

B.Sc. MEDICAL TECHNOLOGY (OPERATION THEATER) (BOT)**SEMESTER -II EXAMINATION, JUNE-2026****(BOT204) MICROBIOLOGY****[Time allotted: Three Hours]****[Max Marks: 100]****Note:** Read all the instructions carefully

Answer all questions in serial order, Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Attempt All)**(10 x 02 = 20)**

(Very short/ Short answer/ MCQ/ One liners/ Fill in the blanks/ True/False)

- a. _____ media are solid and contain substances that inhibit all but a few types of bacteria and helps in the isolation of a particular pathogen.
- b. Loeffler's serum slope can be sterilized by _____ method.
- c. Spores of _____ are used as bacterial indicator of sterilization control for autoclave.
- d. _____ staining is a differential staining used to stain Mycobacterium spp.
- e. _____ count measures the number of living bacteria.
- f. The resolution power of an unaided eye is about 200 nanometers (nm). **(True/False)**
- g. Joseph Lister is known as Father of Microbiology. **(True/False)**
- h. Vaccine term was coined by Louis Pasteur. **(True/False)**
- i. Uniformly stained bacteria in gram staining suggests most of the bacteria are in log phase of growth curve. **(True/False)**
- j. Stroke culture technique is employed to maintain stock cultures for preservation of bacteria. **(True/False)**

Q. 2. Short notes/ Short answer type questions (Attempt any Five)**(05 x 04 = 20)**

- a. Contribution of Louis Pasteur in the field of Microbiology. (CO1, 2)
- b. Herd immunity (CO1)
- c. Testing of disinfectants (CO2)
- d. Bacterial metabolism (CO1)
- e. Enriched media (CO1, 2)
- f. Standard precautions (CO1, 2, 3, 4, 5)
- g. Antimicrobial susceptibility testing methods (CO1)

Q. 3. Structured questions (Attempt any Three)**(03 x 10 = 30)**

- a. What are spores? Discuss the structure of spore and method of sporulation with help of a neat and labelled diagram (2+2+6) (CO1)
- b. What are the types of electron microscope? Write differences between light and electron microscope. Write the principle of electron microscope. (2+3+5) (CO1)
- c. Describe Spaulding's classification of medical devices. Add a note on chemical sterilants. (4+6) (CO1, 2)
- d. Preservation of microorganisms. (CO1, 2, 3, 5)

Q. 4. Long Answer/ Essay type questions (Attempt any Two)**(02 x 15 = 30)**

- a. Define immunity. Describe in detail about the properties and mediators of innate immunity. (CO1)
- b. Define monoclonal antibody. Describe in detail the hybridoma technology with labelled diagram. (CO1)
- c. What are the types of antigen-antibody reactions? Describe in detail agglutination reaction. (CO1)