



PBA-M20176

Seat No. _____

First Year M.B.B.S. Examination

November / December - 2018

Biochemistry : Paper - II

Time : 3 Hours]

[Total Marks : 50

SECTION - I

1 State true or false with justifications : (any six) **1×6=6**

- (a) Starvation leads to Ketoacidosis.
- (b) Transcription requires a RNA primer molecule.
- (c) Hypercalcemia leads to tetany.
- (d) Malate – aspartate shuttle is essential for fatty acid oxidation.
- (e) Taq polymerase is used in DNA replication.
- (f) Smoking is a risk factor in atherosclerosis.
- (g) Stress leads to increase in blood glucose level.

2 (a) Read the case report and answer the following questions : **1×5=5**

A 50 years old obese man after spending the evening in business dinner, got up early next morning because of excruciating pain in his big toe. The affected joint was red, swollen and extremely tender. Laboratory investigation shows serum urea 20mg/dl, serum uric acid level 16 mg/dl. The case was diagnosed as Gout. He was also advised to restrain alcohol consumption.

- (1) What is the difference between Hyperuricemia and Gout ?
- (2) What are the primary causes of hyperuricemia ?
- (3) What are the secondary causes of hyperuricemia ?
- (4) Why the drug Allopurinol is helpful in case of Gout ?
- (5) Why alcohol consumption precipitate attacks of Gout ?

(b) Discuss the followings : **3+2=5**

- (i) Etiology of cancer.
- (ii) Functions of bile salts.

- 3** Write short notes on any **three** : **3×3=9**
- (a) HMP shunt pathway.
 - (b) Beta oxidation of fatty acids.
 - (c) Galactosemia.
 - (d) Transamination and its significance.
 - (e) Liver function tests in relation to cardiac and liver diseases.

SECTION - II

- 4** Give your comments with justifications : (any **six**) **1×6=6**
- (a) Glycogen breakdown and synthesis do not take place simultaneously.
 - (b) Carnitine is essential for fatty acid oxidation.
 - (c) Unconjugated bilirubin can not appear in the urine.
 - (d) PCR is used in medico legal cases.
 - (e) Monoclonal antibody is used in treatment of cancer.
 - (f) Post translational modification of collagen requires vitamin C.
 - (g) Lipoprotein (a)-Lp(a) is considered highly atherogenic.
 - (h) Ammonia is toxic to brain.
- 5** Discuss any **two** of the following : **5×2=10**
- (a) Recombinant DNA technology and its applications.
 - (b) DNA damage and repair mechanisms and related disorders.
 - (c) Citric acid cycle is an amphibolic pathway.
- 6** Write short notes on any **three** : **3×3=9**
- (a) Phenyl ketonuria.
 - (b) Salient features of Genetic code.
 - (c) Enzyme linked immunosorbent assay (ELISA).
 - (d) Phase I detoxification reactions.
 - (e) Antioxidants and their significance.