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MFN–003

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

[M. Sc. (DFSM)]

Term-End Examination

December, 2023

MFN–003 : FOOD MICROBIOLOGY AND SAFETY

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

Maximum Marks : 75

Note : (i) Answer **five** questions in all.

(ii) Question No. 1 is compulsory.

(iii) All questions carry equal marks.

1. (a) Give *one* example for each of the following :

10

(i) Anticaking agent

(ii) Anaerobic spore former

(iii) Food borne virus

P. T. O.

- (iv) Parasitic protozoan
 - (v) Mycotoxin produced by *Penicillium* sp.
 - (vi) Voluntary Product certification
 - (vii) Laboratory Management System
 - (viii) Type of industrial contamination in food.
 - (ix) Physical hazards recently banned by FSSAI in tea industry
 - (x) Causative organism of Salmonellosis.
- (b) List any *five* factors which influence food safety in India. 5
2. (a) What is the role of packaging material in ensuring food safety ? 5
- (b) Discuss the emergence of new packaging technologies which maintain the safety of food, giving examples. 10
3. (a) What is the effect of temperature and oxygen on the growth of microorganisms ?

- (b) "Consumption of contaminated shellfish leads to food poisoning." Explain the statement citing examples. 7
4. (a) "Fermentation by lactic acid bacteria is a desirable process." Elaborate the statement giving examples. 10
- (b) List the various types of spoilage associated with canned foods. 5
5. (a) "Personal hygiene is a critical prerequisite for food safety." What are the key factors to be regulated for maintaining food safety ? 10
- (b) What is a CCP ? How this determines the safety of a product during HACCP implementation ? 5
6. (a) What are the unintentional chemical hazards which get into the food via environment ? 8
- (b) What are the factors which affect the food quality during storage ? 7

7. Write short notes on any *three* of the following : 5×3=15

- (i) Shigellosis
- (ii) Temperature danger zone
- (iii) Bacterial endospores
- (iv) Risk Analysis
- (v) FSSAI 2006 and its salient features
- (vi) Codex Alimentarius Commission