



**HDH-M20175**

Seat No. \_\_\_\_\_

**First Year M. B. B. S. Examination**

**November / December – 2017**

**Biochemistry : Paper - I**

Time : 3 Hours]

[Total Marks : 50

**SECTION – I**

- 1 State True or False with Justification : (Any Six) 1×6=6**
- (a) Obstructive Jaundice can cause deficiency of Vitamin A deficiency.
  - (b) Hyperventilation leads to respiratory acidosis.
  - (c) Iodine number of sunflower oil is less than that of coconut oil.
  - (d) Precipitation of proteins is maximum at their Isoelectric pH.
  - (e) All Glycosaminoglycans (GAGs) contain Sulphate group.
  - (f) All Coenzymes are Vitamin B Complex derivatives.
  - (g) Sucrose is a non reducing sugar.
- 2 (a) Read the following case report and answers the questions : 5**
- Two weeks old newborn infant was brought to the hospital with complaints of bruising tendency, mucous membrane hemorrhage and echymotic patches. On revealing history, the infant was born prematurely at 33 weeks of gestation and prophylactic dose of Vitamin K was not given at that time, so physician is suspecting Vitamin K Deficiency. Laboratory results showing prolonged Prothrombin Time (PT) and delayed Clotting Time.
- (1) Why Premature Infants are more prone to Vitamin K Deficiency ?
  - (2) Explain the Mechanism of Vitamin K Dependent Gamma Carboxylation.
  - (3) Name the Clotting Factors which are-Dependent on Vitamin K for its Activation.
  - (4) Name the Anticoagulant Drugs which Competitively Inhibit Vitamin K Activity.
  - (5) Enlist the Various Forms of Vitamin K.

- (b) Discuss the Followings : **3+2=5**
- (1) Radioisotopes & It's Applications
  - (2) Difference between Hemoglobin & Myoglobin.
- 3** Write Short Notes : (Any Three) **3×3=9**
- (1) Complex IV of Electron Transport Chain
  - (2) Electrophoresis Technique & It's Applications
  - (3) Functions of Phospholipids
  - (4) Homopolysaccharides

## SECTION – II

- 4** Give Your Comments with Biochemical Justification : **1×6=6**  
(Any Six)
- (a) V max is not changed in case of Competitive Inhibition
  - (b) Mitochondria is called powerhouse of the cell.
  - (c) Folic, Acid Supplementation is a must from early Pregnancy.
  - (d) Glycine is optically inactive.
  - (e) Anion Gap is increased in Diabetic Ketoacidosis.
  - (f) Alpha-1-antitrypsin deficiency leads to Emphysema.
  - (g) t-RNA has many unusual bases.
- 5** Discuss the Following : (Any Two) **5×2=10**
- (1) Functions of Albumin. Structure of Immunoglobulins.
  - (2) Discuss the Clinical Significance of different Isoenzyme Variants of CK, LDH and ALP.
  - (3) Vitamin C : Biochemical Functions & Deficiency Manifestations
- 6** Write Short Notes : (Any Three) **3×3=9**
- (1) Respiratory Regulation of Blood pH.
  - (2) Salient features of Watson - Crick Model of DNA.
  - (3) Explain the Secondary Structure of Proteins.
  - (4) Regulation of blood calcium level.