

**RAN-2503000505056001****B.Sc. (Sem. - V) Examination October - 2025****MB - ME - 502 Microbiology****Analytical Instrumentation and Techniques****Time: 1 Hour]****[Total Marks: 25****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.:

--	--	--	--	--	--

Student's Signature

Q. 1 Give specific answers. (Any Five)**05**

- What is Raman spectroscopy?
- What is the function of HEPA filters in laminar flow?
- List two classes of biosafety cabinets.
- Give full form of SDS PAGE.
- What is the Rf value in chromatography?
- State the principle of electrophoresis.

Q. 2 Answer in Brief on any two of the following:**10**

- Discuss the Beer-Lambert law and its applications in spectrophotometry.
- Explain the construction and working principle of a filter photometer.
- Describe the classification and features of different types of biosafety cabinets.

Q. 3 Answer in Brief on any two of the following:**10**

- Explain the procedure and applications of Western blotting technique.
- Describe the different phases of PCR with their temperature requirements.
- Discuss thin layer chromatography (TLC) with its procedure and uses.