J-M20175

Seat No. _____

First Year M. B. B. S. Examination

September / October - 2019

Biochemistry : Paper - I

Time : **3** Hours] [Total Marks : **50**

Instructions : (1) Figures on right indicate full marks.
(2) Write Section I and II in separate answer sheets.

SECTION – I

1 State true or false with justification on any **six** : (out of seven) **1×6=6**

(a) Base pairing rule is always maintained in RNA.
(b) Raw egg is sometimes used as an antidote of mercury poisoning.
(c) All disaccharides are non-reducing in nature.
(d) Ionophores increase ATP synthesis.
(e) Sickle cell hemoglobin offers a biological advantage.
(f) Fat soluble vitamins are utilized to prevent rancidity of fat.
(g) Nucleus is the power house of the cell.

2 (a) Read the following case report and answer all the five questions : (No Options) **5**

A 67 year old man presented with back pain, loss of weight and breathlessness. On examination, he was pale. Reports shows: Hb 7.8 gm%, Serum total Protein 9.3 gm%, albumin - 3.0 gm%, Serum Urea - 48 mg/dl, Serum Creatinine - 2.5 mg/dl. Serum electrophoresis pattern showed M band. In urine bence Jones proteins were present. X-ray showed punched out lesions.

Questions :

(1) Draw and label normal pattern of electrophoresis.
(2) Calculate A:G ratio in this patient.
(3) Name some conditions where A:G ratio alter.
(4) Give reason for high total protein level in this patient.
(5) Give characteristics of Bence Jones protein in urine.

(b) Discuss the followings : (**two**) (no option) **3+2=5**

(1) Classification of Compound lipids.

(2) Explain Michaelis Constant and its significance.

3 Write short notes on any **three** : (out of four) **3×3=9**

(1) Explain Mucopolysaccharides with example and their biological role.

(2) Co enzyme functions of water soluble Vitamins.

(3) Metabolic and respiratory alkalosis.

(4) Explain Induction and repression of enzymes.

SECTION – II

4 Give your comments with Biochemical justification on any **six** : (out of seven) **1×6=6**

(a) Allopurinol is given in gout.

(b) Vitamin C deficiency can lead to bleeding gums.

(c) Methotraxate acts as anticancer drug.

(d) High potassium level is found in Hemolyzed sample.

(e) IgG acts as RH isoimmunization.

(f) Iron is one way element.

(g) Selenium decrease requirement of Vitamin E.

5 Discuss any **two** of the following : (out of three) **5×2=10**

(a) Organization of electron transport chain.

(b) Markers for Cardiac disease.

(c) Application of radioactivity in Research Diagnosis and Treatment.

6 Write short notes on any **three** : (out of four) **3×3=9**

(a) Different Mechanisms of hormone action.

(b) Chromatography : Principle and its applications.

(c) Explain Sickle cell hemoglobin.

(d) Explain structure, function and synthesis of Collagen.
