

2014

## CONCENTRATION & DEHYDRATION OF FOOD

Paper : FPT 812

Full Marks : 100

Time : Three hours

*The figures in the margin indicate full marks  
for the questions.*

*Answer any five questions out of seven.*

1. (a) What do you mean by freeze drying (Cyophilization) of foods? How can you describe the steps involved in freeze concentration process? 3+7
- (b) Discuss various types of freeze dryer by giving neat sketch. 10
2. (a) With the help of a neat diagram explain the working of spray driers? How it helps in food preservation? 10+2

*Contd.*

- (b) Explain drum drying process. 8
3. (a) What is dehydration ? Explain the constant rate period and falling rate period of drying giving a curve. 2+8
- (b) What do you mean by freezing of foods ? What are different methods of freezing ? Differentiate between quick and slow freezing. 3+4+3
4. Write notes on **any four** of the following : 5×4
- (a) Reverse osmosis
- (b) Ultra filtration
- (c) Atomizers (type)
- (d) Water activity
- (e) Single effect evaporator
- (f) Falling film-type evaporator.
5. Draw the sketch, explain the working principle and differentiate the Forward Feed Multiple effect evaporation and Backward Feed Multiple effect evaporator. 10+10

6. (a) Define Food Concentration? Write the various advantages of food concentration. Explain the various methods of food concentration process. 2+3+7
- (b) Explain the steps involved in concentration of any food with suitable examples. 8
7. (a) Explain the various physicochemical changes in food caused by concentration and dehydration. 10
- (b) Explain by a neat sketch the working principle of Microwave heating. 10

Answer any five questions out of seven.

1. (a) What do you mean by freeze drying? (Overline) \_\_\_\_\_ How can you describe the steps involved in freeze concentration process? 3+7
- (b) Discuss various types of freeze dryer by giving neat sketch. 10
2. (a) With the help of a neat diagram explain the working of spray driers? How it helps in food preservation? 10+2