

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

Term-End Examination

December, 2015

MFN-008 : PRINCIPLES OF FOOD SCIENCE

Time : 2½ hours

Maximum Marks : 75

Note : (i) Question No. 1 is *compulsory*.

(ii) Attempt *four* questions in all.

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1. (a) Explain the following in 2-3 lines only. **10**
- (i) Caramelization
 - (ii) Reversion flavour
 - (iii) Pickling
 - (iv) Single Cell Proteins (SCP)
 - (v) Turnover Rate of Oil.
- (b) Give one food application for each of the following : **5**
- (i) Curdlan
 - (ii) Xanthan Gum
 - (iii) Starches
 - (iv) Phosphates
 - (v) Rennin/Chymosin

2. (a) Briefly describe the functional role of sugars in the food industry giving suitable examples. 8
- (b) What is invert sugar ? Give an example. Explain its uses in food industry. 5
- (c) Elaborate on the functional use of non starch polysaccharides in the food industry. Give appropriate examples. 7
3. Explain the following briefly : 5+5+5+5
- (a) How antioxidants delay the onset of rancidity ?
- (b) Hydration property of proteins.
- (c) Protein isolates and concentrates giving examples.
- (d) Enzymatic analysis in foods and its uses in food industry.
4. (a) Classify the colloidal system. Give examples. 6
- (b) Keeping food processing in mind mention the alteration occurring in : 3+3
- Meat and meat products
 - Milk and milk products
- (c) Enlist the different methods of thermal processing. Explain any one in details. 2+6

5. (a) Define functional food. Explain the benefits of consuming functional foods giving appropriate examples. 10
- (b) "Moulds and Yeasts play an important role in food fermentation". Justify the statement highlighting the preparations and their uses. 10
6. Write short notes on **any four** of the following : 5+5+5+5
- (a) Freezing systems used in food industry.
- (b) Preservation by concentration
- (c) Canning : Uses in food industry.
- (d) Functions of colour in foods.
- (e) Steps involved in preliminary preparation of raw materials
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