

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE  
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Agriculture

Semester	1 (New)	Term	First	Academic Year	2023-24
Course No.	MIBO 111	Title	Introductory Microbiology		
Credits	2 (1+1)	Time	10:00 to 12:00 hrs. Total Marks : 40		
Day & Date	Friday, 19.01.2024				

- Note : 1. Solve ANY EIGHT questions from SECTION 'A'.  
2. All questions from SECTION 'B' are compulsory.  
3. All questions carry equal marks.  
4. Draw neat diagram wherever necessary.

SECTION 'A'

- Q.1 Define Microbiology. Enlist different branches of Microbiology. Write its scope and importance in agriculture.
- Q.2 Illustrate Nitrogen cycle with suitable diagram.
- Q.3 Draw a neat and labeled diagram of typical bacterial cell. Explain in brief morphological types of bacteria according to their shape and cell arrangement.
- Q.4 Define Biological nitrogen fixation. Write in brief about its types with suitable examples.
- Q.5 Write important contribution of the following Scientists (Any Four):
- a) Robert Hooke                      b) Schroder and Von Dusch              c) Agostino Bassi  
d) Thirumalachar                      e) Frank                                      f) Alexander Fleming
- Q.6 Differentiate between Prokaryotic and Eukaryotic cells.
- Q.7 Explain in detail bacterial growth curve with suitable diagram.
- Q.8 Write short notes on (Any Two):
- a) Gene transfer in bacteria                      b) Advantages of mycorrhiza  
c) Silage production                                      d) Nutritional value of mushroom
- Q.9 Define Rhizosphere. Explain in brief the factors affecting microflora of the rhizosphere.
- Q.10 Describe Phosphorus cycle with suitable diagram.

SECTION 'B'

- Q.11 Define the following terms:
- 1) Amphitrichous      2) Symbiosis      3) Fermentation      4) Phyllosphere
- Q.12 Do as directed :
- 1) Who coined the term 'Rhizosphere'?
- 2) Actinomycetes are also known as \_\_\_\_\_. (Fill in the blank)
- 3) Give two examples of microbial insecticides.
- 4) Give two examples of phosphorus solubilizing bacteria.

