2003001104020003
EXAMINATION SEPTEMBER 2024 (ATKT EXAM)
BACHELOR OF SCIENCE (BIO TECHNOLOGY)
(FOURTH SEMESTER)
INTRODUCTION TO MOLECULAR BIOLOGY - I

[**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 (BIO TECHNOLOGY) (FOURTH SEMESTER)**
   b. Name of the Subject : **INTRODUCTION TO MOLECULAR BIOLOGY - I**
   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:

Student's Signature

Q.1 Define Any Four: **8**

a) Leading & Lagging strand
b) Okazaki Fragments & SSB proteins
c) Reading frame & Frameshift Mutation
d) Replication Fork & Replicon
e) Homologous recombination
f) Horizontal Gene transfer

Q.2 Attempt Any Two: **14**

a. Diagrammatically explain the events occurring at replication fork during replication.
b. Explain the mechanism of the telomeres of eukaryotic chromosomes by telomerase enzyme.
c. Describe how replica plating is used to detect and isolate auxotrophic mutants.

Q.3 Explain in detail Any Two: **14**

a. Discuss different types of point mutations along with their examples.
b. What is Ames test and how is it carried out? What assumption concerning mutagenicity and carcinogenicity is it based upon?
c. Write detailed note on Excision repair mechanism of DNA

Q.4 Attempt Any Two of the following: **14**

a. Give details of Homologous recombination.
b. Mention different types of Transposable elements and mechanism of Replicative transposition.
c. Explain F^+ x F^- and Hfr conjugation processes

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