



**B-4006**

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

**July - 2017**

**Biochemistry : Paper - II**

Time :  $2\frac{1}{2}$  Hours

[Total Marks : 50]

**Instruction :**

नीचे दशांश - निशानावाणी विगतो उत्तरवही पर अवश्य लખवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
**First Year M. B. B. S.**

Name of the Subject :  
**Biochemistry : Paper - II**

Subject Code No. : **4 0 0 6** Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

**SECTION - I**

- 1 Short notes : (2 out of 3) 2×4=8
- (a) Vitamin C - sources, functions and deficiency manifestations.
- (b) Bilirubin-formation, transport and excretion. Name the different types of acquired hyperbilirubinaemias.
- (c) Transcription - (required components including enzymes and process).
- 2 Short notes : (4 out of 6) 4×3=12
- (a) Applications of Recombinant DNA technology.
- (b) Phase-II reactions of detoxification.
- (c) Biologically short peptides (give examples of two such peptides with functions).
- (d) Suicide inhibition with examples.
- (e) Diagnostic importance of isoenzymes.
- (f) Coenzyme role of Vitamin B<sub>12</sub>.

3 Answer in few lines : (5 out of 6)

5×1=5

- (a) Denaturation of proteins.
- (b) Give the functions of two nonfunctional plasma enzymes.
- (c) Serum markers for obstructive jaundice.
- (d) Applications of gene therapy.
- (e) Acute intermittent porphyria.
- (f) Four functions of glycine.

## SECTION - II

4 Read the following case and answer the questions : 5×2=10

A 40-year-old lady presented to ophthalmology OPD of tertiary care hospital with complaints of diminished vision specially at night since 3 months. She revealed that she was suffering from Crohn's disease (Chronic inflammatory bowel disease) since 10 years and for that intestinal resection surgery was done before two years. On examination her eyes were dry. Serum Vitamin A levels were found to be much below than the reference range. She was put on Vitamin A supplements and diet rich in Vitamin A.

- (a) Explain the relation between the decreased vision in dim light and vitamin levels.
- (b) What are Retinoids ?
- (c) Give the deficiency manifestations of Vitamin A.
- (d) Excessive intake of fat soluble vitamins may be toxic - justify.
- (e) Give the normal reference range of serum Vitamin A and recommended daily intake of this Vitamin for adults.

5 Write justification : 5 out of 7

5×2=10

- (a) Methotrexate is one of the drug used in cancer treatment.
- (b) Vitamin D is more of like hormone than vitamin.
- (c) Proline is not found in  $\alpha$ -helix pattern.
- (d) Methemoglobin cannot transport oxygen.
- (e) Edema is observed in children with kwashiorkor.
- (f) Nucleotides have many functions apart from their structural role in DNA and RNA.
- (g) Hypoxanthine-guanine phosphoribosyl transferase is an important enzyme in brain.

6 Answer in one or two lines : 5 out of 6

5×1=5

- (a) Features of mismatch repair.
- (b) Functional aspects of second messengers with examples.
- (c) Products formed from tyrosine.
- (d) Chargaff's rule.
- (e) Features of genetic code.
- (f) Biochemical basis of thalassemia and consequences of thalassemia.