



BU-4653

Seat No. _____

First Year M. B. B. S. Examination

April - 2021

Biochemistry : Paper-2

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) Malate shuttle is important for glyconeogenesis.
 - (b) Alcoholism can leads to fatty liver.
 - (c) HDL acts as bad cholesterol.
 - (d) Alkalosis is associated with hypokalemia.
 - (e) Phenylalanine is an essential amino acid.
 - (f) Glucose is provided by muscle only.
 - (g) Diabetics take more food and water.
- 2** (a) Read the following case report and answer all the five questions (no options) **5**
- A child was admitted to hospital under the complains of abnormal growth, hungry in the morning. He was examined thoroughly and his various Biochemical parameters were done. It was observed that he had massive liver enlargement, fasting hypoglycemia, lactic acidosis, ketosis and hyperlipidemia. In addition he also had hyperuricemia. He was diagnosed for glycogen storage disease type-I.
- (1) Name the disease and its type, this child is suffering from ?
 - (2) Name the deficient enzyme and write its function.
 - (3) What is the cause of fasting hypoglycemia ?
 - (4) Why the child is having Hyperuricemia ?
 - (5) Why the liver of this child is enlarged and what are its complications ?

- (b) Discuss the followings : (two) (no option) **3+2=5**
(1) One carbon metabolism.
(2) Significance of Cori's cycle.
- 3** Write short notes on any three : (out of four) **3×3=9**
(1) Galactosemia.
(2) Risk factors for atherosclerosis.
(3) Hyperammonemia
(4) Renin Angiotensin Aldosterone System.

SECTION - II

- 4** Give your comments with Biochemical justification on **1×6=6**
any six (out of seven)
(a) Synthase and Synthetase are different.
(b) G6PD deficiency leads to drug induced hemolytic anemia.
(c) Lead poisoning leads to anemia.
(d) Insulin has hypoglycemic effect.
(e) Carnitine is essential for long chain fatty acid metabolism.
(f) Odd chain fatty acids are glycogenic in nature.
(g) Fat is burned on the wick of carbohydrates.
- 5** Discuss any two of the following : (out of three) **5×2=10**
(a) Liver function test.
(b) Explain various phases of detoxification.
(c) pH regulation of the body.
- 6** Write short notes on any three : (out of four) **3×3=9**
(a) Kwashiorkor and Marasmus.
(b) Significance of HMP shunt pathway.
(c) Lipid Peroxidation.
(d) Complication of Diabetes mellitus.
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