



## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Physiotherapy-2022/B.Physiotherapy-2023/B.Physiotherapy-2024

Course Name – Clinical Biochemistry

Course Code - BPTC103

( Semester I )

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Name the enzyme employ as the rate-limiting step in glycolysis?
  - a) Enolase
  - b) Phosphofructokinase
  - c) Phosphohexose isomerase
  - d) Glyceraldehyde-3-phosphate dehydrogenase
- (ii) Which of the following proteins was first sequenced by Frederick Sanger?
  - a) Myosin
  - b) Insulin
  - c) Myoglobin
  - d) Haemoglobin
- (iii) Pick the most essential nutrient for a woman during her initial stages of pregnancy to prevent birth defects?
  - a) Thiamin
  - b) Folic acid
  - c) Vitamin C
  - d) Vitamin E
- (iv) Name the vitamin functions as both, hormone and visual pigment?
  - a) Thiamine
  - b) Retinal
  - c) Riboflavin
  - d) Folic acid
- (v) The term enzyme coined by
  - a) Pasteur
  - b) Ronald Ross
  - c) Buchner
  - d) Kunhe
- (vi) Mg +2 is an inorganic activator for enzymes:
  - a) Phosphatase
  - b) Carbonic anhydrase
  - c) Amylase
  - d) Enterokinase
- (vii) Name a glycosidic antibiotic
  - a) Streptomycin
  - b) Azithromycin
  - c) Penicillin
  - d) Glucovanillin
- (viii) Name the pathway for glucose synthesis by non-carbohydrate precursors:
  - a) Glycogenesis
  - b) Glycolysis
  - c) Glycogenolysis
  - d) Gluconeogenesis
- (ix) In polysaccharide, monosaccharide are joined by:
  - a) Peptide bond
  - b) Glucose bond
  - c) Glycosidic bond
  - d) Covalent bond
- (x) Choose from the following is an example of Epimers
  - a) Glucose and Ribose
  - b) Glucose and Galactose
  - c) Galactose, Mannose and Glucose
  - d) Glucose, Ribose and Mannose
- (xi) Which of the following hormones is responsible for increasing gluconeogenesis in the liver during prolonged starvation?
  - a) TSH
  - b) Insulin
  - c) Thyroxine
  - d) Glucagon
- (xii) Molisch test is used to predict-
  - a) Protein
  - b) Lipid
  - c) Carbohydrate
  - d) All of these

