

Roll No.							
----------	--	--	--	--	--	--	--

25-MB-24

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
MAY - JUNE 2025**

MICROBIOLOGY

Paper - IV

[Fermentation Technology]

[Max. Marks : 75]

[Time : 3:00 Hrs.]

[Min. Marks : 26]

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt all five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Explain the Inoculum development for industrial fermentation.

OR

Explain the following -

- i) Industrial sterilization of air and equipment.
- ii) Two essential methods for preserving micro organisms.

Q. 2 Explain scale up of the fermentation process.

OR

Write short notes on -

- i) Extraction for product isolation.
- ii) Ion exchanged chromatography for product purification.

Q. 3 Discuss the batch and continuous fermentation processes.

OR

Write short notes on -

- i) Packed bed reactor.
- ii) Concept of submerged fermentation.

Q. 4 What is Steroid Biotransformation ? Explain the microbial transformation of steroidal hormones.

P.T.O.

OR

Discuss microbial production of any one of the following -

- i) Lactic acid.
- ii) Amylase.

Q. 5 Explain the microbial production of Vitamin B12.

OR

Explain the following -

- i) Microbial assay of growth promoters.
- ii) Flow diagram of large scale production of penicillin.

————○————