



## BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Pharm-2020/B.Pharm-2022/B.Pharm-2023/B.Pharm-2024/B.Pharm-2025

Course Name – Biochemistry/Biochemistry - Theory

Course Code - BP203T

( Semester II )

Full Marks : 75

Time : 3:0 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 20=20

1. Choose the correct alternative from the following :

- (i) Select the correct option: the Krebs cycle can also be described as-
  - a) Citric acid cycle
  - b) TCA cycle
  - c) Both A & B
  - d) none
- (ii) What is the name of sudden infant death syndrome?
  - a) Reye's syndrome
  - b) Rai's syndrome
  - c) Fatty acyl Co-A syndrome
  - d) Dehydrogenase syndrome
- (iii) Select the proper statement: albuminuria is described as \_\_.
  - a) Urine associated with globulin
  - b) Albumin associated with urine
  - c) albumin associated with haeme
  - d) albumin associated with alanine
- (iv) Which condition has been related with ketoacidosis?
  - a) Diabetes insipidus
  - b) Diabetes mellitus
  - c) Metabolic disorder
  - d) Glycolysis
- (v) What is the waste product of fatty acid?
  - a) Glycerol
  - b) Ketone body
  - c) Nitro group
  - d) Aliphatic group
- (vi) Which technique used for identification of RNA?
  - a) Southern blotting
  - b) Northern blotting
  - c) Western blotting
  - d) Eastern blotting
- (vii) Select the solute name which is not soluble in water.
  - a) Soluble
  - b) Partially soluble
  - c) Insoluble
  - d) Partially insoluble
- (viii) Identify the biomolecule that is digested by amylase enzyme.
  - a) Protein
  - b) Carbohydrate
  - c) Fat
  - d) Lipid

- (ix) Identify the correct composition of nucleotide.
- a) a sugar + a phosphate  
b) a base + a sugar  
c) a base + a phosphate  
d) a base + a sugar + phosphate
- (x) Identify the normal blood sugar level.
- a) 80-120mg/dl  
b) 70-100mg/dl  
c) 100-140mg/dl  
d) 140-160mg/dl
- (xi) Identify the correct pH of urine.
- a) 4.5-8.0  
b) 7.4-7.5  
c) 4.5-11.3  
d) 4.5-11.7
- (xii) Indicate the type of sugar present in sucrose.
- a) reducing  
b) Non reducing  
c) keto  
d) hexose
- (xiii) Select the component responsible for primary structure of protein is due to \_\_\_\_.
- a) peptide bond  
b) Covalent bond  
c) amino bond  
d) disulfide bond
- (xiv) Identify the following prosthetic group which is present in NADH dehydrogenase.
- a) NADH  
b) FAD  
c) NADPH  
d) NADPH
- (xv) Write the name of the pathway for glucose synthesis by non-carbohydrate precursors.
- a) Glycogenesis  
b) Glycolysis  
c) Gluconeogenesis  
d) Glycogenolysis
- (xvi) Choose the site for gluconeogenesis.
- a) Liver  
b) Blood  
c) Muscles  
d) Brain
- (xvii) Choose the enzyme which is responsible for the conversion of pyruvate to phosphoenolpyruvate (PEP).
- a) Pyruvate carboxylase  
b) Pyruvate carboxykinase  
c) Glucose 6-phosphatase  
d) Phosphofructokinase
- (xviii) Write the major sites for fat storage into body.
- a) Adipose tissue  
b) Bones  
c) Muscle and liver  
d) Kidney and liver
- (xix) Select the hormone that maintain blood glucose level into human body.
- a) Nor-epinephrine  
b) Glucagon  
c) Insulin  
d) Epinephrine
- (xx) Select the enzyme for responsible DNA replication process.
- a) DNA Polymerase  
b) Ligase  
c) Malase  
d) Kinase

2. Explain the different type of protein structures. (5)
3. Describe the various disorders of protein metabolism. (5)
4. Describe the diseases associated with carbohydrate metabolism. (5)
5. Define and classify lipids based on their biological significance. (5)
6. Discuss about glycogen storage disease(GSD). (5)
7. Explain the chemical nature of nucleic acid. (5)

OR

Write a short note on transcription or RNA synthesis. (5)

8. Explain the various functions of coenzymes. (5)

OR

Define enzyme and classify it based on their function. (5)

**Group-C**

(Long Answer Type Questions)

10 x 2=20

9. Define glycolysis, glycogenolysis, gluconeogenesis. Write down the various steps in the break down of glucose. (10)

10. Explain the classification and inhibition of enzyme. (10)

OR

Explain the properties of genetic code. (10)

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