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RAN-2203000206026006**B.Sc. (Microbiology) (Sem. VI) Examination October - 2023****MB 606: Genomics, Proteomics and Bioinformatics****Time: 2 Hours]****[Total Marks: 50****સૂચના : / Instructions**

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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 606: Genomics, Proteomics and Bioinformatics

Subject Code No.: 2203000206026006

Seat No.:

Student's Signature

- (2) Figures to the right indicate full marks of the question.
(3) Draw neat and labeled diagrams whenever necessary.

Q. 1. Give specific answers**(12)**

- Name the scientists who were the first to sequence a bacterial genome?
Name the method that has been developed in order to reduce bacterial genomes to manageable sizes?
- What do you mean by genome annotation?
- Differentiate between orthologue and paralogue.
- What do you mean by Transcriptomics?
- Enlist any 4 features of Biological Databases.
- Enlist five major variants of bio-sequence alignments.

Q.2. Explain/Comment on any two of the following**(12)**

- Explain how Modified base used in reversible chain termination.
- Justify: Biological databases can be classified on the bases of Data source as Primary and Secondary database.
- Explain: Divide and Conquer Approach of MSA

Q3. Attempt in detail any two of the following. (16)

- a. Explain CHIP-Chip and ChIP-Seq Analysis as identification technique for DNA - protein binding.
- b. Define: Bioinformatics. Give a brief view of past, present and future bioinformatics.
- c. What is full form of FASTA? Discuss it in detail with its statistical significance.

Q.4. Write short note on any two of the following. (10)

- a. Data retrieval tools.
 - b. Steps used in whole-genome shotgun sequencing.
 - c. Monitoring Gene Expression by Microarray System.
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