



# RAN-2303000501036001

## B.Sc. (Sem. I) Examination November - 2025

### Microbiology (Paper - I) : MB-ME-101 - Eukaryotic Cell Structure

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 labeled diagrams whenever necessary.

Seat No.:

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Student's Signature

#### Q.1. Give specific answers (any FIVE) (05)

- a) What is the function of the nucleolus?
- b) Which structure separates the nucleus from the cytoplasm?
- c) Fungal cell wall is primarily composed of which molecule?
- d) Define endocytosis.
- e) What is the structural arrangement of microtubules in eukaryotic flagella and cilia?
- f) Which organelle synthesizes rRNA?

#### Q.2. Answer the following in brief. (any TWO) (10)

- a) Discuss the composition and function of the cytoplasm.
- b) Describe the structure of fungal cell wall and explain its importance.
- c) Explain the primary functions of the cytoplasmic membrane in a eukaryotic cell.

#### Q.3. Answer in short (any TWO) (10)

- a) Describe the functions of lysosomes.
- b) Discuss the role of the endoplasmic reticulum in protein and lipid synthesis.
- c) Discuss in details the structure and function of eukaryotic flagella