B.E. Eighth Semester (Computer Technology) (C.B.S.)

Elective - III : Bio-Informatics

P. Pages : 2 **KNT/KW/16/7600**

Time : Three Hours * 0 3 0 1 * Max. Marks : 80

Notes :
1. Solve Question 1 OR Questions No. 2.
2. Solve Question 3 OR Questions No. 4.
3. Solve Question 5 OR Questions No. 6.
4. Solve Question 7 OR Questions No. 8.
5. Solve Question 9 OR Questions No. 10.
6. Solve Question 11 OR Questions No. 12.
7. Due credit will be given to neatness and adequate dimensions.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is bioinformatics & What are the scopes of bioinformatics? **8**

b) Explain different elementary commands utilized in bioinformatics. **6**

OR

2. a) Explain how molecular communication systems can be investigated actual molecules from living organism function by using information theory. **8**

b) Explain terms:- **6**
i) FTP
ii) HTTP
iii) Telnet

3. a) How actual model generation in homology theory was processed, discuss methods of it. **6**

b) Discuss about the "Darwin's theory of evolution based upon natural selection" in bioinformatics. **7**

OR

4. a) Discuss homology theory based on willie Henning. **6**

b) Discuss about the differences between Darwin's and Wallace's ideas on natural selection process. **7**

5. a) Discuss about DNA Mapping and sequencing. **6**

b) Explain methods of multiple sequence alignment methods in details. **7**

OR

6. a) Explain about the Sanger method in detail. **6**

b) Write short notes on shotgun sequencing. **7**

7. a) Explain heuristic alignment algorithm in details. **7**

b) Explain PAM substitution Metrics of sequence alignment in details. **6**

OR

8. a) Explain Needleman Wunsch algorithm in details. **7**

b) Explain BLOSUM substitution metrics of sequence alignments in details. **6**

9. a) Explain the primary databases with the help of examples. **7**

b) Discuss about searching and retrieval system from www. **6**

OR

10. a) Discuss about PDB structural databases. **6**

b) Explain the secondary databases based on- **7**
i) Swissprot
ii) PIR
iii) KEGG.

11. a) Discuss how biochemical databases are utilized as an expertise for managing the full data life cycle. **6**

b) Explain the biochemical databases extension by metabolic surveys. **8**

OR

12. Write short note on :- **14**
i) EXGESCY
ii) BRENDA
iii) WIT.

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