

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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

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

**Course Code: FT303****Course Name: UNIT OPERATIONS IN FOOD PROCESSING**

Max. Marks: 100

Duration: 3 Hours

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

Marks

- |   |   |      |
|---|---|------|
| 1 | a) Explain different types of impellers used for agitation. | (9)  |
|   | b) How can we prevent swirling in agitation tank?           | (6)  |
| 2 | Give a detailed account on mixing of dry articulate solids. | (15) |
| 3 | a) With neat sketch explain the working of rotary filter.   | (8)  |
|   | b) Narrate the principle of filtration.                     | (7)  |

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

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|---|--|------|
| 4 | a) What is the concept and principles involved in reverse osmosis?                 | (8)  |
|   | b) Discuss the mechanism of separation by pervaporation technique.                 | (7)  |
| 5 | a) Why is multiple effect evaporator more efficient than single effect evaporator? | (3)  |
|   | b) Classify multiple effect evaporator based on feed supply.                       | (12) |
| 6 | a) Draw a neat sketch of vapour recompression evaporator and explain its working.  | (8)  |
|   | b) Illustrate the theory behind microfiltration technique.                         | (7)  |

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

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|---|--|------|
| 7 | a) Elaborate any three extractors used in food industry.   | (12) |
|   | b) Give a detailed account on two types of adsorption.   | (8)  |
| 8 | a) Explain the working of Swenson Walker crystallizer.   | (7)  |
|   | b) Illustrate the different methods for super saturation.  | (5)  |
|   | c) Write short note on primary nucleation.   | (8)  |
| 9 | a) With neat sketch explain the working of adsorption tower and discuss the application of adsorption. | (12) |
|   | b) Explain the characteristics of crystal.   | (8)  |

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