

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Complementary Course

BCH 3C 03—BIOCHEMISTRY—III

Time : Three Hours

Maximum : 64 Marks

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

1. Name two organs at which gluconeogenesis occur.
2. Write the first carbon fixation product of RUBISCO in C₄ plants.
3. Name the enzyme that catalyses the substrate level phosphorylation in TCA cycle.
4. Give an example of a high energy compound.
5. Name the photosystems involved in non-cyclic photophosphorylation.
6. The substrate concentration which gives $\frac{1}{2} V_{\max}$ is _____.
7. Name the class of enzymes to which synthetases and synthetases belong.
8. The Lineweaver Burk plot is obtained by plotting _____ vs. _____.
9. The zymogen form of chymotrypsin is _____.
10. Name the hormones involved in glycogen metabolism.

(1 × 10 =10 marks)

Part B (Short Answer Type Questions)*Answer any seven questions.**Each question carries 2 marks.*

11. Define holoenzyme with an example.
12. What is meant by group specificity of enzymes ? Give an example.
13. What is the effect of temperature on velocity of enzyme catalyzed reaction ?
14. What is meant by alcohol fermentation ?
15. Define anabolism and catabolism with example.

Turn over

16. What is the significance of Pentose Phosphate pathway ?
17. List out the different complexes involved in electron transport chain.
18. What are coenzymes ? Give any two examples.
19. Draw the structure of mitochondria and label the parts.
20. Give *two* examples of substrate level phosphorylation.

(7 × 2 = 14 marks)

Part C (Paragraph Type Questions)

*Answer any four questions.
Each question carries 5 marks.*

21. Explain the classification of enzymes with examples of each class.
22. Write Lineweaver Burk equation and draw the LB plot for competitive inhibition.
23. Explain the process of gluconogenesis.
24. Write a short note on allosteric inhibition.
25. Differentiate between cyclic and non-cyclic photophosphorylation.
26. Explain the digestion of disaccharides.

(4 × 5 = 20 marks)

Part D (Essay Type)

*Answer any two questions.
Each question carries 10 marks.*

27. Give a detailed account of glycolysis and its regulation.
28. Discuss in detail the process of Glycogenesis and Glycogenolysis.
29. Give a detailed account of different type of enzyme inhibition.
30. Give a detailed account of photosynthesis.

(2 × 10 = 20 marks)