

Exam. Code : 107401

Subject Code : 1711

B.Sc. Biotechnology 1st Semester (Batch 2021-24)

GENERAL MICROBIOLOGY—I

Paper : BTL104

Time Allowed—3 Hours] [Maximum Marks—40

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION-A

1. Discuss the following in detail : 4×2
 - (a) Contributions of Louis Pasteur in microbiology
 - (b) Halophiles and acidophiles
2. (a) Discuss the general features of *Neurospora* and its uses. 4
- (b) Explain the relation between microbiology and biotechnology. 4

SECTION-B

3. Discuss the following with suitable examples : 4×2
 - (a) Types of carbon and nitrogen sources in growth media
 - (b) High temperature methods of sterilization

4. (a) Discuss various nutritional types of bacteria. 4
- (b) Discuss the types of active transport in microorganisms. 4

SECTION-C

5. (a) Explain the differences between Gram-positive and Gram-negative cell wall. 5
- (b) Discuss the structure and function of bacterial flagella. 3
6. (a) Explain the differences between the bright field and electron microscopy. 5
- (b) Explain the principle of fluorescence microscopy. 3

SECTION-D

7. (a) Discuss the functions of microbial culture collection centers with suitable examples. 4
- (b) Explain the techniques of lyophilisation and cryopreservation along with their advantages and disadvantages in detail. 4
8. (a) Write a note on bacterial serotypes along with example. 4
- (b) Who discovered the binomial system of microbial nomenclature ? Discuss the system and its importance. 4