

2/230

0119E537

Candidate's Seat No : _____

First M.B.B.S. Examination
Bio-Chemistry
Paper-I

Date : 09-01-2019, Wednesday]
[Time : 3 Hours

[Max. Marks : 50

- Instructions :** (1) Answer to the point.
(2) Figure to the right indicates marks.
(3) Draw diagrams wherever necessary.
(4) Write legibly.
(5) Use separate answer books for each section.

Section 1

1) Write short notes on (any two):

2x5=10 marks

- 1) Diabetic ketoacidosis
- 2) Von Gierk's disease
- 3) Biochemical basis of ammonia toxicity

2) Write short notes on (any three):

3x3=9 marks

- 1) Physiologically important glycosides
- 2) Serum enzymes in myocardial infarction
- 3) Regulation of cholesterol synthesis
- 4) Acute intermittent porphyria
- 5) Suicidal inhibition of enzymes

3) Write short notes on (any two):

2x3=6 marks

- 1) Applications of ELISA (enzyme-linked immunosorbent assay)
- 2) Role of kidneys in regulation of blood pH
- 3) Fluid mosaic model of cell membrane

Section 2

4) Write short notes on (any two):

2x5=10 marks

- 1) Reciprocal regulation of glycogenesis and glycogenolysis
- 2) Fatty acid synthase complex
- 3) Significance of HMP (hexose mono phosphate) shunt

P.T.O.]

5) Write short notes on (any three):

3x3=9 marks

- 1) Water pollutants
- 2) Oncogenes
- 3) Uncouplers of oxidative phosphorylation
- 4) Structure of immunoglobulin
- 5) Biological effects of radiation on tissues

6) Case Study (Answer any six):

6x1=6 marks

During a hunger strike, one student, who took only water for next 15 days, when his condition deteriorated, he was admitted in a hospital. Blood levels of sugar and amino acids were found to be decreased; urine had ketone bodies, urinary non protein nitrogen was increased.

Answer the following (Any six):

- 1) The brain consumes 65% of the total circulating glucose daily .How does brain obtain energy during starvation?
 - 2) Can brain utilize ketone bodies to meet part of its energy requirement?
 - 3) How does starvation trigger gluconeogenesis and lipolysis?
 - 4) What is the fate of amino nitrogen generated in the liver during the process of gluconeogenesis?
 - 5) What are the sources of two carbon atoms in urea molecule?
 - 6) Why does ketoacidosis develop in the patient?
 - 7) What happens to "branched chain amino acids" in the initial phase of starvation?
 - 8) What happens to alanine in the initial phase of starvation?
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