

B.Sc. Semester - 1 (NEP-2020) Examination**OCT/NOV-2024****MIC: Principles of Microbiology (Major-2)****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) Define Capsule. Write down functions of capsule. | (05) |
| | 2) Write a note on structure and function of flagella. | (05) |
| | OR | |
| Que.1 | 1) Discuss the difference between Gram positive and Gram negative cell wall. | (05) |
| | 2) Give a brief account on Size, shape and arrangement in Bacteria. | (05) |
| Que.2 | 1) Explain parts and principle of Bright field microscopy. | (05) |
| | 2) Discuss the components of Scanning electron microscopy. | (05) |
| | OR | |
| Que.2 | 1) Which are the various components of Phase contrast microscopy? | (05) |
| | 2) Write a note on stains and mordents. | (05) |
| Que.3 | 1) Define sterilization and explain the methods of Physical sterilization. | (05) |
| | 2) How to preserve microbial cultures? | (05) |
| | OR | |
| Que.3 | 1) What is pure culture? Explain various streaking methods. | (05) |
| | 2) Who discovered Gram staining method? Explain steps involved in Gram staining technique. | (05) |
| Que.4 | 1) Write a note on continuous culture method. | (05) |
| | 2) Comment on "New cell formation in bacteria". | (05) |
| | OR | |
| Que.4 | 1) Explain different phases of Bacterial growth curve with diagram. | (05) |
| | 2) Define growth rate and explain in detail. | (05) |
| Que.5 | 1) Define spore and explain sporogenesis. | (05) |
| | 2) How Fluorescent Microscopy works? Explain the working principle. | (05) |
| | OR | |
| Que.5 | 1) Give a brief account on principle and procedure of Negative staining. | (05) |
| | 2) What is synchronous culture? How it is obtained? | (05) |
