



**J-4652**

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

**First Year M. B. B. S. Examination**  
**September/October - 2019**  
**Biochemistry : Paper - I**  
**(Old Course)**

Time : 3 Hours]

[Total Marks : 50

- Instructions :** (1) Each section to be answer in separate answer book.  
(2) Answer should be brief and to the point.

**SECTION - I**

- 1 State true or false with justification on any six: **1×6=6**
- (a) Fructose is a stereo isomer of Glucose.
  - (b) Glycine is optically active.
  - (c) Kidney produces ammonia from glutamine
  - (d) Coenzymes are also called second substrate.
  - (e) In DNA finger printing VNTR sequences are identified.
  - (f) Electron transport chain can also generate free radicals.
  - (g) 2-3 BPG concentration is more in fetal hemoglobin than adult hemoglobin.

- 2 (A) Read the following case report and answer the all five questions : **1×5=5**

A 5 years old boy brought to pediatric OPD by his mother with the complaint of unable to see at night, less growth and irritability. On examination his body weight was less than his chronological age, there were grayish-white spot (Bitot's spot) on the lateral side of both cornea. Skin on lower extremities was rough. The patient was diagnosed as " Malnutrition with vitamin A deficiency".

- (a) What is night blindness?
- (b) Name the ocular signs & symptoms of Vitamin A deficiency according to the sequence of their appearance.
- (c) Name the different compounds having vitamin A activity?
- (d) Which isoform of vitamin A is necessary for vision?
- (e) How you correlate biochemically with malnutrition and vitamin A deficiency in this patient?

(B) Discuss the following : 3+2=5

(i) Plasma membrane transport.

(ii)  $\beta$  thalassemia.

**3** Write short note on any **three** : 3×3=9

(a) Mucopolysaccharides

(b) Medical applications of radio isotopes.

(c) Factors affecting enzyme activity

(d) Functions of albumin.

## SECTION - II

**4** Give your comments with justification on any six : 1×6=6

(a) Cooperative oxygen binding is seen in hemoglobin.

(b) Chimeric DNA and c-DNA are different.

(c) In SDS- PAGE, molecules are separated on basis of their molecular weight only.

(d) Vitamin C is necessary for regeneration of  $\alpha$ -tocopherol after its antioxidant activity.

(e) Sn-RNA acts as enzyme.

(f) Steroid hormones can enter the cell & bind with DNA for their action.

(g) Water soluble vitamins are generally not stored in our body where as fat soluble vitamins are stored.

**5** Discuss any two of the following : 5×2=10

(a) Medical applications of Recombinant DNA technology.

(b) Chromatography.

(c) Enzyme inhibitions.

**6** Write short note on any three 3×3=9

(a) lac operon.

(b) Phospholipids

(c) Immunoglobulin G (IgG).

(d) Chemiosmotic theory.