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Reg. No. :

Name :

Third Semester B.Sc. Degree Examination, February 2024

First Degree Programme Under CBCSS

Biochemistry

Complementary Course III : For Botany and Zoology

BC 1331 : ENZYMES AND BIOENERGETICS

(2014–2019 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – I

(Very short answer type – Maximum 2 sentence)

(Answer **all** questions)

1. Digestive enzymes belong to which major class of enzymes?
2. What is active site of an enzyme?
3. Define Km.
4. What is the cause for night blindness?
5. Name the coenzyme form of thiamine.
6. Which vitamin is essential for maintaining a healthy immune function?
7. What is free energy?

P.T.O.



8. Define P/O ratio.
9. What is the function of chlorophylls?
10. Write the structure of ATP.

(10 × 1 = 10 Marks)

SECTION – II

(Short answer questions – not to exceed one paragraph)

(Answer **any eight** questions)

11. Write short note on the significance of K_m .
12. What is Enzyme specificity?
13. What are Isoenzymes?
14. What are the functions of vitamin D?
15. Write briefly coenzyme function of biotin.
16. What is substrate level phosphorylation?
17. Write short notes on Redox potential.
18. What is Photorespiration?
19. Write about Nitrogenases.
20. Write short note on Glutamate dehydrogenase.
21. What are Marker enzymes?
22. Briefly write about PLP.

(8 × 2 = 16 Marks)



SECTION – III

(Short Essay – not to exceed **120** words)

(Answer **any six** questions)

23. Describe Michaelis – Menten equation.
24. How can you determine Km value?
25. Write short note on Allosteric regulation.
26. What are the Physiologic functions of folic acid?
27. Write short notes about Coenzymes of riboflavin and their functions.
28. Explain about the Inhibitors of electron transport chain.
29. What is Chemiosmotic hypothesis?
30. Write short notes on Calvin cycle.
31. Explain briefly about Nitrogen assimilation in plants.

(6 × 4 = 24 Marks)

SECTION – IV

(Long Essay)

(Answer **any two** questions)

32. Describe the different factors affecting enzyme catalysed reaction.
33. Explain in detail about the functions of fat soluble vitamins.
34. Write in detail about the Mitochondrial electron transport chain.
35. Describe the Light phase of photosynthesis.

(2 × 15 = 30 Marks)

