

**MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)**

**Term-End Examination**

**June, 2015**

**MFN-008 : PRINCIPLES OF FOOD SCIENCE**

*Time : 2½ hours*

*Maximum Marks : 75*

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**Note :** (i) Question No. 1 is *compulsory*.  
(ii) Attempt *four* questions in all.

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1. (a) List any two important emerging areas in food science and technology. 2
- (b) Give one example each of the commonly occurring monosaccharide, disaccharide and polysaccharide in foods. 1½
- (c) Give one example each of natural gums and synthetic gums used in the food industry. 1
- (d) Give one application each of Vitamin A and Vitamin B<sub>6</sub> in the food industry. 1
- (e) Name the enzyme(s) used in  
(i) Baking of bread, and 2  
(ii) cheese production.
- (f) What is tyndall effect ? 2½
- (g) Name the instrument that can be used to measure the texture of doughs and batters in a food industry. 1

- (h) Indicate the areas in the mouth where various taste sensations are perceived. **2**
- (i) Give reason why browning occurs in heated milk. **2**
2. (a) 'Two major types of non-enzymatic browning reactions have been recognised to occur in foods during processing'. Explain briefly giving suitable examples. **12**
- (b) Give the application of the following in the food industry : **4+4**
- Pectin
  - Starch
3. (a) Explain the oxidative changes occurring in fats and oils causing deterioration. **8**
- (b) Enumerate the commonly used antioxidants which can prevent oxidation of fats and oils. **4**
- (c) List the functional properties of proteins and discuss any one in detail. **8**
4. (a) Differentiate between Foams and Emulsions, giving examples and highlighting their properties. **10**
- (b) Briefly explain the methods and principle of home based food preservation commonly used today. **10**

5. Explain the following briefly : 5+5+5+5
- (a) Why the green vegetables change colour on cooking ?
  - (b) Process of browning in canned fish.
  - (c) Thermal conditions required to produce commercial sterility.
  - (d) Techniques/methods used for drying / dehydration of foods.
6. Write short notes on **any four** of the following : 5+5+5+5
- (a) Advantages of microwave heating over conventional heating.
  - (b) Uses of foods fermented by bacteria.
  - (c) Use of acidulants and chemicals as preservatives.
  - (d) Minimally processed foods
  - (e) Sensory evaluation of new food products.
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