



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Technology) 2021 Admission**  
**I Semester Final Examination - May 2022**

**Pafe.1101**

**General Microbiology (2+1)**

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

- I Fill in the blanks (10x1=10)**
1. \_\_\_\_\_ has described phagocytosis of bacteria.
  2. Many bacteria commonly carry extra chromosomal pieces of DNA called \_\_\_\_\_, which are able to replicate independently of the bacterial chromosomes.
  3. As per the Three Kingdom Classification System, bacteria are incorporated under \_\_\_\_\_ kingdom.
  4. \_\_\_\_\_ is an organism that is able to tolerate low temperatures.
  5. \_\_\_\_\_ is an organism that uses inorganic molecules as a source of electrons.
  6. \_\_\_\_\_ is a group of related genes under the control of a single operator sequence.
  7. \_\_\_\_\_ is the ability of a molecule such as a nucleotide base to exist in two alternative forms.
  8. If E.coli is observed through an oil immersion lens, then the final image developed by microscope having a size of around \_\_\_\_\_  $\mu\text{m}$ . (Eyepiece = 10 X and E.coli size = around 1  $\mu\text{m}$ ).
  9. \_\_\_\_\_ is an organism that can derive its carbon from carbon dioxide.
  10. \_\_\_\_\_ is the process by which the message coded in mRNA is converted into sequence of amino acid.
- II Write short notes on ANY FIVE of the following (5x2=10)**
1. Briefly explain active transport.
  2. Enlist stages of viral replication.
  3. Briefly explain phases of bacterial growth.
  4. Briefly explain heat as a physical agent for controlling microbial growth.
  5. Briefly explain alcohol as a disinfectant with examples.
  6. What is Glycocalyx? Write its function.
  7. Define antibiotics and mention its important properties.
- III Answer ANY FIVE of the following (5x4=20)**
1. Write Koch's Postulates.
  2. What are the functions of bacterial capsule?
  3. Write note on conjugation.
  4. Write short note on phase contrast microscope.
  5. Write note on bacterial translation.
  6. Describe classes of antibody.
  7. Describe various methods of preservation of microorganisms.
- IV Write an essay on ANY ONE of the following (1x10=10)**
1. Explain glycolysis pathway along with account for the ATP yield per glucose molecule.
  2. Write detailed note on vaccines.

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