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MFN-003

**MASTER OF SCIENCE (DIETETICS
AND FOOD SERVICE
MANAGEMENT) [M. SC. (DFSM)]**

Term-End Examination

June, 2025

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

Time : $2\frac{1}{2}$ 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) Pasteurization

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P. T. O.

- (ii) GRAS
- (iii) Probiotics
- (iv) Hazard
- (v) Putrefaction
- (vi) Mycotoxin

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

- (i) Spoilage of fruits and vegetables
- (ii) Role of microorganisms in fermented food
- (iii) Food-borne infections
- (iv) Personal Hygiene Guidelines for employees

3. (a) Explain briefly how low and high temperature can be used for control of microorganisms. 10
- (b) What are the different sources of food contamination ? 5
4. (a) Explain different phases of bacterial growth with the help of an illustration. 8
- (b) What are genetically modified foods ? Explain with examples. 7
5. (a) Define additives. Explain the role of any *three* of the following additives in the food industry : 2+6
- (i) Anticaking agents
- (ii) Emulsifying agents
- (iii) Sweetening agents
- (iv) Antifoaming agents

(b) Define adulterant. How can the following adulterants be detected in food ? 2+5

(i) Starch in milk

(ii) Papaya seed in black pepper

(iii) Artificial color in tea

(iv) Metanil yellow in pulses or turmeric

(v) Sugar solution in honey

6. (a) Expand the following : 5×1=5

(i) HACCP

(ii) GMP

(iii) PET

(iv) WHO

(v) BIS

- (b) Which law governs the sale of safe food in our country ? Comment on the roles of FSSAI in the context of safe food. 2+8
7. (a) Write a note on cleaning agents, used in the food industry. 7
- (b) What do you understand by nutritional labelling ? Explain with the help of examples. 8
8. (a) How does risk analysis help in ensuring food safety ? Explain briefly. 8
- (b) Differentiate between flexible and rigid packaging, giving examples. 7

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