

RAN-2403000501026003

F.Y.B.Sc. (External Theory) (NCF-NEP) (Sem. - I) Examination November - 2025
MB-MJ-102 : Microscopy and Staining Techniques

Time: 1:30 Hours]
[Total Marks: 38
સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) Figures to the right indicate full marks of the question.
- (3) Draw neat and labelled diagrams whenever necessary.

Seat No.:

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Student's Signature

- Q.1. Give specific answers, ANY 8 out of 9. (08)**
- a) What are the chief functions of an objective lens?
 - b) Define: Mordant.
 - c) Give TWO examples of intensifier.
 - d) Give TWO applications of Dark-field microscopy.
 - e) Name the Scientist who developed Gram's Stain. In which year the method has been developed?
 - f) GFP is obtained from which organism?
 - g) Which chemical is used to fix specimen samples in TEM?
 - h) State the importance of vitreous ice in electron microscopy.
 - i) State the techniques for preparing specimens in TEM.
- Q.2. Comment/Explain ANY 2 of the following. (10)**
- a) Better Microscope Resolution generates clearer image. - Explain in detail.
 - b) Define: Dyes. Explain the types of dyes with examples.
 - c) Explain in detail the role of mordant in staining of specimen.
- Q.3. Answer ANY 2 of the following. (10)**
- a) Discuss DIC and CSLM microscopy techniques.
 - b) Explain endospore staining in detail.
 - c) Describe the steps involved in preparation and staining of specimens.
- Q.4. Write SHORT NOTES on ANY 2 of the following. (10)**
- a) Write a note on Scanning Electron Microscope.
 - b) Discuss in detail about Scanning tunneling microscope.
 - c) Write a note on specimen preparation in TEM.