

**FIRST PROFESSIONAL M.B.B.S. DEGREE EXAMINATION, APRIL 2008****BIOCHEMISTRY—Paper II**

Time : Three Hours

Maximum : 50 Marks

**Section A**

- I. Give an account of translation. Give *three* examples of post-translational modifications. Add a note on inhibitors of translation.

(6 + 3 + 1 = 10 marks)

- II. Write short notes on :

- (a) Renal regulation of acid base balance.
- (b) Liver function tests.

(2 × 5 = 10 marks)

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

- 1 Vitamin E reduces the requirement of :
  - (A) Iron.
  - (B) Zinc.
  - (C) Selenium.
  - (D) Magnesium.
- 2 Which of the following enzymes contains zinc ?
  - (A) Carbonic Anhydrase.
  - (B) Tyrosinase.
  - (C) Cytochrome oxidase.
  - (D) Tryptophan pyrrolase.
- 3 In Haemochromatosis, the liver is infiltrated with :
  - (A) Copper.
  - (B) Iron.
  - (C) Manganese.
  - (D) Chromium.
- 4 The predominant anion in the extracellular fluid is :
  - (A)  $\text{HCO}_3^-$
  - (B)  $\text{HPO}_4^{2-}$
  - (C)  $\text{Protein}^-$
  - (D)  $\text{Cl}^-$
- 5 Respiratory alkalosis is associated with :
  - (A) Cushing's syndrome.
  - (B) Diabetes mellitus.
  - (C) Hysteria.
  - (D) Addison's disease.
- 6 An example for point mutation is :
  - (A) Cystic fibrosis.
  - (B)  $\beta$ -Thalassemia.
  - (C) Sickle cell anaemia.
  - (D)  $\alpha$ -Thalassemia.

Turn over

- 7 Bence jones proteins are :  
(A) Heavy chains of immunoglobulins.  
(B) Light chains of immunoglobulins.  
(C) Monoclonal antibodies.  
(D) Macroglobulins.
- 8 The regulatory step in the synthesis of pyrimidines in mammals is catalysed by :  
(A) PRPP synthetase.  
(B) Orotidylate decarboxylase.  
(C) Aspartate Transcarbamoylase.  
(D) Carbamoyl Phosphate synthetase II.
- 9 Which of the following tests detects specific proteins ?  
(A) Northern blot test. (B) Southern blot test.  
(C) Western blot test. (D) Polymerase chain reaction.
- 10 Recombinant DNA technology has been successfully used for the production of :  
(A) Sulfa Drugs. (B) Insulin.  
(C) Ciprofloxacin. (D) Anti malarial drugs.

(10 × ½ = 5 marks)

### Section B

#### IV. Answer briefly :

- (a) Gout.
- (b) Metabolic acidosis.
- (c) Genetic code.
- (d) Biotransformation of xenobiotics.
- (e) RIA.

(5 × 3 = 15 marks)

#### V. Give brief and precise answers :

- (a) Antisense therapy.
- (b) Clearance tests.
- (c) What are the sources of the various carbon and nitrogen atoms of the purine ring ?
- (d) Name the minerals the deficiency of which can cause anaemia.
- (e) Oncogenes.