

2003001104020003
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE(FOURTH SEMESTER)
INTRODUCTION TO MOLECULAR BIOLOGY – I
LEVEL 2

[Time: As Per Schedule]

[Max. Marks: 50]

Instructions:

1. Fill up strictly the following details on your answer book

a. Name of the Examination : **BACHELOR OF SCIENCE
(FOURTH SEMESTER)**

b. Name of the Subject : **INTRODUCTION TO MOLECULAR
BIOLOGY – I LEVEL 2**

c. Subject Code No : **2003001104020003**

2. Sketch neat and labelled diagram wherever necessary.

3. Figures to the right indicate full marks of the question.

4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Define Any Four:

8

- a) Replication Fork & Replicon
- b) Auxotroph & Prototroph
- c) Homologous recombination
- d) Mutation & Mutagen
- e) Primosome & replisome
- f) Transposon & Competent cell

Q.2 Attempt Any Two:

14

- a) Diagrammatically explain the events occurring at replication fork during replication.
- b) Discuss different types of point mutations along with their examples.
- c) Give details of Direct, Mismatch and Recombinationl Repair of DNA.

Q.3 Explain in detail Any Two:

14

- a) What is Ames test and how is it carried out? What assumption concerning mutagenicity and carcinogenicity is it based upon?
- b) Mention different types of Transposable elements and mechanism of Simple transposition.
- c) Describe how transformation occurs in *S. pneumonia*. How does the process differ in *H. influenzae*?

Q.4 Attempt Any Two of the following:

14

- a) Explain $F^+ \times F^-$ and Hfr conjugation processes
- b) Describe generalized and specialized transduction in bacteria.
- c) Describe the five major ways in which bacteria become resistant to drugs and give example of each.
