



**PPB-M20175**

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

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

**November / December - 2018**

**Biochemistry : Paper - I**

Time : 3 Hours]

[Total Marks : 50

**SECTION - I**

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

- (a) Alfa D-glucose is the predominant sugar in Blood.
- (b) All disaccharides are reducing in nature.
- (c) Glycine is optically inactive.
- (d) Phosphatidyl inositol acts as precursor to second messenger of hormonal action.
- (e) Ribosomal RNA and transfer RNA are involved in protein synthesis.
- (f) Immuno globin -M is very effective in agglutination of bacteria.
- (g) Heparin acts as an anticoagulant.

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

A 5 years old boy accompanied by his mother attended pediatric OPD with the complaints of lack of growth and poor vision at night. On examination grayish white spots were found on lateral side of the corneas on both eyes. His body weight was less than the estimated weight of his chronological age. His serum albumin level was 2.5 gm/dl (Normal 3.5 to 5 gm/dl). The boy was diagnosed as "Malnutrition with Vitamin A deficiency".

- (1) Mention two good sources of Vitamin A.
- (2) Mention the different compounds of retinoids having vitamin A activity ?
- (3) Which isomer of retinal is responsible for vision ?
- (4) What are the functions of Retinoic acid ?
- (5) How do you correlate Malnutrition and Vitamin A deficiency existed together in this case ?

- (b) Discuss the followings : **3+2=5**  
(i) Essential fatty acids and their significance.  
(ii) Therapeutic enzymes.
- 3** Write short notes on any **three** : **3×3=9**  
(a) Factors effecting enzyme activity.  
(b) Components of electron transport chain.  
(c) Homopolysaccharides.  
(d) Plasma transport proteins.  
(e) Deficiency features of vitamin C.

## SECTION - II

- 4** Give your comments with justifications : (any **six**) **1×6=6**  
(a) Fructose is not a stereo isomer of glucose.  
(b) Glycine is also known as little master.  
(c) Mechanical distortion of the shape of RBCs occur in sickle cell disease.  
(d) 2-3 Bisphosphoglycerate interaction is more with adult hemoglobin than in fetal hemoglobin.  
(e) Sn RNA acts as enzyme.  
(f) Proton concentration in intermembranous space of mitochondria is connected with ATP synthesis in cell.  
(g) Omega 3-fatty acid is good for health.  
(h) Chronic obstructive pulmonary disease leads to acidosis.
- 5** Discuss any **two** of the following : **5×2=10**  
(a) Principle types and applications of electrophoresis.  
(b) Enzyme inhibitions  
(c) Structure and functions of phospholipids.
- 6** Write short notes on any **three** : **3×3=9**  
(a) Various immunoglobulin class and their characteristics.  
(b) Name different biologically active peptides and explain structure and functions of glutathione.  
(c) Blood calcium regulation.  
(d) Plasma membrane transport mechanisms.  
(e) Structure of DNA.