

[Time: Three Hours]

[Marks:80]

Please check whether you have got the right question paper.

- N.B:**
1. All questions are compulsory.
 2. Draw a neat labelled diagram wherever necessary.

- Q1** Answer the following:
- a)
 - i) Define Resolution limit **01**
 - ii) On the basis of oxygen requirement write classification of bacteria. **01**
 - iii) Name the causative agent of gas gangrene **01**
 - iv) Give two examples of capsule bearing bacteria **01**
 - b)
 - i) Draw a neat labelled diagram of growth curve **02**
 - ii) Give contributions of Robert Koch in Microbiology **02**
 - iii) Explain Enrichment medium with suitable examples **02**
 - iv) Enlist the infections caused by Clostridium tetani **02**
 - v) Name any two chlamydial infections with the causative agent **02**
 - vi) Define oncogenic viruses and give two examples **02**
 - vii) Explain Tissue toxicity index **02**
 - viii) Explain Microbial limit tests for Staphylococcus aureus **02**
- Q.2**
- a) Describe scanning electron Microscopy **04**
 - b) Discuss gaseous sterilization with respect to method, mechanism of action and applications **04**
 - c) Explain tyndallization method of sterilization and its applications **04**
- Q.3**
- a) Write a note on cell wall of gram positive bacteria **04**
 - b) Enlist counting methods of bacteria and explain any one viable method in detail with its applications **04**
 - c) Write a note on **any one**
 - i) Protozoan infections **04**
 - ii) Fungal infections **04**
- Q.4**
- a) Explain lytic cycle of viruses **04**
 - b) Explain different cultivation methods of anaerobic bacteria with a neat labelled diagram of McIntosh Jar **04**
 - c) Write a note on biological and economical importance of algae **04**
- OR**
- c) Write a note on sexual reproduction in fungi **04**
- Q.5**
- a) Explain mode of action, limitations and applications of phenol **04**
 - b) Discuss any one method of disinfectant evaluation **04**
 - c) Write a note on biological and chemical indicators used in validation of sterilization **04**
- OR**
- c) Distinguish between dry heat and moist heat sterilization **04**
- Q.6**
- a) Explain different methods of preservation of bacteria **04**
 - b) Explain various steps involved in sterility testing of injectables **04**
 - c) What are different methods to prevent contamination in an aseptic area **04**
- OR**
- c) Explain design of an aseptic area **04**
