



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Technology) 2024 Admission**  
**I Semester Final Examination – February 2025**

FSQ 1101

**General Microbiology (2+1)**

**Marks: 50**  
**Time: 2 hours**

- I Fill in the blanks** **(10x1=10)**
1. The concept of spontaneous generation, which suggested that living organisms could arise from non-living matter, was disproven by ..... in the 19th century.
  2. In a compound light microscope, the ..... is the part that holds the objective lenses in place and allows them to rotate.
  3. The urease test detects the ability of a microorganism to hydrolyze urea to produce ..... and .....
  4. The ..... is a rigid structure located just inside the plasma membrane in bacterial cells, providing shape and protection. It is composed mainly of .....
  5. The process of growing microorganisms under controlled conditions is called .....
  6. The system of naming organisms using two Latin names (genus and species) is called .....
  7. The most common method of asexual reproduction in microorganisms is .....
- State True or False**
8. Formaldehyde is a chemical agent used for sterilization, but it is not harmful to human tissues when used at appropriate concentrations.
  9. In bacteria, replication of DNA occurs before cell division and is initiated at a single origin of replication.
  10. The lag phase of bacterial growth is characterized by rapid cell division and an increase in population size.
- II Write short notes on ANY FIVE of the following** **(5x2=10)**
1. Briefly, write a short note on the components of a microscope.
  2. List out the major characteristics of microorganisms.
  3. What are the different types of media used in the laboratory to isolate and identify microorganisms?
  4. How microorganisms are cultivated?
  5. Write a short note on bacterial metabolism and growth.
  6. Write the types, preservation methods and uses of culture collections.
  7. What methods are used to control microorganisms?
- III Answer ANY FIVE of the following** **(5x4=20)**
1. Write a note on scope and history of microbiology.
  2. Describe in detail the ultrastructure and function of a microbial cell.
  3. Describe the methods used in isolating pure cultures.
  4. How do bacteria reproduce? Explain.
  5. How microorganisms are cultivated?
  6. How pure cultures are maintained and preserved?
  7. The structures internal to the cell wall in microorganisms are vital for their growth, survival, and reproduction. Discuss.
- IV Write an essay on ANY ONE of the following** **(1x10=10)**
1. Chemical and physical agents are used in the control of microorganisms. Discuss.
  2. Give an account on the types of microscopes, their applications and limitations.

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