

RAN-2403000503047001
S.Y.B.Sc. (NEP) (Sem. III) Examination March - 2026
Medical Laboratory Technology
MLT-MDC-301: Introduction to microbial World
Time: 2 Hours]
[Total Marks: 50

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book (2) Draw the figures wherever required. (3) Figures to the right indicate the marks.	Seat No.: Student's Signature
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- Q.1. Answer in one or two sentences: (Any 10) 10**
- Who proposed the theory of spontaneous generation of microorganisms?
 - Name the scientist who discovered penicillin.
 - Name one genotypic method for microbial identification.
 - Name one mold used in antibiotic production.
 - Give an example of a unicellular fungus.
 - State one morphological feature of protozoa.
 - Which atypical bacterium can pass through bacterial filters due to its small size?
 - Name one method of cultivation used for Rickettsia.
 - State the Gram reaction of Actinomycetes.
 - What is the genetic material in most bacteriophages?
 - Name one DNA virus and one RNA virus.
 - What is a provirus?
- Q.2. Answer the following: (Any 2) 10**
- Compare phenotypic and genotypic characteristics used for microbial identification with examples.
 - Write a note on genotypic methods of microbial identification
 - Trace the historical development of medical microbiology from germ theory to modern molecular techniques.
- Q.3. Essay type Question: (Any 1) 10**
- Compare the economic importance of molds, yeasts, and protozoa
 - Explain the morphology of protozoa and their dual role in human health and ecosystem.
- Q.4. Essay type Question: (Any 1) 10**
- Write a detailed note on Chlamydia covering its morphology, cultivation, and diseases caused.
 - Discuss the morphology and economic as well as pathogenic importance of Actinomycetes.

Q.5. Write short notes on the following: (Any 2)

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1. Describe the general structure and properties of viruses with examples.
 2. Differentiate between the lytic and lysogenic life cycles of bacteriophages with a diagram.
 3. Discuss the general characteristics of bacteriophages.
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