(Pages : 3) **T – 2722**

Reg. No. : .....

Name : .....

Fourth Semester B.Sc. Degree Examination, July 2024

Career Related First Degree Programme under CBCSS

Group 2(a) – Botany And Biotechnology

Complementary Course

BB 1431 : METABOLISM

(2014 – 2019 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – I

(Very short answer – type – maximum of **two** sentences) Answer **all** questions.

1. Name any one regulatory enzyme of glycolysis.
2. Write the significance of pentose phosphate pathway.
3. What are essential fatty acids? Give examples.
4. What is the ATP yield from one molecule of stearic acid oxidation?
5. Define transmination reaction with an example.
6. Name the proteolytic enzymes of GI tract.
7. What is P/O ratio?
8. Write the structure of ADP.
9. Write the action of peptidyl transferase.
10. What is RNA polymerase?

(10 × 1 = 10 Marks)

P.T.O.

SECTION – II

(Short answer questions – not to exceed **one** paragraph) Answer any **eight** questions.

11. Describe the metabolic fate of pyruvate.
12. Write about glycogen phosphorylase.
13. Write the composition and functions of bile.
14. What are the functions of phospholipids?
15. Write the significance of histidine decarboxylase.
16. What is oxidative phosphorylation?
17. What ATP is called a high energy compound?
18. What is the role of cytochromes in ETC?
19. What is the salient features of mRNA?
20. What are okazaki fragments?
21. What do you mean by degeneracy of genetic code?
22. Write briefly on the formation of triacylglycerols.

(8 × 2 = 16 Marks)

SECTION – III

Short essay – not to exceed **120** words Answer any **six** questions.

23. Write the steps in glycolysin.
24. Outline the synthesis of cholesterol.
25. Write the reactions of urea cylce?
26. Explain the components and functions of mitochondrial electron transport chain
27. Differentiate oxidative and substrate level phosphorylation.
28. Describe a DNA replication fork and the events taking place.
29. Enlist the role of mRNA tRNA and r-RNA in protein biosynthesis.
30. Explain glutathione cycle.
31. Describe the key reactions of gluconeogenesis.

(6 × 4 = 24 Marks)

SECTION – IV

(Long Essay) Answer any **two** questions.

32. Discuss the control of glycogen metabolism.

33. Describe the steps in palmitate oxidation.

34. Discuss prokaryotic protein biosynthesis.

35. Explain the process of transcription in prokaryotes.

(2 × 15 = 30 Marks)

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