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RAN-1169

B. Sc. Microbiology Examination

March / April - 2019

MB: 20 Genomics, Proteomics and Bioinformatics

Sem - VI

Time: 2 Hours] **[Total Marks: 50**

સૂચના : / Instructions

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of ☛ signs on your answer book

Name of the Examination:

☛ **B. Sc. Microbiology Sem - VI**

Name of the Subject :

☛ **MB: 20 GENOMICS, PROTEOMICS AND BIOINFORMATICS**

Subject Code No.: **1 1 6 9**

Seat No.:

Student's Signature

Instruction:

(1) Figures to the right indicate full marks of the questions.
(2) Draw neat and labelled diagrams whenever necessary.

Que:1 **Give specific answers.** **[12]**

1. Differentiate between paralogs and orthologs.
2. State the difference between Primary and Secondary database.
3. Define following:
   a) Computational biology
   b) Database
4. What is BLAST? Give the importance of 'words' in BLAST search.
5. What is molecular clock? Give its use.
6. Give the full form of mmCIF. Where it is used in the field of bioinformatics field?

Que: 2 **Explain /justify any two of the following.** [12]

1. Gene Expression at RNA level can be monitored by Microarray System.
2. Information can be retrieved faster in relational database than flat file database.
3. E-value plays an important role in sequence similarity search.

Que: 3 **Explain any two of the following in detail.** **[16]**

1. Discuss in detail the whole genome shotgun sequencing method for nucleic acid sequencing.
2. Define alignment and discuss in detail various Alignment Algorithms.
3. Give detail note on Hidden Markov Model for gene prediction.

Que: 4 **Write short notes on any two of the following.** **[10]**

1. Chain-termination DNA sequencing method.
2. Various forms of tree representation.
3. Object-Oriented Databases.