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MFN-003

**MASTER OF SCIENCE
(DIETETICS AND FOOD SERVICE
MANAGEMENT)
[MSC (DFSM)]**

Term-End Examination

June, 2026

**MFN-003 : FOOD MICROBIOLOGY
AND SAFETY**

Time : 2½ Hours

Maximum Marks : 75

Note : (i) Attempt **five** questions in all.
(ii) Question No. 1 is compulsory.
(iii) All questions carry equal marks.

1. Briefly explain any **five** of the following terms :

5×3=15

(i) Physical hazards

- (ii) Water activity
- (iii) Modified Atmosphere Packaging
- (iv) Food borne intoxication
- (v) Epidemic dropsy
- (vi) Acrylamide
- (vii) ISO standards

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

- (i) Parasites causing foodborne illness
- (ii) Concerns of genetically modified foods
- (iii) Spoilage of fruits and vegetables
- (iv) Shellfish poisoning

3. (a) What are food additives ? Discuss safety issues associated with the regular consumption of some of these additives.

- (b) How would you classify bacteria based on their need for oxygen to survive and grow ? 5
4. (a) Describe the various sources that can contaminate our food and water with microbes. 8
- (b) What are the chemical methods available to control and destroy micro-organisms ? 7
5. (a) Describe the different types of disinfectants and sanitizers used in a food service establishment. 8
- (b) Explain how the packaging of food can become a source of hazards. Support your answer with relevant examples. 7

6. (a) What is the benefit of using HACCP as a preventive approach for ensuring food safety ? 5
- (b) What are some of the toxic adulterants which are used in artificially coloured foods, milk and oil ? Describe the adverse effects which these adulterants can cause. 10
7. (a) What are the chemical changes that occur in a food due to spoilage ? 7
- (b) Discuss how pesticide residues can enter the food chain and the kind of adverse health effects they have been associated with. 8

8. (a) What advice would you give to a street food vendor to ensure the safety of the food sold by him/her ? 8
- (b) What are Mycotoxins ? Describe how these affect human health by taking the example of any *one* mycotoxin. 7

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