

25101

M.Sc. DEGREE EXAMINATION, APRIL 2015.

SECOND SEMESTER

Zoology

Paper I — METABOLIC REGULATION AND CELL FUNCTION

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Monosaccharides.
2. Structure of Mitochondria.
3. Beta oxidation.
4. Semi-conservative replication.
5. Biological significance of Proteins.
6. Okazaki fragment.
7. Glycogenolysis.
8. Redox Potentials.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Give a detail account on structure and properties of carbohydrates.

Or

10. Write an essay on Thermodynamic Principles in Biology.
11. Discuss in detail the reactions involved in the Glycolytic Pathway.

Or

12. Write a detailed note on Mitochondrial Electron Transport System and add note on major functions of Mitochondria in metabolic regulation of a cell.

13. Give an detailed account on the following :

- (a) Transamination of amino acids
- (b) Biosynthesis of Polyamines.

Or

14. Describe the biosynthesis of urea and mechanism of detoxification of ammonia.

15. Describe the clinical disorders of purine metabolism and disorders.

Or

16. Discuss the following :

- (a) Biosynthesis of Nucleotides
- (b) Types of Nucleotides in RNA.

