

[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 angular aperture **01**
 - ii) Classify bacteria on the basis of temperature requirement **01**
 - iii) Define nosocomial infections **01**
 - iv) Give two examples of bacteria having endospore **01**
 - b) i) Draw a neat labelled diagram of flagella **02**
 - ii) Differentiate between Prokaryotic and Eukaryotic micro organisms **02**
 - iii) Explain with suitable example selective media **02**
 - iv) Enlist the infections caused by Salmonella spp., and mention the diagnostic tests **02**
 - v) Describe the economic significance of algae **02**
 - vi) Draw a neat labelled diagram of HIV **02**
 - vii) Define and give two examples of disinfectant **02**
 - viii) Explain the steps involves in microbial limit tests of E. coil **02**
- Q.2** a) Describe in detail fluorescence microscopy **04**
b) Discuss radiation sterilization with respect to method, mechanism of action and applications **04**
c) Describe tydallization method of sterilization and write its application **04**
- Q.3** a) Write a short note on growth phases of bacteria **04**
b) Enlist methods of isolation of pure culture and explain any one method **04**
c) Describe **any one** **04**
- i) Fungal infections
 - ii) Rickettsial infections **04**
- Q.4** a) Explain different methods of cultivation of viruses **04**
b) Describe in detail morphological characteristics of bacteria **04**
c) Explain biological and economic significance of algae **04**
- OR**
- c) Explain asexual reproduction in fungi **04**
- Q.5** a) Explain mode of action, applications and limitations of alcohol as disinfectant **04**
b) Describe Phenol coefficient test **04**
c) Write a note on indicators used for validation of sterilization **04**
- OR**
- c) Explain applications, advantages and disadvantages of moist heat sterilization **04**
- Q.6** a) Enlist methods of cultivation of anaerobes and draw a diagram of anaerobic Jar **04**
b) Explain the steps involved in sterility testing of ophthalmic preparations **04**
c) What are different sources of contamination in an aseptic area? **04**
- OR**
- c) Draw the layout of aseptic area **04**
