



**PJ-M20175**

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

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

**July - 2018**

**Biochemistry : Paper-I**

Time : 3 Hours]

[Total Marks : 50

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

**SECTION - I**

- 1 State true or false with justification on any **six** : **6**
1. Glucosazone, fructosazone and mannosazone have different shapes.
  2. Arachidonic acid is the precursor of prostaglandins.
  3. Glutathione is a glycoprotein.
  4. Butter contains long chain fatty acids.
  5. Copper deficiency may cause fatal aortic aneurysm.
  6. Fructose is a stereoisomer of glucose.
  7. Some hormones act through cyclic GMP.
- 2 (A) Read following case report and answer the all five **5**  
questions :
- A 30 years old executive felt chest pain while he was playing tennis. He felt the pain increasing gradually and was feeling difficulty in breathing. He was immediately taken to a nearby nursing home. The doctor suspected this as a case of myocardial infarction. But ECG and X-ray chest were normal. LDH electrophoresis showed elevated LDH-5. His blood analysis showed the following result :
- LDH: 800 u/l, CPK: 500 u/l, CKMB: Normal,  
AST:130 u/l, ALT: 48 u/l
1. What is the probable diagnosis ?
  2. Which other test could be of relevance here ?
  3. What are isoenzymes ?
  4. What is role of creatine kinase ?
  5. What are the isoenzymes of creatine kinase ?

- (B) Discuss the following : 5
1. DNA: structure, functions and its organization in chromosome.
  2. Classification of amino acids giving suitable examples.
- 3 Write short notes on any **three** : 9
1. Glycogen
  2. Enzyme-linked immunosorbent assay
  3. Phospholipids
  4. Nucleus.

### SECTION-II

- 4 Give your comments with Biochemical Justification on any **six** : 6
1. Intake of raw eggs may cause biotin deficiency.
  2. Pantothenic acid is necessary for beta oxidation of fatty acid.
  3. Adenyl cyclase and phosphodiesterase are involved in the metabolism of cyclic AMP.
  4. Sorghum as a staple diet is a leading factor in pathogenesis of pellagra.
  5. Urine colour become dark red in cases of severe crush injury.
  6. Glucose 6 Phosphate Dehydrogenase deficiency leads to drug induced hemolytic anemia.
  7. Subacute combined degeneration of nervous system is seen in vitamin B12 deficiency.
- 5 Discuss any two of the following : 10
1. Describe organization of electron transport chain and explain chemiosmotic theory.
  2. Describe the sources, biochemical functions, requirement and deficiency manifestations of vitamin C.
  3. Describe the sources, daily requirement, absorption, biochemical functions and deficiency manifestations of iron.
- 6 Write short notes on any **three** : 9
1. G-proteins
  2. Renal regulation of pH
  3. Collagen abnormalities
  4. Biological effects of radiation on tissues.