



**BIOCHEMISTRY**

**PAPER – II**

BCHEM/D/14/03/II

Time : 3 hours

Max. Marks : 100

**Important instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

1. Explain the biochemical role and nutritional importance of zinc, selenium and fluoride. 4+3+3
2. Explain the synthesis and chemical role of Vitamin D in the body. Why is it called a "hormone"? 7+3
3. Give an account of the oxido-reductases and their mechanism of action with reference to the enzymes of the electron transport chain. 10
4. Describe the structure of collagen. Explain the role of ascorbic acid in the synthesis of collagen. 4+6
5. Write a note on prostaglandins and their functions 4+6
6. Describe the biochemical evaluation of "short Stature". 10
7. Describe briefly the metabolism of aromatic amino acids. Add a note of inborn errors of metabolism of any one aromatic amino acid. 7+3
8. Discuss the metabolism of lipoproteins. Give Friedrich's classification of hyperlipidemias. 8+2
9. Discuss the regulatory role of Phosphofructokinase-I (PFK-I), glucokinase and glycogen phosphorylase in carbohydrate metabolism. 3+3+4
10. How are the following synthesized and utilized in the body: 5+5
  - a) HMG CoA.
  - b) Acetyl CoA.

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