

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

**Term-End Examination,**

**December 2019**

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

*Time : 2½ Hours*

*[Maximum Marks : 75*

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*Note : (i) Attempt four questions in all.*

*(ii) Question No. 1 is compulsory.*

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1. a) What is Blanching? List one use of Blanching. 2
- b) What is Gluten? How is it formed? 3
- c) Why do Green vegetables become olive green on cooking? 2
- d) Give one example each of protein isolate and protein concentrate. 2
- e) Name the protein obtained from microbial source. 1
- f) Name the building blocks of Starch. 2
- g) Name any two Food colours permitted in food industry. 2
- h) Give one Food application of curdlan. 1
  
2. a) Explain the Hydration properties of proteins and its role in food preparation. 4

(2)

- b) Differentiate between starches and modified starches, highlighting their role in the Food industry. 10
- c) What do you understand by the autoxidation of lipids? 6
3. a) Define the following and briefly explain their application in the food industry giving suitable examples. 3+3+3+3
- i) Emulsions
  - ii) Sols
  - iii) Gels
  - iv) Foams
- b) Discuss the various applications of enzymes and enzyme analysis in the food industry. 8
4. a) Briefly explain the application of the following in the food industry. 7+7
- i) Water soluble vitamins
  - ii) Minerals
- b) What are microbial polysaccharides? Give their uses in the food industry. 6
5. a) What do you understand by thermal processing of Food? List the different methods and describe the use of any two methods in details. 2+3+5+5
- b) Enlist the different methods of Freezing in food processing operations. 5

(3)

6. a) What is consumer oriented product development?  
Explain giving suitable examples. 10
- \* b) Explain sensory evaluation, giving the methods you  
would adopt and the relevance for sensory  
evaluation. 10
7. Write short notes on **any four** of the following :  
5+5+5+5
- a) Steps involved in preliminary preparation of raw  
material.
- b) How antioxidants delay the onset of rancidity?
- c) Role of moulds in food fermentation.
- d) Functional properties of sugars.
- e) Alterations occurring in eggs during processing.

