



BT-4652

Seat No. _____

First Year M. B. B. S. Examination

April - 2021

Biochemistry : Paper-1

Time : 3 Hours]

[Total Marks : 50

- Instructions :** (1) Figures on right indicate full marks.
(2) Write section 1 and 2 in separate answer sheets.

SECTION - I

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

- (a) Casein is complete protein.
- (b) Raw egg is sometimes used as an antidote of mercury poisoning.
- (c) Sucrose is a non-reducing sugar.
- (d) Thermogenin increase ATP synthesis.
- (e) Sickle cell hemoglobin offers a biological advantage.
- (f) NADH generates 1 ATP.
- (g) Base pairing rule is always maintained in RNA.

- 2** (a) Read the following case report and answer all five questions : (no options) **5**

A 67 years old man presented with back pain, loss of weight and breathlessness. On examination, he was pale. Report 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) What are Bence Jones Protein ? And how they are detected ?

- (b) Discuss the following : (two) (no option) **3+2=5**
(1) Structure of protein.
(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) Folic acid : Biological role and deficiency manifestation.
(3) Classification of Phospholipid.
(4) Blood calcium regulation.

SECTION - II

- 4** Give your comments with Biochemical justification on **1×6=6**
any six (out of seven)
(a) Genetic codes are universal in nature.
(b) Pyridoxal phosphate deficiency leads to anemia.
(c) Sulphonemide acts as antibacterial drug.
(d) High potassium level found in Hemolyzed sample.
(e) IgG acts as RH isoimmunization.
(f) Zinc is an important mineral in our body.
(g) Selenium decreases requirement of Vitamin E.
- 5** Discuss any two of the following : (out of three) **5×2=10**
(a) Transcription and post transcriptional modification.
(b) Markers for Cardiac disease.
(c) Explain structure, function and synthesis of Collagen.
- 6** Write short notes on any three : (out of four) **3×3=9**
(a) Structure of t-RNA.
(b) Chromatography : Principle and its applications.
(c) Explain Sickle cell hemoglobin.
(d) Function of Albumin.
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