



00808

12223

3 Hours / 80 Marks

Seat No.

--	--	--	--	--	--	--	--

- 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.

**Marks****1. Attempt any EIGHT of the following :****8 × 2 = 16**

- (a) Describe megaloblastic anaemia ? How it is treated ?
- (b) State the physiological functions of Cobalt and Iodine.
- (c) Describe any one color reaction of cholesterol.
- (d) Define unsaturated fatty acids with examples.
- (e) Write the structure and function of Biotine.
- (f) Enlist Normal Constituents of urine.
- (g) Identify test to differentiate between monosaccharide and disaccharides. Write its principle.
- (h) Explain peptide bond formation.
- (i) Write functions of endoplasmic reticulum.
- (j) State biological importance of Phospholipids.
- (k) Draw reaction involved in hemi-acetal formation of glucose.
- (l) Differentiate between prokaryotic and eukaryotic cell.



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

- (a) Name the coenzymes of vitamins belonging to B-complex.
- (b) Define :
  - (i) Saponification number
  - (ii) Richert-missel number
  - (iii) Acetyl value
- (c) Write major functions and deficiencies of potassium.
- (d) Differentiate between reducing sugar and non-reducing sugar.
- (e) Explain secondary structure of proteins.
- (f) Explain following reactions :
  - (i) Ninhydrine reaction
  - (ii) Xanthoproteic reaction

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

- (a) Define “Anomer” and “Epimer” with suitable examples and structures.
- (b) Describe thrombocytopenia and thrombocythemia.
- (c) State the biological importance of minerals in biological system.
- (d) Describe biochemical role and enlist deficiency of folic acid.
- (e) Draw well labelled diagram of animal cell. Write functions of Nucleus.
- (f) Describe mechanism of enzyme action.

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

- (a) What is dehydration ? Explain causes and effects of dehydration.
- (b) Draw Structure, give physiological role of Niacin.
- (c) Explain term leucocyte. Classify different leucocytes.
- (d) Define and classify polysaccharides with examples. Draw structure of Amylopectin.
- (e) Describe isoelectric pH of amino acids with examples.
- (f) Discuss any two kinds of enzyme specificities with examples.

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

- (a) Explain following terms with examples :
  - (i) Transamination
  - (ii) Deamination
- (b) Describe various diseases caused due to abnormal lipid metabolism.
- (c) Define following :
  - (i) Holoenzyme
  - (ii) Zymogens
  - (iii) Coenzymes
- (d) Explain Rhodopsin cycle of vision.
- (e) Describe following :
  - (i) Rothera's test
  - (ii) Pharmacological importance of enzymes
- (f) Describe in brief classification proteins based on composition with suitable examples.

6. Attempt any FOUR of the following :

4 × 4 = 16

- (a) Explain Urea cycle.
  - (b) Describe  $\beta$ -oxidation of fatty acids with energetic.
  - (c) Mention various factors which affects enzyme activity. Discuss effect of substrate concentration in detail.
  - (d) Enlist inborn errors of protein metabolism, describe any two.
  - (e) Draw Kreb's cycle.
  - (f) Define and classify lipids with examples from each class.
- 

