R – 2512

Reg. No. : ....

Name : ....

Fourth Semester B.Sc. Degree Examination, July 2023

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 alcohol fermentation?
2. Give the names of any two ketone bodies.
3. Where does urea cycle take place?
4. What is a zymogen?
5. Name the proponent of chemiosmotic theory?
6. What is Shine-Dalgarno sequence?
7. Give the function of tRNA?
8. Give any one example of an uncoupler of oxidative phosphorylation.
9. What is carnitine?
10. What is glycogenin?

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

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

11. Explain the gluconeogenic bypass reactions for the irreversible steps in glycolysis.

12. Give an account of transketolase.

13. What is an amphibolic pathway? Give an example.

14. Explain pyruvate dehydrogenase complex.

15. What is cytochrome oxidase?

16. What is mevalonate? How is it produced?

17. Explain the initiation factors involved in protein synthesis.

18. Differentiate between oxidative and substrate level phosphorylation.

19. Comment on the complex I in mitochondrial electron transport chain.

20. Explain the formation of malonyl CoA.

21. What is ACP?

22. Explain deamination reaction.

(8 × 2 = 16 Marks)

SECTION – C

Short essays not exceeding 120 words.

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

23. Explain the synthesis of lagging strand during DNA replication,

24. Give the significance of template strand and coding strand in transcription.

25. Explain transamination reactions.

26. Give a detailed account of genetic code.

27. Explain high energy compounds with examples.

28. Write a note on the anaerobic fates of pyruvate.

29. Where does chemiosmosis happen in oxdicative phosphorylation? Explain.

30. Elaborate the process of glycogenolysis.

31. Briefly explain diabetes mellitus.

(6 × 4 = 24 Marks)

SECTION – D

Long Essay

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

32. Explain the process of glycolysis.

33. Give a detailed account of protein synthesis.

34. Explain beta oxidation in detail.

35. Give a detailed account of urea cycle.

(2 × 15 = 30 Marks)

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