

24225

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, multiple answer options are observed for the same sub question of question No. 3, the options appearing first in the answer book shall be treated as answer and assessed accordingly.

**Marks**

1. **Attempt any SIX of the following:** **30**
- a) Define the term 'Enzyme'. Enlist the factors affecting enzyme activity. Explain effect of substrate concentration and temperature on rate of enzyme catalysed reaction.
  - b) Explain beta-oxidation of unsaturated fatty acid with energetic of palmitic acid.
  - c) Enlist various qualitative tests of carbohydrates. Explain significance and procedure of Molisch's Test and Benedict's test.
  - d) Give the schematic representation of overall view of TCA cycle.
  - e) Describe lipid profile tests with its clinical significance.
  - f) Explain secondary structure of protein.
  - g) Discuss in brief the steps involved in Glycolysis and give its energetic.
2. **Attempt any TEN of the following :** **30**
- a) Name abnormal constituents of urine with the disease associated with them.
  - b) What are minerals? Give biochemical functions and deficiency disorders of calcium.
  - c) Explain ETC chain and oxidative phosphorylation.
  - d) Explain Watson and Crick model of DNA.
  - e) Give source, chemical nature, functions and deficiency diseases of Vitamin A.
  - f) What are fatty acids? Classify it based on chemical structure and nutritional requirements with examples.
  - g) Define
    - i) Carbohydrates
    - ii) Vitamins
    - iii) Aminoacids
  - h) Define the term 'Dehydration'. Give its causes. Write any one formula of ORS mixture.
  - i) Enlist various tests used for assessment of kidney functions. Explain GFR.
  - j) What is anaemia? What are the different types of anemias ?
  - k) State the causes of –
    - i) Phenylketonuria
    - ii) Alkaptonuria
    - iii) Ketoacidosis

P.T.O.



3. Attempt ALL question of the following :

- a) Co-enzyme A is a co-enzyme form of Vitamin \_\_\_\_\_.
- b) Draw structure of cholesterol.
- c) Write full form of DNA and RNA.
- d) Match the followings.

1. Glucose	a) Hematuria
2. Homogentisic acid	b) Jaundice
3. Bile Pigment	c) Alkaptonuria
4. Blood	d) Glycosuria

Options

- A. 1-d, 2-c, 3-b, 4-a                      B. 1-b, 2-d, 3-a, 4-c
- C. 1-d, 2-b, 3-a, 4-c                      D. 1-d, 2-b, 3-c, 4-a
- e) True or False: The prokaryote cell has a nucleus.
- f) Draw structure of any one monosaccharide.
- g) Write the meaning hyperkalemia and hypokalemia.
- h) Define biochemistry.
- i) Name coenzyme derived from the Vitamin B<sub>1</sub>.
- j) The reaction identifies presence of peptide bond is \_\_\_\_\_.
- A. Ninhydrin reaction                      B. Xanthoproteic reaction.
- C. Molisch's reaction                      D. Biuret reaction
- k) Give two examples of Polysaccharide.
- l) Define nucleoside.
- m) What are normal bilirubin levels in adults?
- n) In conjugated proteins, when the prosthetic group is carbohydrates, it is known as \_\_\_\_\_.
- o) What is Polycythemia Vera.
- p) If one NADH molecule completely oxidized by electron transport chain reaction in mitochondria, then it generates \_\_\_\_\_.
- A. 2 ATP                                      B. 3 GTP
- C. 4 ATP                                      D. 3 ATP
- q) ORS stands for \_\_\_\_\_.
- r) Define Biotechnology.
- s) \_\_\_\_\_ : catalyze the synthesis of two molecular substrate into one molecular compound with the release of energy.
- A. Ligase                                      B. Lyases
- C. Isomerase                                D. Hydrolases
- t) Match the followings.

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

Options

- A. 1-d, 2-c, 3-b, 4-a                      B. 1-b, 2-c, 3-d, 4-a
- C. 1-d, 2-b, 3-a, 4-c                      D. 1-d, 2-b, 3-c, 4-a