

Seat No. : _____

MD-119

March-2022

B.Sc., Sem.- I

101 : Microbiology

(Introduction to Microbial World)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) Attempt any **three** questions from Q No. 1 to Q No. 8.
 - (2) Question No. 9 is compulsory.
 - (3) Draw figures wherever necessary.
 - (4) Figures to the right indicate marks.

1. (A) Define Germ theory of disease and describe the experiment of Robert Koch in detail. 7
- (B) What is abiogenesis? Describe experimental evidence against abiogenesis. 7
2. (A) What are chemotherapeutic agents? Describe in detail about modern chemotherapy. 7
- (B) Describe the developments in soil microbiology. 7
3. (A) Enlist microbial habitats and describe microbial diversity in soil as habitat. 7
- (B) Describe distinctive features and characteristics of bacteria. 7
4. (A) What are eukaryotes? Describe the general characteristics of fungi. 7
- (B) Write a note on any two acellular entities. 7
5. (A) Describe in detail about microbiology branch. 7
- (B) Write a short note on genetic engineering and biotechnology. 7

6. (A) Describe the principles and methods used for isolation of bacteria. 7
(B) What is preservation ? Discuss the methods used for the preservation of pure culture. 7
7. (A) Write a detail note on bright field microscopy. 7
(B) Briefly explain principle and applications of electron microscopy. 7
8. (A) What is differential staining? Explain the mechanism of gram's staining technique. 7
(B) Discuss microbiological uses of dyes and stains. 7
9. Give short and specific answers in **1-2** lines only : (any **eight**) 8
- (1) Mention the contribution of Richard Petri in the field of microbiology.
 - (2) What are animalcules ?
 - (3) Who discovered the causative agent of mosaic disease of tobacco ?
 - (4) What are vaccines ?
 - (5) Which chemical was first used as disinfectant ?
 - (6) Define fermentation
 - (7) What are viroids ?
 - (8) Who developed the vaccine against Chicken Cholera ?
 - (9) What is nomenclature ?
 - (10) Define contamination
 - (11) What is lyophilization ?
 - (12) What are decolourizers ?
 - (13) What is biotechnology ?
 - (14) What is numerical aperture ?
 - (15) Write two uses of phase contrast microscopy.
 - (16) Write a full form of TEM.
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