

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

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 15marks.

Marks

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|---|----|--|------|
| 1 | a) | Differentiate the effect of thermal and non thermal processing on food | (5) |
| | b) | Explain the concept of high pressure processing and instrument involved | (10) |
| 2 | a) | Explain the key mechanism of destruction of microorganisms in an HPP and the application of HPP in food processing | (8) |
| | b) | Discuss the principle and mechanism of destruction of microorganisms in Pulsed electric field processing | (7) |
| 3 | a) | Discuss the construction details of Pulse electric field processing with a neat sketch with its advantages and disadvantages | (10) |
| | b) | Give an account on the generation of different waveforms in pulsed electric field | (5) |

PART B

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

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|---|----|--|------|
| 4 | a) | Elucidate on the concept of ultrasonics with its properties and application in food industry | (7) |
| | b) | Explain in details about the mechanism of destruction of microorganisms by Ultrasound. | (8) |
| 5 | a) | Explain on the different dosages of irradiation used on foods with examples. How will you identify irradiated foods? | (7) |
| | b) | Comment on Mano Thermo Sonication and its characteristic features | (3) |
| | c) | What is cavitation? Explain its principles | (5) |
| 6 | | Explain the working principle of OMF with its design and the mechanism of microbial inactivation | (15) |

PART C

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

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|---|----|--|------|
| 7 | a) | Explain the design of pulsed light technology with its application in food industry. | (10) |
| | b) | What are the different chemicals and biochemicals used in food industry. | (10) |

- 8 a) Explain the working principle of batch system in CO₂ processing and applications in food industry. (10)
- b) Briefly explain the role Hurdle technology in the preservation of food. (10)
- 9 a) Explain the application of Gamma rays in food processing. (5)
- b) What are the benefits of ozone in food processing? List out the examples of ozone approved agencies. (5)
- c) Elucidate the different membrane separation processes used in food industry. (10)
