

00808

**11718**

**3 Hours / 80 Marks**

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any EIGHT from following :**

**2 × 8 = 16**

- (a) Write the functions of mitochondria & nucleus.
- (b) Draw the structures of alanine & phenylalanine.
- (c) Explain mutarotation with example.
- (d) Write Liebermann burchard & salkowski tests.
- (e) Give diagrammatic representation of weld's visual cycle.
- (f) Discuss functions of electrolytes in life processes.
- (g) Explain the term 'Enzyme specificity' with examples.
- (h) Write in short about Alkaptonuria.
- (i) Give different types of leucocytes.
- (j) Explain isoelectric pH of amino acid.
- (k) Justify why sucrose is non-reducing sugar.
- (l) Differentiate between fats & oils.

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**2. Attempt any FOUR from following :****3 × 4 = 12**

- (a) Draw neat, well labelled diagram of animal cell.
- (b) Discuss biological role of proteins.
- (c) Classify carbohydrates with examples.
- (d) Define the terms :
  - (i) Acid value
  - (ii) Saponification value
  - (iii) Iodine value
- (e) Explain denaturation of proteins in detail.
- (f) Describe diabetes mellitus in detail.

**3. Attempt any FOUR from following :****3 × 4 = 12**

- (a) Explain nutritional deficiency diseases of proteins.
- (b) Describe polysaccharides in detail.
- (c) Classify lipids with examples.
- (d) Give coenzyme forms of following vitamins :
  - (i) Thiamine
  - (ii) Riboflavin
  - (iii) Niacin
- (e) Describe phospholipids with examples.
- (f) Give biochemical role of pyridoxine & folic acid.

**4. Attempt any FOUR from following :****3 × 4 = 12**

- (a) Explain water balance of our body.
- (b) Classify enzymes on the basis of reaction catalysed by them.
- (c) Explain the terms : Gluconeogenesis, Glycogenolysis & Glycogenesis.
- (d) Enlist different abnormal constituents of urine; give significance of each constituent.
- (e) Give biochemical role of following :
  - (i) Sodium
  - (ii) Phosphorus
  - (iii) Iron
- (f) Define the terms :
  - (i) Induced enzymes
  - (ii) Constitutive enzymes
  - (iii) Isoenzyme

**5. Attempt any FOUR from following :****3 × 4 = 12**

- (a) Define dehydration; explain types of dehydration.
- (b) Discuss various diagnostic applications of enzymes.
- (c) Define the terms :
  - (i) Catabolism
  - (ii) Ketosis
  - (iii) Arteriosclerosis

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- (d) Explain megaloblastic anaemia & sickle cell anaemia.
- (e) Enlist different factors affecting rate of enzyme catalysed reaction; explain effect of hydrogen ion concentration in detail.
- (f) Describe biosynthetic pathway of urea in body.

6. Attempt any FOUR from following :

4 × 4 = 16

- (a) Write deficiency symptoms of Vit-A, Vit-D, Vit-E, Vit-K.
  - (b) Describe the importance of calcium in human body.
  - (c) Explain pathway of glycolysis in detail.
  - (d) Explain  $\beta$  oxidation of fatty acids in detail.
  - (e) Explain kreb cycle in detail.
  - (f) Enlist different leucocyte disorders; explain any two disorders in detail.
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