

B.Sc. Semester - 1 (NEP-2020) Examination**OCT/NOV-2025****MICRO: Basics of Microbiology (Major-1)****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 1) Write short notes on the contributions of the scientists: Antony van Leeuwenhoek & Louis Pasteur. (05)
- 2) Explain the concept of spontaneous generation versus biogenesis. (05)
- OR
- Que.1 1) Write short notes on the contributions of the scientists: Alexander Fleming, Edward Jenner and Sergei Winogradsky. (05)
- 2) Discuss the distribution of microorganisms in nature and factors influencing it. (05)
- Que.2 1) Explain the Baltimore classification of viruses with suitable examples. (05)
- 2) Write short notes on the general characteristics of cellular microorganisms. (05)
- OR
- Que.2 1) Discuss the biological characteristics of microorganisms, including viruses. (05)
- 2) Define binomial nomenclature and discuss its significance in microbial taxonomy. (05)
- Que.3 1) Define phytoplankton and explain their general characteristics. (05)
- 2) Describe zooplankton and their general features. (05)
- OR
- Que.3 1) Describe the general characteristics and structure of actinomycetes. (05)
- 2) Discuss the occurrence and economic importance of protozoa. (05)
- Que.4 1) Describe the essential nutritional requirements of bacteria. (05)
- 2) Explain the different nutritional types of bacteria with examples. (05)
- OR
- Que.4 1) What is bacteriological media? Classify and explain the types of culture media. (05)
- 2) Explain the gaseous requirements of microorganisms and the effects of oxygen toxicity. (05)
- Que.5 Write the short note on: (10)
- 1) Describe the major groups of microorganisms with suitable examples.
- 2) Explain Whittaker's five-kingdom classification system and its utility.
- OR
- 1) Discuss the ecological and economic importance of phytoplankton.
- 2) Write short notes on enrichment and differential media used in microbiology.
