22100574

**QP CODE: 22100574**

**Reg No : .....**

**Name : .....**

# B.Sc DEGREE (CBCS ) REGULAR / REAPPEARANCE EXAMINATIONS, APRIL 2022

## 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

D9D4552E

Time: 3 Hours Max. Marks : 60

### Part A

*Answer any **ten** questions.*

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

1. What are cofactors?
2. Mention the significance of Km.
3. What is absolute specificity of an enzyme?
4. Name the enzyme which catalyses the conversion of Phosphoenolpyruvate to pyruvate in glycolysis.
5. What is the role of lactate dehydogenase in glycolysis?
6. What is the role of Complex II in ETC?
7. Define deamination.
8. What are transaminases?
9. What is ornithine cycle?

10. What is ACP?

11. Give any two differences between fatty acid oxidation and biosynthesis.

12. How many molecules of ATP are produced during beta oxidation of one molecule of palmitic acid?

(10×1=10)

**Part B**

*Answer any **six** questions.*

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

13. Explain the classification of enzymes.

14. Comment on the effect of pH on the velocity of enzyme catalyzed reactions.

15. Explain Michaelis-Menten equation.

16. Give an account on fate of pyruvate in alcoholic fermentation.

17. Explain the action of glycogen phosphorylase.

18. What are glucogenic amino acids? Give two examples.

19. Comment on ketogenic amino acids.

20. Explain carnitine shuttle.

21. What is HMG CoA? How is it produced?

(6×5=30)

**Part C**

*Answer any **two** questions.*

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

22. a. What is lineweaver burk plot? Explain.
    b. Discuss the different types of enzyme specificity.

23. Trace the reactions sequence happening in TCA cycle.

24. Write detailed notes on :
    (a) Transamination (b)Decarboxylation (c ) Deamination

25. Describe the steps involved in β-oxidation of fatty acids. Give an account on the ATP yield.

(2×10=20)