

B.Sc. Semester - 4 (NEP-2020) Examination**March/April-2025****MIC: Bioprocess Technology (Major-9)****Time: 2:00 Hours****Marks: 50****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que-1 Write a note on:

1. Historical development of Industrial Microbiology. (05)
2. Application of recombinant DNA technology in microbial strain improvement. (05)

OR

1. Component parts of fermentation process
2. Primary screening of antibiotic producing microorganisms

Que-2 Write a note on:

1. Importance of media optimization. (05)
2. Antifoam agents in industrial fermentation media. (05)

OR

1. Inoculum medium
2. Criteria for sources of nutrients to create a medium for large scale production

Que-3 Explain:

1. Criteria for design of a fermenter. (05)
2. Batch fermentations and their advantages over continuous fermentations. (05)

OR

1. Types of agitators.
2. Role of Del factor in Industrial Microbiology.

Que-4 Discuss in brief:

1. Production of amylases. (05)
2. Recovery of penicillin from fermentation broth. (05)

OR

1. Production of ethanol
2. Citric acid production

Que-5 Answer the following:

1. Write in brief on: Range of fermentation processes. (05)
2. Write on common carbon sources used for industrial fermentation media. (05)

OR

1. Write on containment
2. Give an overview of immobilization in fermentation processes.
