concentration on enzyme action.
- 27 Explain citric acid cycle and its regulation.
- 28 Write an essay on chromosomal aberrations.

(2 × 4 = 8 weightage)