



RAN-2403000501026003

F.Y.B.Sc. (NCF-NEP) (Sem. I) External Theory Examination March - 2026

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 labeled diagrams whenever necessary.	Seat No.: <table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> Student's Signature						

- Q.1. Give specific answers. (ANY 8 out of 9) (08)**
- Give an example of acidic and basic dye.
 - Give the formula of Numerical Aperture & details.
 - What is meant by apochromatic objective?
 - Name the microscopic technique used to observe living unstained microbes.
 - Give the uses of Phase Contrast Microscopy.
 - Which dyes are used for capsule staining?
 - State an advantage of freeze-etching.
 - Name the chemical fixatives used for fixation of specimen in TEM.
 - State the 2 differences between SEM & TEM.
- Q.2. Comment/Explain ANY 2 of the following. (10)**
- Comment on - “mordants and intensifiers are an important component of staining”
 - What is resolution in microscopy? How resolution power is useful to create clear image.
 - Differentiate between mordants and intensifiers with examples.
- Q.3. Answer ANY 2 of the following. (10)**
- Write in brief about Dark field microscope.
 - Discuss Acid fast staining for *M tuberculosis*.
 - Explain: Atomic Force Microscope.
- Q.4. Write SHORT NOTES on ANY 2 of the following. (10)**
- Theories of Staining.
 - Write a note on Scanning electron microscope
 - Write a detailed note on scanning probe microscopy.