

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019**

**Course Code: FT482**

**Course Name: Food Process Engineering**

Max. Marks: 100

Duration: 3 Hours

**PART A**

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

Marks

- |   |   |     |
|---|---|-----|
| 1 | a) State Rittinger's Law for estimating the energy for size reduction of solids                             | (5) |
|   | b) Explain the principle of working of Tumbling mills   | (3) |
|   | c) Explain various wet cleaning methods   | (7) |
| 2 | a) Write a short note on HTST pasteurization.   | (5) |
|   | b) What are F and D values  | (5) |
|   | c) Explain structure and working of any one type of Homogenizers used for the size reduction of liquid food | (5) |
| 3 | a) Describe different types of Attrition Mills  | (5) |
|   | b) What are the different methods of Peeling  | (5) |
|   | c) Explain the purpose of Blanching   | (5) |

**PART B**

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

- |   |   |     |
|---|---|-----|
| 4 | a) With the help of graph explain Drying rate curve                             | (5) |
|   | b) Explain the water activity in Solids   | (3) |
|   | c) Explain VA refrigeration system  | (7) |
| 5 | a) Write a short note on Refrigerants   | (5) |
|   | b) Write the equation for calculating the freezing time and explain each terms  | (4) |
|   | c) Compare the Working of Tunnel Drier and Conveyer Belt Drier                  | (6) |
| 6 | a) What are the different properties of air described in a Psychrometric chart? | (5) |
|   | b) Explain Fluidized bed Drier  | (3) |
|   | c) Explain the working of Cryogenic Freezers with the help of neat diagram      | (7) |

**PART C**

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

- |   |   |      |
|---|---|------|
| 7 | a) How are liquid and solid foods filled volumetrically and gravimetrically in food industries. | (10) |
|---|---|------|

- b) Write a note on kinetics of oil uptake (5)
- c) How does Extrusion process affect food materials (5)
- 8 a) Write a short note on the principle of Sedimentation (7)
- b) Explain the structure and working of a Disc Bowl Centrifuge with neat sketch. (8)
- c) Write a short note on the frying process (5)
- 9 a) Explain different Food packaging materials (10)
- b) Explain Pulsed Electric field heating method of minimal processing (6)
- c) Explain CAP. (4)

\*\*\*\*