

03053

MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

December, 2017

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 five questions in all.
(iii) All questions carry equal marks.
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1. (a) Name any two emerging areas in the area of Food Science and Technology. 2
(b) List any four products made from modified starch. 2
(c) Give any four functions of gums in the food industry. 2
(d) What are the compounds formed during thermal decomposition of fats and oil ? 2
(e) Name the two proteins in flour which cross-link to form gluten. 2
(f) Name the enzymes used in the following : 3
(i) Baking of bread
(ii) Brewing
(iii) Cheese production
(g) List any two uses of food additives in the food industry. 2

2. (a) Briefly explain the role of sugars in the following : 7+8
- (i) Process of fermentation
 - (ii) In appearance of food
3. Discuss the food applications of the following in the food industry : 5+5+5
- (i) Pectin
 - (ii) Cellulose
 - (iii) Gum Arabic
4. (a) Enumerate the factors that influence deep fat frying at home. 7
- (b) Briefly explain the surface properties of proteins giving appropriate examples. 8
5. (a) "Colloidal systems exhibit certain unique characteristics". Elaborate on these characteristics. 8
- (b) What do you understand by the term food rheology ? Name a few instruments that are used to measure texture of foods. 4+3
6. "Food processing can result in several advantages and certain alterations which may change the appearance, colour, texture of food". Justify the statement highlighting the advantages and alteration commonly seen in different foods. 15

7. Explain briefly any five of the following : **3x5=15**

- (a) Foods fermented by bacteria
 - (b) Post harvest system of cereal processing
 - (c) Minimally processed fresh foods
 - (d) Hedonic scale : A useful acceptance test
 - (e) Functional foods used in new product development
 - (f) Use of commercial sterilization in food preservation
 - (g) Applications of vitamins in food industry
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