

00195

**POST GRADUATE DIPLOMA IN FOOD  
SCIENCE AND TECHNOLOGY (PGDFT)****Term-End Examination****December, 2015****MFT-001 : FOOD CHEMISTRY AND NUTRITION***Time : 3 hours**Maximum Marks : 70*

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**Note :** Answer *any two sub-sections* from questions 1 to 6.  
Question 7 is *compulsory*.

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|----|-----|--------------------------------------------------------------------------------------------------|---|
| 1. | (a) | Write the basic requirements of a food chemist.                                                  | 5 |
|    | (b) | Explain the significance of sorption and desorption.                                             | 5 |
|    | (c) | How isotherm are classified based on their shape and size ?                                      | 5 |
| 2. | (a) | Classify fatty acids based on the type of bonds. Give two examples each.                         | 5 |
|    | (b) | Explain the steps of auto-oxidation of Lipids.                                                   | 5 |
|    | (c) | Write the difference in composition of cow or buffalo milk.                                      | 5 |
| 3. | (a) | How is gluten isolated from wheat flour ?<br>Write the function of wheat gluten in bread making. | 5 |



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|----|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------|
|    | (b)                                                     | Write the functions, deficiency diseases, dietary sources and RDA of iron.                    | 5        |
|    | (c)                                                     | Explain the role of Vitamin - B <sub>12</sub> and folic acid.                                 | 5        |
| 4. | (a)                                                     | Discuss the roles of enzymes in food industry.                                                | 5        |
|    | (b)                                                     | Why additives are used in processed foods ?                                                   | 5        |
|    | (c)                                                     | What are heavy metals ? Write about their toxicity to humans.                                 | 5        |
| 5. | (a)                                                     | Write two physical and chemical properties of milk to check the purity and freshness of milk. | 5        |
|    | (b)                                                     | Write on food pyramid and balanced diet.                                                      | 5        |
|    | (c)                                                     | Write about the crystallization and inversion of sugar.                                       | 5        |
| 6. | (a)                                                     | Name the non-calorific sweeteners permitted in certain processed foods.                       | 5        |
|    | (b)                                                     | Briefly describe the composition of meat.                                                     | 5        |
|    | (c)                                                     | Discuss briefly the effect of processing on starch.                                           | 5        |
| 7. | Write short notes on <b>any four</b> of the following : |                                                                                               |          |
|    | (a)                                                     | Dietary fiber                                                                                 | 2.5x4=10 |
|    | (b)                                                     | Water activity                                                                                |          |
|    | (c)                                                     | Structure of egg                                                                              |          |
|    | (d)                                                     | Role of phosphorus and Zinc in human body                                                     |          |
|    | (e)                                                     | Emulsifiers                                                                                   |          |
|    | (f)                                                     | Difference between fructose and glucose                                                       |          |
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