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RAN-2103001106020003

M.Sc. Integrated Biotechnology (Sem-VI)

Examination March - 2025

BT-19 Microbial Biotechnology

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:
M.Sc. Integrated Biotechnology (Sem-VI)

Name of the Subject :
BT-19 Microbial Biotechnology

Subject Code No.: 2103001106020003

Seat No.:

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Student's Signature

- (2) Figures to the right indicate full marks.
(3) Draw neat and labelled diagram wherever necessary.

Q.1. Write answers to Any Four:

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- Define aseptic operation in fermentation and give its importance.
- Define: Primary & Secondary Screening.
- Define: Mutants.
- What is the role of mutation in strain improvement?
- CSTF operates on which principle?

Q.2. Attempt Any Two:

14

- Explain in detail: Production of penicillin at industrial scale through fermentation.
- Explain the concept of fermentation technology with suitable examples.
- Design hypothetical fermentation process for a novel product and justify your approach.

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

- a. Discuss various methods for long-term microbial culture preservation.
- b. Compare and contrast the fermentative production of citric acid and penicillin.
- c. Elaborate on the techniques used for isolation of microorganisms utilizing desired characteristics.

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

- a. What are the key factors to consider while designing a fermenter?
 - b. Define: Containment. Explain different criteria used for risk assessment during fermentation.
 - c. Write a note on: Airlift fermenter.
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