

(6 Pages)

Reg. No. : .....

Code No. : 20717 E Sub. Code : CACB 21

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2023.

Second/Fourth Semester

Biochemistry — Allied - II

PRINCIPLES OF BIOCHEMISTRY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The coenzyme is \_\_\_\_\_
- (a) often a metal
  - (b) always a protein
  - (c) often a vitamin
  - (d) an inorganic compound

2. Which of the following is produced with the combination of apoenzyme and coenzyme?
- (a) Holoenzyme
  - (b) ES complex
  - (c) Prosthetic group
  - (d) Enzyme product complex
3. The enzymes involved in feedback inhibition are called
- (a) Allosteric enzymes
  - (b) Holoenzymes
  - (c) Apoenzymes
  - (d) Coenzymes
4. What is the effect on initial velocity if the substrate concentration is low?
- (a) Increases rapidly
  - (b) Increases slowly
  - (c) Decrease
  - (d) Remains constant
5. Name the type of pathway involved in the synthesis of compounds
- (a) Anabolic pathway
  - (b) Catabolic pathways
  - (c) Amphibolic pathways
  - (d) Anapleuotic pathway

6. Which of the following cycle shows amphibolic pathway?  
(a) Glyoxylate (b) Citric acid cycle  
(c) Glycolysis (d) Lipid metabolism
7. Which of the following is the correct sequence of electron acceptors in ETS for production of ATP?  
(a) cyt b, c, a, a<sub>3</sub> (b) cyt a, a, b, c  
(c) cyt c, b, a, a<sub>3</sub> (d) cyt b, c, a<sub>3</sub>, a
8. Electron transport system is present in which of the following parts of mitochondria?  
(a) Inner membrane (b) Outer membrane  
(c) Matrix (d) Stroma
9. Which of the following is a transaminase?  
(a)  $\alpha$  - amylase (b) chymotrypsin  
(c) proteinases (d) SGPT
10. Which of the following do not have high concentration of aspartate transaminase?  
(a) Heart (b) Liver  
(c) Saliva juice (d) Kidney

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) Write note on coenzymes.  
Or  
(b) Explain enzyme specificity.
12. (a) What is Km? Add notes on its significance.  
Or  
(b) Comment on line weaver - burk plot.
13. (a) Illustrate the oxidation of pyruvate to acetyl CoA.  
Or  
(b) Explain  $\beta$  - oxidation of fatty acid.
14. (a) Analyze the inhibitors of ETC.  
Or  
(b) Explain uncouples of oxidative phosphorylation.

15. (a) Write the clinical significance of LOH and CPK.

Or

(b) Discuss the clinical significance of SGOT and ALP.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 600 words.

16. (a) Discuss the general characteristics of enzymes.

Or

(b) Explain induced - fit theory of enzyme action.

17. (a) Derive MM equation.

Or

(b) Comment on competition inhibition and its types.

18. (a) Explain glycolysis.

Or

(b) Describe HMP shunt.

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19. (a) Explain ETC in detail.

Or

(b) Illustrate chemiosmotic theory.

20. (a) Explain GTT.

Or

(b) Summarize renal function tests.

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