

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Regular and Supplementary Examination December 2020

Course Code: FT369**Course Name: Non Thermal Processing of Food**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any two full questions, each question carries 15 marks.*

Marks

- 1 a) Recall the principles of HPP and explain its mechanism of microbial destruction. (5)
- b) Explain about batch and continuous processing system of HPP with a neat sketch. (7)
- c) List out the applications of a High pressure processing system. (3)
- 2 a) Osterholm says that, "Not using irradiation is the single greatest public health failure the last part of the 20th century in America." Justify your statement on this. (15)
- 3 a) Illustrate the equipment design of HPP with its system components and working. (8)
- b) Explain the applications of Pulsed electric field technology in food processing. (7)

PART B*Answer any two full questions, each question carries 15 marks.*

- 4 a) Recall the principles of an Oscillating Magnetic field. (5)
- b) Explain the working and generation of fields in an oscillating magnetic field with a neat sketch. (8)
- c) List out the applications of oscillating magnetic field and explain the mechanism of microbial destruction. (2)
- 5 a) Describe the effects of ultrasonics in the inactivation of spores and enzymes. (8)
- b) What are the different types of cavitation? How cavitation affects food materials? (7)
- 6 a) Explain the concept of microwave processing of food with a neat sketch. (8)

- b) Explain the significance of Ultrasonic processing in food industry and what are its destructive effects? (7)

PART C

Answer any two full questions, each question carries 20 marks.

- 7 a) What is a combination process? Write a detailed note on hurdle technology with its applications and examples. (20)
- 8 a) Enumerate on the basic steps in image processing technology with its application in food industries. (10)
- b) Explain the design of pulsed light technology with its application in food industry. (10)
- 9 a) Explain the principle of Dense phase carbon dioxide technology. Discuss the working of continuous treatment system and semi-continuous treatment system in Dense phase CO₂ processing with a neat sketch. (15)
- b) List out the applications of chlorine dioxide processing in food industry. (5)
