



M.Sc. I Semester Degree Examination, April/May - 2024

BIOTECHNOLOGY

General Microbiology

(NEP)

Time : 3 Hours

Maximum Marks : 70

Note : (i) Answer **any five** of the following questions with **Question No.1 (Q1) compulsory**, each question carries equal marks.

(ii) Draw neat diagrams wherever necessary.

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| 1. | (a) | How are the 3 domains of life related ? | 5 |
| | (b) | Define taxonomy and explain the taxonomic hierarchies in ascending order. | 5 |
| | (c) | Explain, why two, three and five kingdom systems are no longer acceptable for classification ? | 4 |
| 2. | (a) | Write an account on classification of bacteria based on morphology. | 7 |
| | (b) | Explain the structure and function of Lipopolysaccharide layer in Gram-negative bacteria. | 7 |
| 3. | (a) | Give a brief account on fungal growth media. | 5 |
| | (b) | Explain the distribution and classification of algae. | 5 |
| | (c) | Brief on economic importance of fungi. | 4 |
| 4. | (a) | Briefly explain the structure and reproduction of protozoa. | 7 |
| | (b) | Explain briefly the classification and cultivation methods of viruses. | 7 |
| 5. | (a) | Explain about simple staining method. | 5 |
| | (b) | Brief on different chemical methods of sterilization. | 5 |
| | (c) | Explain principle and protocol of Acid-fast staining and its applications. | 4 |
| 6. | (a) | Explain bacterial growth curve and measurement of growth. | 7 |
| | (b) | Explain, Structure, reproduction and classification of fungi. | 7 |



- 7.** (a) Discuss on staining method and explain the principle and steps involved in staining of metachromatic granules and nuclear staining. **7**
- (b) Describe prions, its unique characteristics and differentiate between viruses, viroids and prions. **7**
- 8.** (a) Describe an endospore and its structure and spore formation in bacteria. **7**
- (b) Briefly explain the various methods of sterilization and disinfection. **7**

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