MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Agriculture

Semester	: **I (New)**	Term	: **First**	Academic Year	: **2022-23**
Course No.	: **MIBO 111**	Title	: **Introductory Microbiology**		
Credits	: **2 (1+1)**				
Day & Date	: **Monday, 03.04.2023**	Time	: 10:00 to 12:00 hrs.	**Total Marks**	: **40**

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. Describe its scope and importance in agriculture and allied fields.

Q.2 How was spontaneous generation theory disproved by different Scientists? Explain in detail.

Q.3 Define growth curve and describe various growth phases in bacteria with well labeled diagram.

Q.4 Define genetic recombination in bacteria. Enlist various modes of gene transfer and explain transduction in bacteria.

Q.5 Define nitrogen cycle and describe its cycling in nature with biochemical reactions and well labeled diagram.

Q.6 Write short notes on (Any Two):

a) Cell grouping in bacteria

b) Koch's postulate

c) General characteristics of fungi

Q.7 Differentiate between (Any Two):

a) Prokaryotes and Eukaryotes

b) Flagella and Pili

c) Gram positive and Gram negative bacteria

Q.8 Write in short about cultivation of *Pleurotus* mushroom.

Q.9 Define biofertilizers. Classify them and state the role of biofertilizers in agriculture.

Q.10 Define rhizosphere and describe various factors influencing rhizosphere microflora.

SECTION 'B'

Q.11 Do as directed:

1) Who is called as the 'Father of Microbiology'?

2) Define Plasmid.

3) What is meant by Thermophiles?

4) Define: Single cell protein.

(P.T.O.)

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Q.12 Fill in the blanks:

1) The region of leaf influenced by microbial activity is known as _____.

2) The cultures of _____ phase are commonly used for inoculation or subculturing in microbial studies.

3) The association of certain fungi with the roots of higher plants is called as _____.

4) The bacteria which fix atmospheric nitrogen on legume root nodule symbiotically is _____.

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