

**[Time: 3 Hours]**

**[Total Marks: 70]**

Instructions:

- **All Questions** are compulsory.

Q.1 Answer the following

- a. Name the diagnostic test for tuberculosis 1
- b. Define and give significance of DRT 1
- c. Explain bacterial capsule 1
- d. Name the causative agent of typhoid 1
- e. Name the biological indicator of filtration sterilization 1
- f. Define resolution limit 1
- g. Define oncogenic viruses 1
- h. Write incubation conditions in sterility testing and name of sterility testing media 2
- i. Name any two fungal infections with the causative agent 2
- j. Name any two chlamydial infections with the causative agent 2
- k. How to prevent contamination in an aseptic area 2

Q.2 a) Explain fluorescence microscopy using a neat labelled diagram with its applications 4

b) Discuss moist heat sterilization with respect to method, the mechanism of action and applications 4

c) Write a note on preservation of bacteria 3

Q.3 a) Describe lysogenic cycle for bacteriophage 4

b) Discuss in detail kelseyskeys test of disinfectant evaluation 4

c) Distinguish between bacteria and fungi 3

**OR**

Distinguish between prokaryote and Eukaryote

Q.4 a) Enlist different methods of counting of bacteria and explain any one viable method 4

b) Discuss in detail infections caused by Protozoa 4

c) Explain asexual methods of fungal reproduction 3

Q.5 a) Discuss in detail radiation sterilization or gaseous sterilization 4

b) Write a note on alcohol as a disinfectant 4

c) Explain economical significance of algae 3

Q.6 a) write a note on gram positive cell wall using a neat labelled diagram 4

b) Explain phases of bacterial growth cycle 4

c) Explain the principle of Acid fast staining technique 3