

B.Sc. Semester - 3 (NEP-2020) Examination**OCT/NOV-2024****MIC: Applied Microbiology (Major-6)****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 Answer the following questions. (10)

- 1) Explain about the physical characteristics of soil that influence microbial growth.
- 2) Write a detailed note on concept of Bio fertilizers.

OR

- 1) Define the rhizosphere and describe the microbial flora of soil.
- 2) Discuss the symbiotic microbial interaction among soil microorganisms.

Que-2 Answer the following questions. (10)

- 1) Describe microbial spoilage in fresh foods.
- 2) Explain foodborne infections caused by *Staphylococcus aureus*.

OR

- 1) Discuss the principles used for food preservation.
- 2) Write a brief note on Mushroom cultivation.

Que- 3 Answer the following questions. (10)

- 1) Describe the types of microorganisms present in milk, based on their pathogenic characteristics.
- 2) Explain the methods for quantitative microbial analysis of milk, including the SPC and MBRT tests.

OR

- 1) Describe the process of cheese production.
- 2) Discuss the preservation techniques used for milk.

Que- 4 Answer the following questions. (10)

- 1) Explain the importance of sterility testing in pharmaceutical products.
- 2) Discuss the role of Good Manufacturing Practices (GMP) in the pharmaceutical industry.

OR

- 1) Define Total Quality Management (TQM) and explain its significance in pharmaceutical quality assurance.
- 2) Explain the principles of quality assurance in pharmaceutical products.

Que- 5 Answer the following questions. (10)

- 1) Discuss the role of microorganisms' in nitrogen cycle.
- 2) Give a brief introduction of sauerkraut fermentation.

OR

- 1) Describe the microbial spoilage milk products.
- 2) Discuss the importance of ISO and WHO certifications in the pharmaceutical industry.
