D 43059 (Pages : 2) Name.....

Reg. No.....

FIRST PROFESSIONAL M.B.B.S. DEGREE EXAMINATION, APRIL 2008

BIOCHEMISTRY—Paper I

Time : Three Hours Maximum : 50 Marks

Section A

I. With the help of a neat diagram, describe the fluid mosaic model of cell membrane. Discuss the various mechanisms of transport of substances across the cell membrane.

(6 + 4 = 10 marks)

II. Write short notes on :

(a) Isoenzymes.

(b) Gluconeogenesis.

(2 × 5 = 10 marks)

III. Multiple choice questions — single response type-10.

1 Which of the following inhibitor types can be expected to change the K_m of an enzyme but not its V_{max}.

(A) Competitive. (B) Non-Competitive.

(C) Uncompetitive. (D) Allosteric.

2 An example for a ligase is :

(A) Aldolase. (B) Acetyl coA carboxylase.

(C) Pepsin. (D) Fumarase.

3 Serum acid phosphatase level is elevated in :

(A) Obstructive Jaundice. (B) Rickets.

(C) Hepatitis. (D) Prostatic cancer.

4 The glycolytic enzyme inhibited by Fluoride is :

(A) Hexokinase.

(B) Aldolase.

(C) Glyceraldehyde 3-Phosphate dehydrogenase.

(D) Emolase.

5 Which of the following is a pentose ?

(A) Sedoheptulose. (B) Erythrose.

(C) Arabinose. (D) Erythrulose.

6 The enzyme bringing about substrate level phosphorylation is :

(A) Hexokinase. (B) Phosphofructokinase.

(C) Pyruvate kinase. (D) Glucokinase.

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7 The protein richest in glycine is :

(A) Haemoglobin. (B) Collagen.

(C) Albumin. (D) Elastin.

8 Taurine is synthesized from :

(A) Cysteine. (B) Tyrosine.

(C) Methionine. (D) Tryptophan.

9 The amino acid contributing maximally to the buffering capacity of haemoglobin is :

(A) Histidine. (B) Argnine.

(C) Lysine. (D) Glycine.

10 Denaturation is characterised by all the following except :

(A) Loss of activity. (B) Easy digestibility.

(C) Loss of primary structure. (D) Loss of secondary structure.

(10 × ½ = 5 marks)

Section B

IV. Write briefly on :

(a) Components of the electron transport chain.

(b) Porphyrias.

(d) Biosynthesis of catecholamines.

(d) Wald's visual cycle.

(e) Protein energy malnutrition.

(5 × 3 = 15 marks)

V. Give brief and precise answers :

(a) In born errors of tyrosine and phenylanine metabolism.

(b) Lipotropic factors.

(c) Coenzyme functions of Thiamine.

(d) Epimers.

(e) Glycogen storage disorders.

(5 × 2 = 10 marks)

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