

[Time: Three Hours]

[ Marks:80]

Please check whether you have got the right question paper.

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

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

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