

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT) (M.Sc. DFMS)**

Term-End Examination

June, 2021

MFN-008 : PRINCIPLES OF FOOD SCIENCE

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

Maximum Marks : 75

Note : 1. Answer **four** questions in all.

2. Question no. 1 is **compulsory**.

1. (a) Name the enzyme used in the food industry for the following : 2
- (i) Clarification of fruit juices and wines
- (ii) Cheese production
- (b) Name the natural food colourant obtained from : 2
- (i) Microbial sources
- (ii) Animal sources
- (c) List any two uses of modified starches in the food industry. 2
- (d) What are Hydrocolloids ? List any two important food hydrocolloids. 3

- (e) Give an example each of the following : 4
- (i) Seaweed Gums
 - (ii) Tree Extracts
 - (iii) Seed or Root gum
 - (iv) Microbial Fermentation Gums
- (f) List any two commonly used artificial sweeteners in the food industry. 2
- 2.** Explain briefly the following statements with respect to sugars, giving examples. 10+10
- (a) Sugars make an important contribution to the texture of food.
 - (b) The presence of sugar in foods is associated with appearance.
- 3.** Explain the following briefly, giving examples :
- (a) Difference between vegetable oil and animal fat 6
 - (b) Factors affecting deep fat frying 6
 - (c) Food sources of proteins 8
- 4.** Briefly describe the favourable and unfavourable alterations occurring with regard to the following during processing :
- (a) Milk and milk products 7
 - (b) Cereal and cereal products 7
 - (c) Meat and poultry 6

5. (a) Explain the types of emulsions and their formation. 7
- (b) Briefly discuss the factors that affect properties of a gel. 7
- (c) What do you understand by the texture of food ? Enumerate the characteristics of texture. 6
6. (a) Define Processing. Enlist the aims of food processing. 5
- (b) Briefly explain the different freezing systems used in the food industry. 8
- (c) Comment on the use of Microwave vs. Conventional heating method in the food industry, highlighting their advantages and disadvantages. 7
7. Write short notes on any **four** of the following : 5+5+5+5
- (a) Use of food additives in food industry
- (b) Product development and functional foods
- (c) Role of micro-organisms in food production and preservation
- (d) Preparation of raw material for processing
- (e) Thermal processing methods
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