(xiii) Millon's Test is used to predict-

- a) phenol group in aminoacid
- c) both 1&2

- b) peptide bond in protein
- d) None of these

(xiv) Identify the bile salts

- a) billirubin and billiverdin
- c) haemoglobin and billiverdin

- b) haemoglobin and billirubin
- d) sodium glycolate and taurocholate

(xv) Post prandial hypoglycaemia can be observed in all except-

- a) due to antibody to insulin or insulin receptor
- c) reactive hypoglycaemia

- b) ructose 1,6 bis phosphatase deficiency
- d) Insulinoma

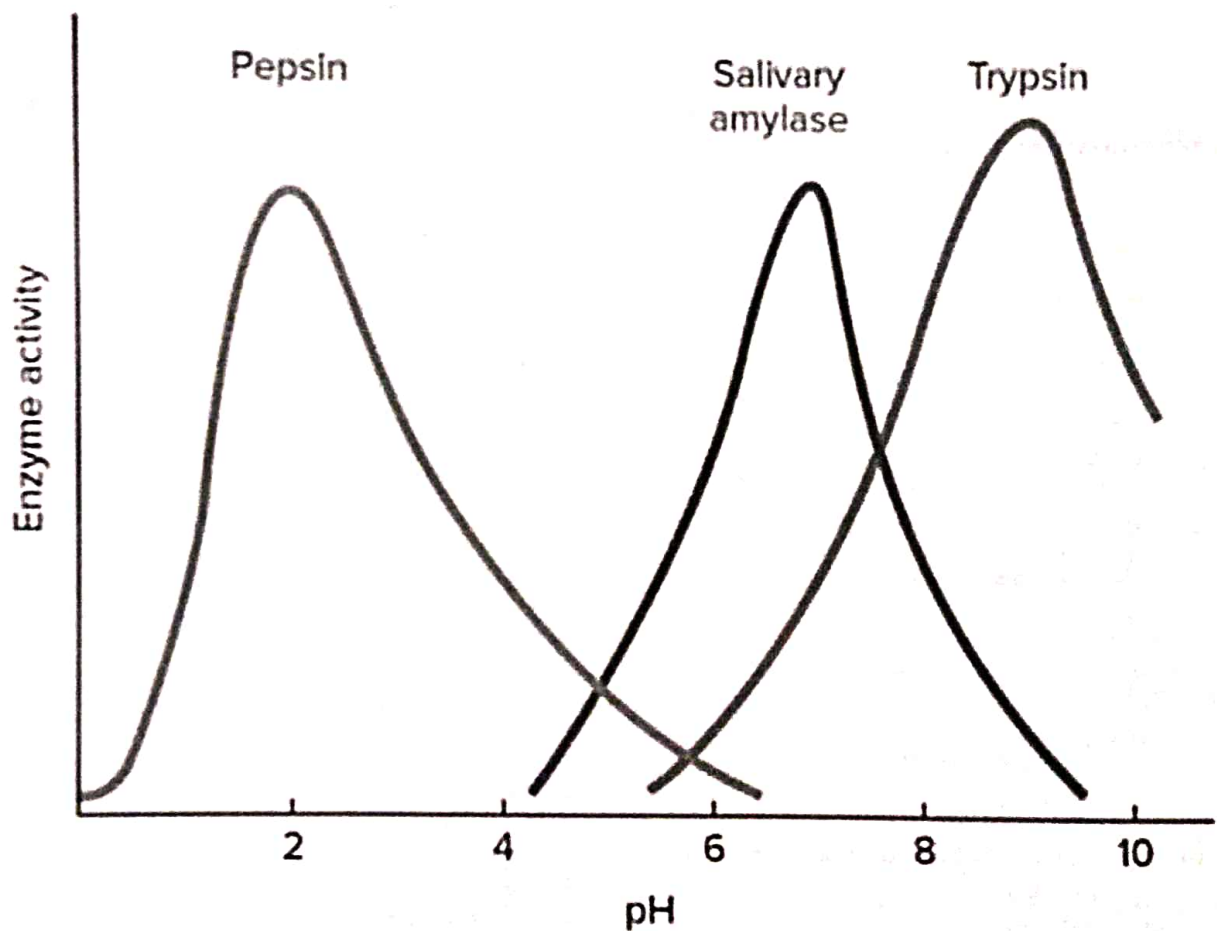
**Group-B**  
(Short Answer Type Questions)

3 x 5=15

2. Give examples of Simple Protein, Conjugate Protein and fibrous protein
3. Distinguish between glucose and fructose qualitatively. explain the experimental test procedure.
4. Explain its role of triglyceride in lipid metabolism.
5. Define Urea cycle and state its physiological importance
6. Explain DNA denaturation

(3)  
(3)  
(3)  
(3)  
(3)  
(3)

OR



Analyze the result by enzyme activity

**Group-C**  
(Long Answer Type Questions)

5 x 6=30

7. Elaborate the mechanism of insulin and glucagon in glucose regulation
8. Describe the Liver function test and its associated parameters
9. Define Allosteric enzyme
10. Write a short note on Pernicious anemia
11. Illustrate the assessment of diabetes and its pathogenesis

(5)  
(5)  
(5)  
(5)  
(5)

12. Define rancidity and saponification in lipoprotein calculation in lipids  
OR

(5)

Justify that citric acid cycle is the final common metabolic pathway for the oxidation of foodstuff

(5)

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