

**T. Y. B. Sc. (Biotechnology) SEM – VI (CBCS - 2015 COURSE) :**  
**WINTER - 2018**

**Subject: Basics of Bioinformatics**

Day: Saturday  
Date: 27/10/2018

**W-2018-1189**

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 60

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**N.B.:**

- 1) Q1 and Q5 are compulsory.
  - 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
  - 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
  - 4) Answers to Both the sections to be written in SEPARATE answer books.
  - 5) Draw a labeled diagram WHEREVER necessary.
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**SECTION - 01**

Q.1) Explain with applications: (ANY FIVE) (2 Marks X 5 = 10)

- a) Genomics
- b) NCBI
- c) OMIM
- d) GSS
- e) PIR
- f) Protein annotation

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Explain in brief Biological Databases Pitfalls.
- b) Explain database search engines.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Explain in brief Bibliographic databases.
- b) Explain briefly about protein structure databases.

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) OMIM
- b) RCSB PDB

**SECTION - 02**

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) PANTHER stands for \_\_\_\_\_.
- b) DDBJ stands for \_\_\_\_\_.
- c) BLOSUM stands for \_\_\_\_\_.
- d) What is FASTA?
- e) What do you mean by true positives?
- f) Which is the first DNA sequencing method?

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Explain protein structure classification databases.
- b) Differentiate between Needleman & Wunsch and Smith & Waterman algorithm.

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Differentiate between secondary and tertiary structure of protein.
- b) Explain in brief: CLUSTALW.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) BLAST
- b) Scoring Matrices

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