

00553

MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

June, 2012

MFN-008 : PRINCIPLES OF FOOD SCIENCE

Time : 2½ hours

Maximum Marks : 75

Note : Answer four questions in all. Question No.1 is compulsory.

1. (a) Differentiate between the following sets of terms : 2x5=10
- (i) Agar and Alginates
 - (ii) Colloids and crystalloids
 - (iii) Canning and freezing
 - (iv) Amylose and Amylopectin
 - (v) Protein Hydrolysates and protein concentrates
- (b) Give one word for each of the following : 1x5=5
- (i) An additive that promotes formation of a stable mixture or emulsion of oil and water.
 - (ii) Loss of Liquid from gels upon standing and shrinkage of gel structure.

- (iii) Development of any off or disagreeable flavour in oil / fat due to enzymatic or oxidative reaction.
- (iv) A method of food preservation that involves soaking the food in a strong salt solution.
- (v) Simplest form of carbohydrates which cannot be hydrolyzed further into smaller units.

2. (a) Describe the deteriorative changes that occur in fats and oils. 10
- (b) Discuss briefly the role of emulsifier in achieving a stable product. 10
3. (a) What are acceptance tests ? Describe how these tests can be used for evaluation of food products ? 10
- (b) Mention the changes that occur in fruits and vegetables during the process of dehydration, freezing and pickling. 10
4. (a) Explain how the process of drying helps in preserving food ? Discuss different methods of drying. 12
- (b) Discuss the role of fermentation in food preservation ? Give examples of fermented foods. 8

5. (a) Differentiate between Sols, Gels and suspensions. 8
- (b) Briefly discuss different phases of developing a new product. 12
6. (a) What are the changes that take place during baking of cereals ? 5
- (b) Explain the principle behind dough formation. 5
- (c) Explain the role of vitamins in Food Industry with the help of examples. 10
7. Write short notes on *any four* of the following :
- (a) Natural Pigments 5+5+5+5
- (b) Antioxidants
- (c) Irradiation
- (d) Non - Nutritive sweetness
- (e) Enzymes in Baking Industry
- (f) Processing methods.
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