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MFN-003

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

Term-End Examination

June, 2023

MFN-003 : FOOD MICROBIOLOGY AND SAFETY

Time : 2½ Hours

Maximum Marks : 75

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

(ii) Questions no. 1 is compulsory.

(iii) All questions carry equal marks.

1. (a) Give one example of each of the following : 10

(i) Antioxidant permitted to be added in edible oils in India.

(ii) Toxin produced by *Aspergillus flavus*.

(iii) Commonly used sanitizer in food industry.

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- (iv) Bacteria which survives at high salt conc.
 - (v) Anti-caking agent.
 - (vi) Food borne virus.
 - (vii) Causative agent of BSE/Mad Cow Disease.
 - (viii) ISO Series relevant to Food Industry.
 - (ix) Voluntary product certification.
 - (x) Parasite worm found in pork.
- (b) Define the following (any *two*) : 5
- (i) Ergotism
 - (ii) ADI
 - (iii) Acrylamides
 - (iv) GM Food
2. (a) What are the types of spoilage seen in canned foods ? What are the factors responsible for spoilage ? 7
- (b) Enumerate the factors affecting the microbial growth. 8
3. (a) Discuss the harmful effects of adulterants in food. 6
- (b) What is Risk Analysis ? Explain briefly its components. 9

4. Explain any *three* of the following giving examples : 3×5=15
- (i) Plant toxicants
 - (ii) Dioxins
 - (iii) Shell fish poisoning
 - (iv) HACCP
 - (v) Personal Hygiene in food safety
5. (a) What is Food infection ? 3
- (b) State the causative organisms, symptoms and preventive measures of any *three* : 4+4+4
- (i) Salmonellosis
 - (ii) Listeriosis
 - (iii) Campylobacteriosis
 - (iv) Shigellosis
 - (v) Bacillary dysentery
6. (a) “Microbes play an important role in the fermentation process.” Justify the statement giving examples. 10
- (b) Highlight the safety measures required for maintaining the safety of street foods in India. 5

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

- (i) Role of packaging material in safety of food
- (ii) Pest and Rodent control in a food plant
- (iii) Environmental hazards in food
- (iv) Technical Barriers to Trade (TBT)