24026975

QP CODE: 24026975

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2024

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

6D29CADC

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. What do you mean by Holoenzyme?
2. Mention the significance of Km.
3. Define geometrical specificity exhibited by an enzyme.
4. How many molecules of pyruvic acid are formed when one molecule of glucose undergoes glycolysis?
5. How many molecules of ATP are produced from one molecule of NADH?
6. Define glycogenesis.
7. Define decarboxylation.
8. What are transaminases?
9. Name two glucogenic amino acids.

10. Give any two differences between fatty acid oxidation and biosynthesis.
11. How many molecules of acetyl CoA are produced from one molecule of palmitic acid?
12. Give two examples of ketone bodies.

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Describe the type of reaction catalysed by transferases with suitable examples.
14. Comment on the effect of substrate concentration on the velocity of enzyme catalyzed reactions.
15. What is Lineweaver –Burk plot? Explain its significance.
16. Give a note on Complex IV in ETC.
17. Explain the action of glycogen phosphorylase.
18. Give a note on amino acid deamination.
19. Comment on the significance of urea cycle.
20. Explain the role of CoA and ACP in fatty acid metabolism.
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. Write notes on : (a) Michaelis- Menten equation and significance of Km (b) Lineweaver-Burk plot.
23. Illustrate citric acid cycle.
24. What is the fate of carbon skeleton from amino acid catabolism?
25. Illustrate the biosynthetic pathway of cholesterol.

(2×10=20)