

[Time: 2½ Hours]

[Marks:60]

Please check whether you have got the right question paper.

- N.B:**
1. **All questions are compulsory.**
 2. **All questions carry equal marks.**
 3. **Draw neat labeled diagrams whenever necessary.**

- Q.1** Describe multiple sequence analysis and methods used for multiple sequence alignment. **12**
- OR**
- Q.1**
- a) Describe various structural databases. **06**
 - b) What is bioinformatics? Give an account of bioinformatics history. **06**
- Q.2** Describe homology modeling and fold recognition methods for protein structure prediction. **12**
- OR**
- Q.2**
- a) Describe methods of identifying disease genes. **06**
 - b) Write a note on lead identification and modification. **06**
- Q.3** What is patent infringement? Describe with examples. **12**
- OR**
- Q.3**
- a) Describe WIPO treaties. **06**
 - b) Write a note on copyrights. **06**
- Q.4** Describe bioethics of wildlife conservation and management and commercialism in scientific research. **12**
- OR**
- Q.4**
- a) Describe bioethics in animal welfare and rights used in research work. **06**
 - b) Write a note approaches to ethics. **06**
- Q.5** Write short notes on **ANY THREE** **12**
- a) Nucleic acid database
 - b) Consensus
 - c) DSSP & STRIDE
 - d) SNP array
 - e) Trademarks
 - f) Bioethics of GMO