

POST GRADUATE DIPLOMA IN
FOOD SCIENCE AND TECHNOLOGY
(PGDFT)

Term-End Examination

June, 2013

MFT-001 : FOOD CHEMISTRY AND NUTRITION

Time : 3 hours

Maximum Marks : 70

Note : Attempt all questions. Attempt two sub parts from questions 1-6 and four short notes from question No.7. All questions carry equal marks.

1. (a) Discuss and draw the structures of ice and water. 5
- (b) Describe the process of starch gelatinization. 5
- (c) Show the reactions of sugars with acid during heating. 5

2. (a) What is water activity ? How is it related to shelf-life of food ? 1+4
- (b) Describe two functional properties of proteins used in food processing. 5
- (c) Discuss the role of emulsifiers in food. 5

3. (a) What is lipolysis ? How does it affect the shelf - life of fats/oils ? 2+3

- (b) Discuss the process of dry and wet ashing in foods. 5
- (c) Discuss the structure and stability of vitamin C in food. 5
4. (a) What are trans fatty acids ? Give their significance in food. 2+3
- (b) List down the uses of proteolytic enzymes in food industry. 5
- (c) What are non starchy polysaccharides ? 5
5. (a) Write the nutritive value of eggs. 5
- (b) Elaborate the structure of wheat grain. 5
- (c) Why milk is considered as complete food ? Name two constituents for which milk is not a good source. 5
6. (a) What is the importance of dietary fibers in human nutrition ? Give the sources of dietary fibers. 5
- (b) What are antioxidants ? Give their mechanism of action. 2+3
- (c) What are various deficiency diseases of vitamin B complex ? What is the RDA of protein for an adolescent and pregnant female ? 3+2

7. Write short notes on *any four* :

2.5x4=10

- (a) Carotenoids
 - (b) Toxic Metals
 - (c) Immobilized enzymes
 - (d) Role of calcium in human nutrition.
 - (e) Non calorific sweetness.
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