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MFN-008

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

M. Sc. (DFSM)

Term-End Examination

June, 2020

MFN-088 : PRINCIPLES OF FOOD SCIENCE

Time : 2½ Hours

Maximum Marks : 75

*Note : Answer four questions in all. Question No. 1
is compulsory.*

1. (a) Define Food Science and Food Technology.
2+2
- (b) Name the major dietary carbohydrates found in food along with their examples. 3
- (c) What is the brown pigment formed during caramelization called ? 1

P. T. O.

- (d) What is invert sugar ? Give one use of invert sugar. 2+1
- (e) Name any *two* products containing modified starches. 2
- (f) What are microbial polysaccharides ? Give *two* examples. 2
2. (a) Briefly discuss the basic properties of starches and their application in the food industry. 10
- (b) What are non-starch polysaccharides (NSP) ? Elaborate on the different NSPs and their uses in the food industry. 10
3. Explain the following (in about 250 words) :
- 5 each
- (a) Oxidative changes occurring in fats and oils.

- (b) Single cell proteins (SCP) and their advantages and disadvantages as a source of protein.
- (c) Application of Vitamin B complex in the food industry.
- (d) Functional role of minerals.
4. (a) Present a brief review on the utilization of enzymes in the food industry, giving appropriate examples. 10
- (b) Comment on the natural colours in the food and their novel sources with appropriate examples. 10
5. (a) What are the different types of emulsions ? Explain with the help of examples. 5
- (b) Differentiate between sols, gels and suspensions. 5
- (c) What are the factors that influence sensitivity of taste ? Explain in about 250 words. 5

- (d) Why is the study of food texture important ? Highlight the different textural parameters. 5
6. (a) Briefly discuss the alternations occurring in the following during processing : 5+5
- (i) Milk and milk products
 - (ii) Eggs
- (b) Describe briefly the thermal processing methods used today in the food industry. 10
7. Write short notes on any *four* of the following : 5 each
- (a) Foods fermented by bacteria
 - (b) Different methods available for freezing foods
 - (c) Preparation of raw material for processing- the steps involved.
 - (d) Sensory evaluation of a new product.
 - (e) Traditional methods of food processing.