

12425

03 Hours / 80 Marks



20223

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.
 - (6) In case student has attempted sub-question of question no. 3 more than once, only first attempt should be considered for assessment.

Marks**30****1. Attempt any SIX of the following:**

- a) Define and classify carbohydrates with example. Draw the structure of Glucose and Galactose.
- b) Discuss in brief the steps involved in Glycolysis and give its energetic.
- c) Define the term 'Enzyme'. Enlist the factors affecting enzyme activity. Explain effect of substrate concentration and temperature on rate of enzyme catalysed reaction.
- d) Define proteins. Enlist different types of structure of proteins. Describe secondary structure of proteins.
- e) Explain beta-oxidation of unsaturated fatty acid with energetic of palmitic acid.
- f) Describe lipid profile tests with its clinical significance.
- g) What is biological oxidation ? Explain electron transport chain in details.

2. Attempt any TEN of the following :**30**

- a) Give types and functions of lipoproteins.
- b) Give the schematic representation of overall view of TCA cycle.
- c) Explain Watson and Crick model of DNA.
- d) State the causes of
 - i) Phenyl ketonuria
 - ii) Alkaptonuria
 - iii) Ketoacidosis
- e) Define dehydration. Give causes and treatment of dehydration.
- f) Explain different liver function tests.
- g) What are minerals? Give its classification and functions.
- h) Name normal and abnormal constituents of urine. Write significance of abnormal constituents in disease.
- i) What are fatty acids? Classify it based on chemical structure and nutritional requirements with example.
- j) Define and classify vitamins. Give deficiency diseases of vitamin D.
- k) Define anaemia. Explain megaloblastic and sickle cell anaemia.

P.T.O.

**3. Attempt ALL of the following :**

- a) Full form of DNA is _____.
- b) Define Biochemistry.
- c) True or false : The prokaryote cell has a nucleus.
- d) _____ is sulfur containing essential amino acid.
- e) Lock and key model of enzyme action is proposed by
 - i) Emil Fischer
 - ii) Koshland
 - iii) Crick
 - iv) Watson
- f) Match the following:

1.	Vitamin D	a.	Beri-Beri
2.	Vitamin C	b.	Pernicious anemia
3.	Vitamin B ₁₂	c.	Scurvy
4.	Vitamin B ₁	d.	Ricket

- g) Co-enzyme form of vitamin B6 is
 - i) Pyridoxal Phosphate
 - ii) Tetrahydrofolate
 - iii) Thiamine pyrophosphate
 - iv) Nicotinamide adenine dinucleotide
- h) Define endoenzymes.
- i) Define Osmolarity.
- j) Draw a structure of Lactose.
- k) Name the two hormones responsible for the regulation of electrolyte balance.
- l) Give coenzyme of Riboflavin.
- m) ORS stands for _____
- n) Define Biotechnology.
- o) If one NADH molecule completely oxidized by electron transport chain reaction in mitochondria, then it generates _____
 - i) 2 ATP
 - ii) 3 GTP
 - iii) 4 ATP
 - iv) 3 ATP
- p) Normal range of creatinine in urine is _____.
- q) Two amino acids are joined together by _____ bond.
 - i) Glycosidal
 - ii) Peptide
 - iii) Covalent
 - iv) Pi
- r) Which of the following nitrogenous base is not the component of RNA.
 - i) Adenine
 - ii) Guanine
 - iii) Cytosine
 - iv) Thymine
- s) Normal range of leucocytes in adult is _____.
- t) Term biotechnology was coined in
 - i) 1954
 - ii) 1919
 - iii) 1857
 - iv) 1820