

B.P.T. [1st Prof.]

BF/2009/11

Biochemistry

M.M. : 90

Time : 3 Hours

SECTION - A

All questions are compulsory. Answer to each question upto 5 lines in length. Each question carries 2 Marks. [20]

1. Write the normal reference ranges for blood glucose and serum creatinine.
2. List the names of four coenzymes.
3. Name four mucopolysaccharides.
4. Write the sources and daily requirement of vitamin 'A'.
5. Define endergonic and exergonic reactions.
6. List the names of at least four hormones which exert their action through cyclic AMP.
7. What are isotopes? Which are the common isotopes used in the treatment of disease.
8. Define the term "Balanced Diet".
9. What are epimers? Give examples.
10. List the names of the Ketone bodies.

SECTION - B

Attempt any 8 questions. Answer to each question upto 2 pages in length. Each questions carries 5 Marks. [40]

1. What is the site for protein synthesis in a cell? Discuss the various features of the genetic code.
2. Define carbohydrates. Classify them giving examples and functions of each class.
3. What is a blood lipid profile? What are the implications of a deranged lipid profile. Discuss with the help of an example.
4. Describe the mode of action of enzymes.
5. How is glucose metabolized by the RBC's for producing energy? Describe the pathway indicating the energy yield from 1 molecule of glucose in the RBC.
6. Explain the steps of beta oxidation of palmitic acid giving energetics.
7. Describe the role of vitamin D in metabolism of the bone.
8. Classify jaundice. Give an account of the biochemical tests which will help in differentiating the various types of jaundice.
9. What are inborn errors of metabolism? How were they first discovered? Describe any two of such errors.
10. Describe the fate and metabolism of ammonia in the body.
11. Write a note on biologically important nucleotides.
12. Describe the various levels of structure of proteins.

SECTION - C

Attempt any 2 questions. Answer to each question upto 5 pages in length. Each questions carries 15 Marks. [30]

1. What is cholesterol? Draw its structure and list its importance. Describe the metabolism of cholesterol and its implication in atherosclerosis.
2. What is the Pentose phosphate pathway? Describe it and explain its significance.
3. Describe the sources, biochemical functions, normal requirement and deficiency manifestations of any **ONE** of the following:
 - i. Vitamin B₆
 - or ii. Vitamin C
 - or iii. Vitamin B₁
4. Describe the structure and functions of the different types of RNA.
