

B.Sc. Semester - 5 (NEP-2020) Examination**Oct/Nov - 2025****MIC: Microbial Diagnostics and Public Health (Theory) (Skill Enhancement Course)****Time: 1:00 Hours****Marks: 25****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

- Que.1 (1) Explain the importance of collecting appropriate clinical samples for the diagnosis of diseases. Give two examples. (05)
- (2) Explain the methods of transport and storage of clinical samples to the laboratory to ensure accurate diagnosis. (05)

OR

- Que.1 (1) Why is early and accurate diagnosis important in managing infectious diseases? (05)
- (2) Describe the method of collection of any two clinical samples and mention the key precautions required during collection. (05)
- Que.2 (1) State the principle, procedure, and application of Gram staining in clinical samples. (05)
- (2) State the principle and procedure of the disc diffusion method for testing bacterial antibiotic sensitivity. (05)

OR

- Que.2 (1) Describe the principle, preparation, and diagnostic applications of Blood agar and MacConkey agar. (05)
- (2) Explain the importance of testing bacterial isolates for antibiotic sensitivity in clinical microbiology. (05)
- Que.3 (1) Why are aseptic technique and proper labeling important during the collection and transport of clinical samples? (05)

OR

- (1) What is the Minimal Inhibitory Concentration (MIC)? Explain how it is determined using the serial double dilution method. (05)
