

2303000501026001
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (NCF-NEP)(FIRST SEMESTER)
MAJOR-2-MICROBIOLOGY PAPER - II THEORY
(MICROSCOPY AND STAINING TECHNIQUES) -
LEVEL 2(MB-MJ-102)

[Time: As per schedule]

[Max. Marks: 35]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (NCF-NEP)(FIRST SEMESTER)**
 - b. Name of the Subject : **MICROBIOLOGY PAPER - II THEORY (MICROSCOPY AND STAINING TECHNIQUES) LEVEL 2 (MB-MJ-102)**
 - c. Subject Code No : **2303000501026001**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer in very short. (Any Five)

5

- A. Give the source of light used in TEM.
- B. State the magnification achieved by scanning tunnelling microscope.
- C. Give one application of dark-field microscopy.
- D. State any two points describing importance of fixation while using bright-field microscope.
- E. Give an example of acidic and basic dyes each.
- F. Give two functions of ocular lens.

Q.2 Answer the following in brief. (Any Two)

10

- A. What is numerical aperture? Discuss it in detail.
- B. Explain working difference with reference to uncovered and covered objects.
- C. Discuss mordants and intensifiers as important components of staining.

Q.3 Answer the following in brief. (Any Two)

10

- A. Discuss principle, working and uses of phase contrast microscope.
- B. Discuss DIC and CSLM microscopy techniques.
- C. Discuss Gram staining technique.

Q.4 Answer the following in detail. (Any one)

10

- A. Discuss detailed specimen preparation techniques of TEM.
- B. Explain SEM and electron cryotomography microscopies in detail.
