QP CODE: 23104244

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, JANUARY 2023

Third Semester

COMPLEMENTARY COURSE - BC3CMT03 - BIOCHEMISTRY- ENZYMOLOGY AND METABOLISM

(Common to B.Sc Zoology Model II Aquaculture, B.Sc Biological Techniques and Specimen Preparation Model III, B.Sc Biotechnology Model III, B.Sc Botany and Biotechnology Model III Double Main, B.Sc Botany Model I, B.Sc Botany Model II Environmental Monitoring And Management, B.Sc Botany Model II Food Microbiology, B.Sc Botany Model II Horticulture and Nursery Management, B.Sc Botany Model II Plant Biotechnology, B.Sc Microbiology Model III, B.Sc Zoology and Industrial Microbiology Model III Double Main, B.Sc Zoology Model I, B.Sc Zoology Model II Food Microbiology & B.Sc Zoology Model II Medical Microbiology)

2017 Admission Onwards

6080D48B

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What is enzymology?
2. Name the coenzyme required for the action of transaminases.
3. Write down Lineweaver -Burk equation.
4. Mention the reaction in TCA cycle in which FAD is reduced.
5. Give an example of substrate level phosphorylation.
6. What is branching enzyme?
7. What is the product of decarboxylation of histidine?
8. Name the prosthetic group of transaminases.
9. What is the role of carbamoyl phosphate synthetase in urea cycle?
10. How many molecules of acetyl CoA are produced from one molecule of palmitic acid?

11. What are ketone bodies?

12. What is HMG CoA?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Comment on the effect of temperature on the velocity of enzyme catalyzed reactions.

14. Give a note on Michaelis Menten equation, Km Value and its significance.

15. What are cofactors? Explain cofactor specificity.

16. Lactate fermentation.

17. Explain various components in an electron transport chain.

18. Give a note on amino acid deamination.

19. What are ketogenic amino acids? Give two examples.

20. Explain how fatty acids are transported into the mitochondria?

21. How many cycles of beta oxidation are required for the complete oxidation of palmitic acid. Give the net reaction and ATP yield.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. a. Discuss Km and its significance in study of enzymatic reactions.
    b. Give a detailed note on specificity exhibited by enzymes.

23. Enumerate the steps involved in glycogenolysis.

24. Give a detailed account on different aspects of amino acid metabolism.

25. Illustrate the reaction sequence involved in biosynthesis of fatty acids.

(2×10=20)