25084

M.Sc. DEGREE EXAMINATION, APRIL 2015.

SECOND SEMESTER

Biotechnology

Paper IV — ENZYMOLOGY

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. Fisher lock and key hypothesis/ Koshland fit hypothesis
2. Lactate dehydrogenase and pyruvate dehydrogenase
3. Henry and Michelis-menton equation
4. Enthalpy, entropy and free energy
5. Lysozyme
6. Ligand-protein interaction
7. Immobilized enzymes
8. Sickle cell anaemia

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. To what major classes do the following enzymes belong; alkaline phosphatase, trypsin, Thrombin, esterase, RNA polymerase, Eco RI, helicase, DNA Topo Isomerase. Explain in detail about RNA polymerase?

Or

10. Give detailed account of extraction and purification of enzymes?

11. Define and explain 1st and 2nd laws of thermodynamics?

Or

12. Describe the methods used to study the enzymes activity?

13. Describe enzyme inhibitions?

Or

14. Explain chemical nature of enzyme catalysis and write about chymotrypsin and ribonuclease?

15. Explain about different inborn errors in metabolism and give an account on phenylketonuria and galactosemia?

Or

16. Give detailed account of biotechnological applications of enzymes?
