

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

Term-End Examination

01835

June, 2018

MFN-008 : PRINCIPLES OF FOOD SCIENCE

Time : $2\frac{1}{2}$ hours

Maximum Marks : 75

Note : *Question no. 1 is compulsory. Attempt five questions in all. All questions carry equal marks.*

1. (a) Define "Food Science" and "Food Technology". $2\frac{1}{2}$
- (b) List any two common monosaccharides and two common polysaccharides found in foods. 2
- (c) What do you understand by the term "Weeping" in the context of application of sugars in the food industry? Give example. 2
- (d) What are modified starches? Give examples. 2
- (e) List the main difference between vegetable oils and animal fats. $2\frac{1}{2}$
- (f) What is a single cell protein? 1

- (g) Mention any one application of the following in the food industry : 3
- (i) Vitamin A (dry form)
 - (ii) Nicotinic acid
 - (iii) Sodium
2. Discuss the role of sugars in :
- (a) Formation of egg foam .2
 - (b) Preparation of dough and batters 2
 - (c) Fermentation 3
 - (d) Non-enzymatic browning reaction 8
3. Give the examples and applications of the following in the food industry : 5+5+5
- (a) Algae polysaccharide
 - (b) Microbial polysaccharide
 - (c) Protein concentrates
4. (a) Briefly describe the deteriorative changes occurring in fats and oils. 10
- (b) Give the role of enzymes in brewing industry and in cheese production. $2\frac{1}{2} + 2\frac{1}{2}$
5. (a) Differentiate between sols and gels, highlighting their application in the food industry. 7

(b) Explain the following briefly : 4+4

(i) Why do green vegetables become olive green on cooking ?

(ii) Heating milk to high temperatures causes a cooked flavour to appear.

6. (a) Briefly discuss the application of concentration as a preservative method in food industry. Give appropriate examples. 7

(b) What is thermal processing ? List the different methods used for thermal processing. Briefly explain the application of any one method in the food industry. 2+2+4

7. Write short notes on any *three* of the following : 5+5+5

(a) Foods Fermented by Bacteria

(b) "Hurdle or Barrier Concept" of Food Preservation

(c) Functional Foods

(d) Minimally Processed Fresh Foods

(e) Techniques for Sensory Evaluation of Products