KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Technology) 2020 Admission
VI Semester Final Examination – July 2023

Pafe.3236 **Emerging Methods of Food Preservation (2+1)** **Marks: 50**
Time: 2 hours

I **State True or False** **(10x1=10)**

1. In ultrasound processing there is creation of bubbles in liquid foods called as "cavitation".
2. Electron beam irradiation have lower penetration depth when compared to gamma irradiation.
3. Spore-forming bacteria are most sensitive to pressure.
4. Electroporation is the use of a transmembrane electric field pulse to induce microscopic pores in a membrane.
5. UV A is considered germicidal and finds its applications in food processing.
6. Bromelain is a mixture of proteases which does not hydrolyze plant to amino acids and peptides.
7. In transverse ohmic heating, the applied electric field and current flux are at right angles to the mass flow.
8. Ozone is completely soluble in water.
9. Physical method to detect free radicals produced by irradiation is Thermoluminescence.
10. In case of radiofrequency heating there is occurrence of surface over drying or overheating.

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

1. Hurdle technology
2. Pulsed light Processing
3. Homeostasis
4. Different levels of ozone
5. Ohmic heating
6. Oscillating magnetic field
7. Food preservation and its methods

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

1. Describe Pulsed electric field (PEF), its principle. Also explain the treatment chamber for PEF treatment.
2. Define Cold plasma technique and state its applications in food processing.
3. Elaborate on ultrasound, its principle and working mechanism.
4. What do you mean by Food irradiation? Briefly explain different sources, dosimetry and its effect on food constituents.
5. Enlist physical, chemical and biological hazards.
6. Describe Nanotechnology, its tools and techniques. Mention some nanomaterials used in food industry.
7. Explain Radio frequency and Microwave heating.

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

1. Describe Enzyme Technology and their mode of action. Also mention in detail the application of major enzymes in food industry.
2. Describe High pressure processing (HPP). State principle, equipment and working mechanism of HPP for microbial inactivation. Write about significance of HPP in food processing

****