

Registration Number:

Date & session:9-12-22(1pm)

**ST. JOSEPH’S UNIVERSITY, BENGALURU-27**

**B.Sc (MICROBIOLOGY) – I SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**MB 121: BASIC MICROBIOLOGY AND MICROBIOLOGICAL TECHNIQUES**

**Time: 2 hours Max Marks:50**

This question paper contains **2** printed page and **four** parts

**I. Answer any Five of the following 5X3=15**

1. Give the principle of flagella staining.
2. Briefly state the theory of chemical evolution.
3. Name any 3 branches of Pure Microbiology and mention what they study.
4. Write three points of difference between gram-positive and gram-negative bacteria.
5. Prion are infectious particles made of only RNA. State true or false and justify your answer.
6. Mention contributions made by Edward Jenner and Louis Pasteur each for the field of microbiology.
7. List the different components of HIV virus.
8. **Answer any Two of the following 2X5=10**
9. Draw the light path of a dark field microscope. Mention its advantages and disadvantages.
10. In one sentence state the functions of the following organelles/ structures– a. Ribosomes b. Cell membrane c. Capsule d. Inclusion bodies e. Mesosomes.
11. TMV carries RNA dependent RNA polymerase. Explain this statement.

**III. Answer any Two of the following 2X10=20**

1. Describe T4 phage structure and life cycle.
2. a. Write a note on sporulation in bacteria. (7)

b. Give the general characters of protozoans (3)

1. Write a detailed description of different ‘mechanical’ methods of sterilization.

**IV. Answer the following 1X5=5**

1. a. Answers the following questions in short. (2)

i. Which kind of dichroic mirror is used in fluorescence microscopy?

ii. In which kind of microscopes image formation happens with help of re-emitted electrons?

b. A patient’s sputum sample has come to a pathology lab for analysis. Explain an easy method to determine if the patient has Tuberculosis. (3)