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MFN-008

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MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

June, 2011

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) Fill in the blanks : **10**

(i) _____ is better than sugars in confectionery industry because it presents re - crystallisation.

(ii) The principle of _____ involves movement of water and dissolved substances through the membrane.

(iii) The dark pigments produced by Maillard reaction are termed as _____ .

(iv) The red colour of the meat is due to _____ .

(v) _____ is the protein found in wheat.

(vi) Food _____ are surface active agents consisting of hydrophilic and hydrophobic components

(vii) When sensory organs are used to assess the quality of a food product, the evaluation is said to be _____ evaluation.

(viii) _____ is the method of food preservation that involves soaking the food in a strong salt solution.

(ix) Ionizing rediations can extend the shelf - life and inhibit sprouting because they interfere with _____ .

(x) _____ (organisms) cause food spoilage during low temperature storage.

(b) Give two examples for each of the following : 5

(i) Perishable foods.

(ii) Class I preservatives.

(iii) Minimally processed foods.

(iv) Modified starches.

(v) Colloids.

2. (a) Explain the different methods of food processing briefly . 15

(b) List the different types of dryers and freezing system used in the food industry. 5

3. (a) Briefly describe the steps you would follow while developing a new product 10

(b) What are the physical, chemical and nutritional changes encountered during processing and storage ? 10

4. (a) Describe the functional role of vitamins in the food industry. 10

(b) Differentiate between starches and modified starches highlighting their functional role in the food industry. 10

5. (a) Enumerate the factors responsible for food spoilage. 5

(b) Describe the deteriorative changes occuring in fats and oils. 15

6. Differentiate between the following giving appropriate examples : 5+5+5+5

(a) Hydration properties v/s Surface properties of proteins.

(b) Foods fermented by moulds v/s Foods fermented by bacteria.

(c) Microwave v/s conventional heating

(d) Sols v/s Suspensions

7. Write short notes on *any 4* : 5+5+5+5=20

(a) Fermentation.

(b) Emulsions.

(c) Biotechnological Applications of enzymes.

(d) Food Irradiation.

(e) Functional properties of algal polysaccharides.