

KERALA AGRICULTURAL UNIVERSITY

B.Tech.(Food Engg.) 2015 Admission
IVth Semester Final Examination – July - 2017

Cat. No: Fden 2205

Title: Food Process Engineering (2+1)

Marks: 50

Time : 2 hours

I. Fill up the blanks / Define:

(10 x 1=10)

1. Osmosis is the process of movement of solvent from ----- concentration to ----- concentration.
2. Exhausting is the process involved in canning to kill ----- type of microorganisms.
3. Water activity for pure water is -----
4. Specific gravity is the ratio of density of ----- to -----
5. Frequency of microwave processing is -----
6. Define material balance.
7. Give the temperature and time for sterilization.
8. Name the forces behind size reduction.
9. Define EMC.
10. Name any one emulsifier.

II. Write short notes on ANY FIVE:

(5x 2=10)

1. List the components of freeze dryer.
2. Describe the principle behind pneumatic conveyor.
3. Mention the problems associated with material and energy balances.
4. What is aseptic packaging?
5. Enlist the factors affecting the rate of drying.
6. Interpret hysteresis effect.
7. Give the importance of food processing.

III Write answers on ANY FIVE:

(5 x 4=20)

1. What do you know about freezing?
2. An evaporator is continuously fed with 2500kg/h of a solution which has 10% NaCl, 10% NaOH and rest water. During evaporation, water is removed and sodium chloride is precipitated as crystals which are removed. The liquor leaving the system has 50% NaOH, 5% NaCl and rest water. Find the weight of salt precipitated, water evaporated and thick liquor leaving the evaporator.
3. Explain about the direct methods of determination of moisture content.
4. Summarize the topic foam mat drying with diagram.
5. Distinguish hot extrusion cooking and cold extrusion cooking.
6. Define psychrometry and also give the properties of air and water-vapour mixer.
7. Give a brief note on blanching and pasteurization.

IV. Write essay on any ONE

(1 x 10=10)

1. Explain the different types of material handling equipments with a neat sketch.
2. Explain in detail and substantiate your views on physical and functional properties of raw materials used in food processing.
