

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JULY 2011**

(CSS)

**GB 2C1—METABOLISM AND BASIC ENZYMOLOGY**

(2010 admissions)

Time : Three Hours

Maximum Weightage : 36

**Section A***Answer all questions.*

1. Discuss zymogens and its role in enzyme regulation.
2. Write a brief note on cytochromes.
3. Differentiate between oxidative phosphorylation and substrate level phosphorylation.
4. Explain the terms enthalpy, entropy and free energy.
5. Discuss the significance of Xanthine oxidase.
6. Write briefly on affinity chromatography.
- 7. Explain the terms transamination and deamination with examples.
8. Write on the coenzyme function of Vitamin C.
9. Outline the mitochondrial ETC and mark the sites of action of various inhibitors of the chain.
10. Discuss the biochemistry of gout.

(10 x 1 = 10 weightage)

**Section B***Answer any seven questions.*

11. Outline the sequence of reactions in Gluconeogenesis.
12. Compare the  $\beta$ -oxidation and denovo synthesis of palmitic acid. Discuss the energetics of each.
13. Write the chemical structure of aromatic amino acids and discuss their physiological significance.
14. Name the coenzymes derived from each of the following vitamins-Thiamine, riboflavins pyridoxine and nicotin amide. Give one metabolic reaction for each.
15. Discuss ATP synthetase.
16. Explain biological roles of high energy nucleotides.
17. Compare the structural features of DNA and RNA.
18. Outline the classification of lipids with suitable examples.
19. Enzyme inhibitors. Explain.
20. Discuss the specificity and properties of enzymes.

(7 x 2 = 14 weightage)

Turn over

## Section C

*Answer any two questions.*

21. Outline the TCA cycle. What are the functions of the TCA cycle ? Why is it called an amphibio pathway ?
22. Write briefly on classification and nomenclature of enzymes.
23. Discuss the application of enzymatic analysis in medicine and industry.

(2 x 6 = 12 weightage)