

**M.D. DEGREE EXAMINATION  
BRANCH IV – MICROBIOLOGY**

**PAPER I – GENERAL MICROBIOLOGY AND IMMUNOLOGY**

*Q.P.Code: 202014*

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Essay:**

**(2 x 15 = 30)**

1. Describe the various virulence mechanisms exhibited by pathogenic bacteria. Explain how bacterial drug resistance contributes to virulence?
2. Discuss the immunological aspects of organ transplantation. Brief about HLA typing and add a note on immunomodulators.

**II. Short notes:**

**(10 x 5 = 50)**

1. Methods for Preservation of Microorganism.
2. Interpretation of Triple sugar iron agar.
3. Bacterial spores.
4. Modifications of Gram staining.
5. Quorum sensing mechanism.
6. IgA.
7. Heterophile agglutination test.
8. Alternate complement pathway.
9. Immunodiffusion test.
10. ADCC.

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. Among the chemical disinfectant solutions, Gluteraldehyde preferred for Bronchoscope sterilization.
2. Conjugation method of Gene transfer is more common than Transduction in Gram negative Bacterial species.
3. Blood samples are subjected to bacterial culture only after 1:10 dilution.
4. Membrane filters are not used for Sterilization purpose.

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