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T.Y.B.Sc. (Sem. VI) Examination March - 2025

Bioscience (Microbiology)

BS - 606: Fundamentals of Bioinformatics

Time: 2 Hours]

[Total Marks: 50

सूचना : / Instructions

(१)

नीचे दशावैल निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी.
Fill up strictly the details of signs on your answer book

Name of the Examination:
☛

Name of the Subject :
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Subject Code No.:

Seat No.:

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

Q.1. Multiple choice question: (MCQ)

08

- Which of the following is known as transcripts?
 - mRNA
 - Protein
 - RNA
 - DNA
- Proteins are encoded by _____
 - Transcripts
 - DNA
 - Template DNA
 - None
- Genomes from different organism are compared in _____
 - Physical genomics
 - Structural genomics
 - Functional genomics
 - Comparative genomics
- Which of the following are dNTPs?
 - dATP
 - dCTP
 - dGTP
 - All

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[1]

[P.T.O.]

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5. Which of the following is a retrieval system?
 - a. SRS
 - b. EMBL
 - c. PDB
 - d. All
6. Which of the following is a secondary database?
 - a. SWISS-PROT
 - b. TrEMBL
 - c. PIR
 - d. All
7. Which of the following is a form of tree representation?
 - a. Angled form
 - b. Squared form
 - c. Angled form and Squared form
 - d. All
8. A typical bifurcating Phylogenetic tree contain _____
 - a. Branch
 - b. Node
 - c. Root node
 - d. All

Q.2. [A] Answer as directed: 04

1. Give the full form of EMBL
2. Enlist any four dNTPs.
3. Define: Alignment, Proteome.
4. Explain: Isoelectric focusing.

Q.2. [B] Write short notes on: (Any Two) 10

1. Tandem Mass Spectroscopy
2. Phylogram and Cladogram
3. Capillary electrophoresis DNA analyzer.

Q.3. Explain in detail two dimensional Gel Electrophoresis. 14

OR

Q.3. Answer of the followings question. 14

1. Describe in brief Proteomics.
2. Write a note on DNA sequencing method.

Q.4. Answer the following questions. (Any Two) 14

1. Describe in brief types of biological database & Explain primary database.
2. Write note on Computational molecular Biology.
3. Explain in brief phylogenetic tree and various forms of tree representation.