



WEST BENGAL STATE UNIVERSITY

B.Sc. 1st Semester Examination, 2023-24

MCBMIN101T/MCBCOR101T-MICROBIOLOGY

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

Answer Question Number 1 and any four questions from the rest

1. Answer any *five* questions:

2×5 = 10

- (a) Name two bacteria which are used as biofertilizer and how do they act as biofertilizer.
- (b) What is Binomial nomenclature? Who introduced it?
- (c) Name two main genera of bacteria which are generally used as probiotics.
- (d) Give one major contribution of Antonie van Leeuwenhoek and Louis Pasteur.
- (e) What is D-value?
- (f) What are epitopes?
- (g) State drawbacks of Koch's Postulates.
- (h) Give two differences between Archaea and Bacteria.

2. (a) Define Spontaneous generation and Biogenesis. Who is the father of 3+(2+2)+2+1 microbiology?
- (b) Write down Koch's postulates. Who is known as father of vaccination and why?
- (c) Write down general characteristics of Algae and Fungi with some examples.
- (d) Write down Carl Woese's classification system.

3. (a) What is Bioremediation? Name the strategies which are involved in bioremediation. 3+3+4
- (b) What is Biosurfactant? Define role of biosurfactant used in the degradation of hydrocarbon in oil spills.
- (c) Name at least two microorganisms which are used as bio-pesticide. And what are their mode of actions?

4. (a) What is the principle of Bright Field Microscope? Write down their merits and demerits. 3+3+3+1
- (b) Define Light microscope. Write down the name of different components of light microscope.
- (c) What is the principle of TEM? Write down their merits and demerits.