

C 44068

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Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, AUGUST 2013
(CUCSS)

General Biotechnology

GB 2C1—METABOLISM AND BASIC ENZYMOLOGY

Maximum : 36 Weightage

Time : Three Hours

Section A

Answer **all** questions.

1. What is substrate level phosphorylation ?
2. With suitable examples write briefly on oxidases.
3. Explain why citric acid cycle is called an amphibolic pathway.
4. What are uncouplers ? Discuss with suitable examples.
5. Explain the significance of SGOT and SGPT.
6. Write the chemical structure of phosphatidyl ethanol amine and explain its physiological functions.
7. Write on the significance of AT case in nucleotide metabolism.
8. Explain the role of rebonucleotide deductase.
9. Explain the induced fit hypotheses.
10. What are abzymes ?

(10 x 1 = 10 weightage)

Section B

Answer any **seven** questions.

11. What are isozymes ? With suitable examples discuss their clinical applications.
12. What are the factors influencing enzyme activity ? Discuss.
13. What are multienzyme complexes ? What is the significance ? Explain with suitable examples.
14. Elaborate the catabolism of Adenine nucleotide, with enzymes and coenzyme and intermediates.
15. Write a note on sphingo lipids.
16. What do you understand by enzyme engineering ?
17. Explain the chemiosmotic hypothesis for ATP synthesis.
18. Calculate the energy in terms of ATP and reducing equivalents for the aerobic oxidation of 1 molecule glucose to acetyl loA.

Turn over

19. Write a brief note on the high and low energy phosphate compounds.
20. Discuss the role of coenzymes in enzyme catalysis.

(7 x 2 = 14 weightage)

Section C

Answer any two questions.

21. Explain the different methods of enzyme immobilization. What are the advantages and disadvantages?
22. Give the β -oxidation pathway for oleic acid with all enzymes, coenzymes and intermediates.
23. Discuss in detail protein synthesis.

(2 x 6 = 12 weightage)