



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Technology) 2021 Admission
II Semester Final Examination - September 2022

Pafe.1205

Food Microbiology (2+1)

Marks: 50
Time: 2 hours

I Fill in the blanks (10x1=10)

1. The water activity of most fresh foods is in the range of
2. The ease with which the substrate loses or gains electrons is
3. The antimicrobial constituents present in eggs are and conalbumin.
4. The canning process is also known as
5. Generally, bacteria can double their numbers every under favorable conditions.

State True or False

6. Toxins formed by algae in the ocean and freshwater are called algal toxins.
7. ICMSF stands for International Commission on Microbiological Specification for Foods.
8. Botulism is a disease caused by *E. coli* bacteria.
9. Idli is a good example of fermented food.
10. The heterofermentative lactic acid bacteria produce ethanol/acetic acid and CO₂ in addition to lactic acid as by-products in glucose fermentation.

II Write short notes on ANY FIVE of the following (5x2=10)

1. What are the major factors involved in the spoilage of stored grain by molds?
2. What will happen when *Escherichia coli* acts on glycine?
3. Write a short note on the breakdown of lipids in foods.
4. List any four kinds of bacteria that arise from natural water.
5. Enlist the predominant kinds of microorganisms in dry milk.
6. What are the sources of microorganisms in milk?
7. Define the shelf life of food.

III Answer ANY FIVE of the following (5x4=20)

1. Elaborate on the removal of microorganisms in foods.
2. Enlist the various factors affecting the growth and survival of microorganisms in foods.
3. What are the applications of UV radiations?
4. Elaborate on the preservation of canned foods from the microbial spoilage
5. What are the effects of aerobic growth of molds on the meat?
6. What is the reaction quotient? Determine the reaction quotient for the microorganism that has the z value of 3.4°C.
7. What are colorless and black rots in eggs?

IV Write an essay on ANY ONE of the following (1x10=10)

1. Draw the microbial growth curve and elaborate on the different phases.
2. Elaborate on the effect of subfreezing and freezing temperature on microorganisms.
