

[Time: 03 Hours.]

[Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.

2. Figures to the right indicate full marks.

3. Draw neat and labelled diagrams wherever necessary.

4. Answer the questions in proper order.

- Q.1** Describe **any two** of the following: **20**
- Point mutations
 - Regulatory protein domains
 - Chemical mutagens that induce mutations
- Q.2** Explain **any two** of the following: **20**
- Reverse transcription
 - Southern Blotting
 - Types of endonucleases
- Q.3** Give an account on **any two** of the following: **20**
- Meiotic non-disjunction
 - Inversions: Types, effects and significance
 - Albinism
- Q.4** Describe **any two** of the following: **20**
- Phylogenetic tree: convergent evolution
 - Bioinformatics web resources
 - Nucleic acid databases
- Q. 5** Write short notes on: (Any Four): **20**
- Huntington's disease
 - cDNA Library
 - DNA ligases
 - Amniocentesis
 - Protein chip
 - Significance of sequence alignment