

00140

**POST GRADUATE DIPLOMA IN FOOD  
SCIENCE AND TECHNOLOGY (PGDFT)**

**Term-End Examination**

**June, 2015**

**MFT-001 : FOOD CHEMISTRY AND NUTRITION**

*Time : 3 hours*

*Maximum Marks : 70*

---

*Note : Attempt two subsections from question 1 to 6 and  
question 7 is compulsory.*

---

1. (a) What are the five food groups ? Write the basic composition of foods. 5
- (b) What is water activity ? Write its significance in food. 5
- (c) How are mono-oligo and poly-saccharides structurally differentiated ? Give two examples each. 5
  
2. (a) What are proteins ? Arrange the following foods in increasing order of their protein content - egg, spinach, meat, milk, groundnut oil and garden peas. 5
- (b) Write the significance of Saponification value and Iodine value of oils and fats. 5
- (c) Classify vitamins with two examples each. Explain the role of vitamin K. 5

3. (a) Discuss the function, dietary sources, deficiency diseases and recommended daily allowance of sodium. 5
- (b) What are the functions of : 5
- (i) oxidases and
- (ii) dehydrogenases in food industry
- (c) Define food additive. List the permitted synthetic and natural food colours. 5
4. (a) Name the unique fatty acid present in milk fat. Write its chemical structure. Write the defect caused due to its release. 5
- (b) What is myoglobin ? Write effect of processing on meat protein. 5
- (c) Write about enzymatic and non-enzymatic browning reactions in fruits and vegetables. 5
5. (a) Write with principles the method of determination of protein in foods by Kjeldahl method. 5
- (b) Write about calorific value of foods. Write the RDA for the major food nutrients. 5
- (c) What are anti-nutritional factors ? Provide examples. 5
6. (a) Why is milk pasteurised ? Write the significance of phosphatase test in milk. 5
- (b) Write the symptoms of deficiencies of any two minerals and two vitamins. 5
- (c) Explain structure of wheat grain with diagram. 5

7. Write short notes on **any four** of the following :

- (a) Class - I and II preservatives **2.5x4=10**
  - (b) Heavy metal residues in food
  - (c) Auto-oxidation
  - (d) Omega-3 fatty acids
  - (e) Dietary fibre
  - (f) Functionality of cereal proteins
-