

Total No. of printed pages = 4

Bina Chowdhury Central Library  
Girijananda Chowdhury University  
Hatkhowapara, Azara, Ghy-17

**BP 203 T**

Roll No. of candidate

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**2023**

**B.Pharm. 2<sup>nd</sup> Semester End-Term Examination**

**BIOCHEMISTRY**

Full Marks – 75

Time – Three hours

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The figures in the margin indicate full marks for the questions.

1. Multiple choice questions (MCQ) (Answer all questions) : (20 × 1 = 20)
- (i) Example of sulfur containing amino acid?
- (a) Cysteine
  - (b) Glutamine
  - (c) Both
  - (d) None of the above
- (ii) Alcohol present in sphingophospholipid
- (a) Glycerol
  - (b) Methanol
  - (c) Sphingosine
  - (d) None of these
- (iii) Vitamin synthesized by degradation of cholesterol
- (a) Vit. A
  - (b) Vit. D
  - (c) Vit. B
  - (d) Vit. C
- (iv) Example of hormonal protein
- (a) Pepsin
  - (b) Insulin
  - (c) Actin
  - (d) None of the above

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- (v) SIDS is due to the deficiency of
- (a) Acyl CoA dehydrogenase
  - (b) Enoyl CoA hydratase
  - (c) Thiolase
  - (d) None of these
- (vi) Two sugars which differ from one another only in configuration around a single carbon atom are termed
- (a) Epimers
  - (b) Anomers
  - (c) Optical isomers
  - (d) Stereoisomers
- (vii) The aldose sugar is
- (a) Glycerose
  - (b) Ribulose
  - (c) Erythrulose
  - (d) Dihydroxyacetone
- (viii) The amino acid with a nonpolar side chain is
- (a) Serine
  - (b) Valine
  - (c) Asparagine
  - (d) Threonine
- (ix) Aspirin inhibits the activity of the enzyme:
- (a) Lipoxygenase
  - (b) Cyclooxygenase
  - (c) Phospholipase A1
  - (d) Phospholipase A2
- (x) A coenzyme containing non aromatic hetero ring is
- (a) ATP
  - (b) NAD
  - (c) FMN
  - (d) Biotin

- (xi) In competitive enzyme activity inhibition
- (a) The structure of inhibitor generally resembles that of the substrate
  - (b) Inhibitor decreases apparent  $K_m$
  - (c)  $K_m$  remains unaffactive
  - (d) Inhibitor decreases  $V_{max}$  without affecting  $K_m$ .
- (xii) An example of ligases is
- (a) Succinate thiokinase
  - (b) Alanine racemase
  - (c) Fumarase
  - (d) Aldolase
- (xiii) A Holoenzyme is
- (a) Functional unit
  - (b) Apo enzyme
  - (c) Coenzyme
  - (d) All of these
- (xiv) Which of the following is not a component of coenzyme A?
- (a) Pantothenic acid
  - (b) Adenylic acid
  - (c) Acetic acid
  - (d) Sulfhydryl group
- (xv) Deficiency of Vitamin D leads to
- (a) Rickets
  - (b) Osteomalacia
  - (c) Xerophthalmia
  - (d) Both (a) and (b)
- (xvi) Okasaki fragments are small bits of
- (a) RNA
  - (b) DNA
  - (c) DNA with RNA heads
  - (d) RNA with DNA heads
- (xvii) The main sites for oxidative deamination are
- (a) Liver and kidney
  - (b) Skin and pancreas
  - (c) Intestine and mammary gland
  - (d) Lung and spleen

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(xviii) Tryptophan could be considered as precursor of

- (a) Melanotonin
- (b) Thyroid hormones
- (c) Melanin
- (d) Epinephrine

(xix) The glycolysis is regulated by

- (a) Hexokinase
- (b) Phosphofructokinase
- (c) Pyruvate kinase
- (d) All of these

(xx) Galactose is a main constituent of

- (a) Milk sugar
- (b) Honey
- (c) Cane sugar
- (d) Chitin

2. Long answers (Answer 2 out of 3) : (2 × 10 = 20)

- (a) Describe the glycolysis of carbohydrates under aerobic condition. Calculate the energetic of glycolysis. (5 + 5)
- (b) Define enzyme inhibitors. Classify and discuss in details about enzyme inhibition.
- (c) Discuss the steps of beta oxidation of fatty acid with energetic. (5 + 5)

3. Short answers (Answer 7 out of 9) : (7 × 5 = 35)

- (a) Define lipids. Classify with examples.
- (b) What is ETC? Discuss the process of ETC.
- (c) Define ketone bodies. Discuss the various disease condition related to lipid metabolism.
- (d) What is phospholipid? Describe the functions of phospholipids.
- (e) Define Carbohydrate? Discuss the classification of carbohydrates with suitable examples.
- (f) Describe any five chemical tests of Carbohydrates.
- (g) Define entropy and enthalpy. Find out the relationship between entropy and enthalpy.
- (h) Discuss the metabolism of amino acids.
- (i) Discuss enzyme kinetics with the help of Michaelis plot.