(Pages : 3)

Reg. No. : .....

Name : .....

T – 2727

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

(2020 Admission onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark.

1. What is deamination?
2. Give the rate limiting reaction in biosynthesis of cholesterol.
3. What are the two phases of glycolysis?
4. Name the prosthetic group of transaminases.
5. Give an example of an inhibitor of electron transport chain.
6. What is a promoter?
7. What is meant by omega oxidation?

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8. What is glycogen phosphorylase?

9. What is meant by hypercholesterolemia?

10. Give the structure of cholesterol.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. Each questions carries **2** marks.

11. What is Cori's cycle?

12. Give an account of ketone bodies.

13. What is obesity?

14. Explain lactate fermentation.

15. What is the function of DNA dependent RNA polymerase?

16. What is hexokinase?

17. Give the significance of urea cycle.

18. Differentiate between glycogenolysis and glycogenesis.

19. How many molecules of pyruvate are produced from one molecule of glucose?

20. Differentiate between DNA and RNA.

21. What are stop codons?

22. Name two enzymes involved in the digestion of proteins.

(8 × 2 = 16 Marks)

SECTION – C

Short essays not exceeding **120** words.

Answer any **six** questions. Each question carries **4** marks.

23. Illustrate carnitine shuttle.

24. Give the names and structures of the triose phosphates in glycolysis.

25. Give the energy yield of beta oxidation.

26. Explain the formation of a peptide bond.

27. Give an outline of cholesterol biosynthesis.

28. Describe in brief about pentose phosphate pathway.

29. Explain the synthesis of ATP during oxidative phosphorylation.

30. What are Okazaki fragments?

31. Give an account of atherosclerosis.

(6 × 4 = 24 Marks)

SECTION – D

Long essay.

Answer any **two** questions. **Each** question carries **15** marks.

32. Write an essay on the biosynthesis of fatty acids.

33. Explain the process of DNA replication in detail.

34. Describe glycogen metabolism and its regulation.

35. Discuss aminoacid metabolism in detail.

(2 × 15 = 30 Marks)