

755103

Mar. 2022

M.Sc. (Life Sciences) I SEMESTER

General Microbiology (MLS-103)

Time : 90 Minutes]

[Max. Marks : 25

Instructions :

1. *It is compulsory to answer all the questions (1 mark each) of Part-A in short.*
2. *Answer any three questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) Explain Prions. (1)
- (b) Pan handle model virus studied by you. (1)
- (c) Explain PGPRs. (1)
- (d) How will you culture anaerobic bacteria. (1)
- (e) Short note on archaebacteria. (1)
- (f) Short note on mycobacterium. (1)
- (g) What is Run and Tumble. (1)
- (h) Applications of Microbiology. (1)
- (i) Difference between Exo and Endo toxins. (1)
- (j) Suppose a bacterial population increases from 10^3 cells to 10^9 cells in 10 hours find k (in generations per h). (1)

PART-B

2. (a) What is sterilization? Explain different methods of sterilization studied by you. (3)
- (b) Explain the regulatory genes involved in lambda phage for lytic and lysogeny. (2)
3. (a) What is Mycorrhizae? Distinguish between Ecto and Endo mycorrhizae. (2)
- (b) What is preservation? What are different techniques for preserving microbes. (3)
4. What is nitrogen cycle? Explain symbiotic and non-symbiotic nitrogen fixation also explain Legume rhizobia symbiosis in detail. (5)
5. (a) What are retroviruses? Explain in Detail Life Cycle of HIV virus. (3)
- (b) What are antibiotics? Explain the mode of action of Penicillin and Chloramphenicol. (2)
6. (a) Explain endospore in detail. (2)
- (b) What is Pure culture? Explain in Detail Different techniques for isolating microbes. (3)