



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Technology) 2022 & Previous Admissions**  
**VI Semester Final Examination – June 2025**

Pafe.3236

**Emerging Methods of Food Preservation (2+1)**

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

**I Answer the following**

**(10x1=10)**

1. Name two sources of radiation used in food preservation.
2. Describe the radiation effect on food constituents.
3. Define hurdle technology in food preservation.
4. What is the role of ozone in the food industry?
5. Provide an application of pulsed electrified sterilization.
6. How are nanomaterials applied in food packaging?
7. Why is enzyme technology important in the food industry?
8. Explain the principle of microwave heating.
9. Describe the concept of radiofrequency heating.
10. Briefly explain the cold plasma technique in food processing.

**II Write short notes on ANY FIVE of the following**

**(5x2=10)**

1. Explain the fundamentals and principles of ohmic heating.
2. How is UV sterilization applied in food processing?
3. In what ways is microwave-assisted processing used in food processing?
4. What are the two methods of ozone generation, and where is ozone applied in food?
5. Define pulsed electrified sterilization and provide an application in the food industry.
6. Describe the principle of pulsed light processing and its application.
7. Explain in brief about the application of high-pressure technology in food preservation.

**III Answer ANY FIVE of the following**

**(5x4=20)**

1. Discuss the fundamentals of food preservation methods, including an introduction to the scope of emerging techniques in food preservation."
2. Explain the concept and significance of hurdle technology in food preservation, and provide examples of different types of hurdles that contribute to the hurdle effect in preventing food spoilage.
3. What are the principles of multi-target preservation in the context of addressing different types of hazards, including physical, chemical, and biological hazards?
4. Explain the importance and significance of enzyme technology, elaborating on its various effects and applications in the food industry.
5. Examine tools and techniques used in nanotechnology, and discuss their applications in food packaging and products.
6. Assess the implications of nanomaterials in the food industry, including potential environmental impacts and effects on global economics.
7. Provide a detailed account of ultrasound applications in the food industry, emphasizing its benefits and limitations.



IV

Write an essay on ANY ONE of the following

(1x10=10)

1. Discuss the key principles of cold plasma technology and its specific applications in the food industry. Include examples of how cold plasma is employed to extend shelf life, decontaminate food, and improve food properties.
2. Examine the importance and significance of high-pressure technology in the food industry, delving into its underlying theory. Discuss the equipment used in HPP, and elaborate on the effects of high-pressure technology on food constituents. Provide examples of its applications in food processing

\*\*\*\*\*