

**KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES
WARANGAL, TELANGANA STATE – 506 002**

M.D/ M.S DEGREE SUPPLEMENTARY EXAMINATIONS: MAY,2025

MICROBIOLOGY

PAPER – I

(GENERAL MICROBIOLOGY AND IMMUNOLOGY)

Time: 3 Hours

Max Marks: 100

Note: Answer all questions

Give Diagrammatic representation wherever necessary

Write a short essay on the following:

10 X 10 = 100

1. Discuss the structure and function of Bacterial cell wall. Describe the difference between the Gram positive and Gram negative cell wall and its clinical implications.
2. Classify the different types of culture media used in the routine diagnostic microbiology. Discuss in detail about differential media.
3. List the methods of Antimicrobial susceptibility test done in a routine diagnostic laboratory. Write the principle, brief methodology, interpretation and quality control of each of them.
4. List chemical sterilants. Discuss in detail the mechanism of action, uses, advantages and disadvantages of chemical sterilants used in the hospital.
5. Enumerate the different types of microscopes used in microbiology. Discuss in detail Electron microscopes- types, principle and their clinical applications.
6. Define monoclonal antibodies. With the help of a neat diagram explain the production of monoclonal antibodies. Add a note on the clinical uses of monoclonal antibodies.
7. Define vaccine? Discuss the difference between active and passive immunisation with examples. Write a note on vaccine delivery systems.
8. Describe the mechanism of transplant rejection and the methods of tissue typing and matching and add a note on prevention of graft rejection.
9. List the types of hypersensitivity reactions. Discuss the pathogenesis, clinical manifestations of type III Hypersensitivity reaction.
10. Describe in detail the components of the innate immune system and their role in combating different pathogens. Add a note on TLRs.
