

**M.B.B.S. [1<sup>st</sup> Prof.]**  
**BF/2007/11**

**Biochemistry - B**

**M.M. : 50**

**Time : 3 Hours**

*Note : Attempt all questions.*

1. a. Bring out the differences of replication between Prokaryotes and Eukaryotes in a tabular form. [5]  
b. State the normal Serum level of Calcium. Compare the action of three major factors which effectively regulate blood Calcium level. [5]
  2. a. Mention the buffer systems of plasma. List the advantages and disadvantages of these buffer systems. [3]  
b. Explain how measurement of bilirubin and other bile pigments in blood and urine can distinguish different types of Jaundice. [4]  
c. Briefly describe the role of Glutathione as detoxifying agent. [3]
  3. **Write short notes on:** [4x2.5=10]
    - a. Human genome project.
    - b. Synthetic purine analogues and their clinical significance.
    - c. HPLC.
    - d. Normal Serum electrophoretic patterns and its alteration in nephrotic syndrome.(labeled diagrams only).
  4. **Answer briefly:**
    - a. Blotting techniques and their significance. [4]
    - b. Biochemical role of Zinc. [3]
    - c. Synthesis of Thymine Deoxyribonucleotides. [3]
  5. a. Explain the principle of Polymerase Chain Reaction with the aid of a diagram. [5]  
b. **Define the following:** [5]
    - i) Gene therapy.
    - ii) Introns.
    - iii) Exons.
    - iv) Hypokalemia.
    - v) Half life of radioactivity.
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