KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Technology) 2020 Admission
IV Semester Final Examination - August 2022

Pafe.2220 **Unit Operations in Food Processing II (2+1)** **Marks: 50**
Time: 2 hours

I **Define the following** (10x1=10)
1. Duhring Plot
2. MVR
3. Plank's equation
4. Triple point
5. Continuous multistage counter current extraction
6. Puffing
7. Homogenization of milk
8. Emulsification
9. Crystallization
10. UHT Sterilization

II **Write short notes on ANY FIVE of the following** (5x2=10)
1. Enlist the different factors affecting the rate of evaporation.
2. Explain Thermocompression.
3. Explain the freezing curve of water.
4. Briefly explain freeze concentration.
5. Briefly explain Leaching.
6. Briefly explain the design of batch type sterilization equipment.
7. Briefly explain Blanching.

III **Answer ANY FIVE of the following** (5x4=20)
1. Differentiate between rising and falling film evaporators. What are the major advantages of falling film evaporators over rising film evaporators?
2. With the help of a neat schematic diagram, explain the operation of vacuum pump.
3. Explain principle and equipment used in Freeze drying.
4. Differentiate between roasting and frying.
5. Describe different types of distillation.
6. Differentiate between tubular heat exchanger and plate heat exchanger.
7. Explain Aseptic packaging.

IV **Write an essay on ANY ONE of the following** (1x10=10)
1. What are multiple effect evaporators? With the help of neat relevant diagrams, explain different feeding methods in multiple effect evaporation systems.
2. With the help of neat relevant diagrams, explain the construction and operation of a pasteurizer.

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