

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

**Term-End Examination**

**February, 2021**

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

*Time :  $2\frac{1}{2}$  hours*

*Maximum Marks : 75*

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***Note :** Question no. 1 is **compulsory**. Answer **five** questions in all. All questions carry equal marks.*

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1. (a) List the 7 principles of HACCP.  $3\frac{1}{2}$
- (b) Enlist any 7 good personal hygiene practices a food handler must adopt to ensure food safety.  $3\frac{1}{2}$
- (c) Differentiate between the following sets of terms giving examples :  $4 \times 2 = 8$
- (i) Food Adulteration and Food Contamination
- (ii) Anti-caking agent and Anti-foaming agent
- (iii) Food-borne infections and Food-borne toxic infection
- (iv) Prions and Dioxins

2. (a) “Microbes have a beneficial role in the food industry.” Comment on the statement giving appropriate justifications and examples. 8
- (b) Illustrate the four phases of bacterial growth and highlight the factors that promote bacterial growth. 7
3. Explain the factors which influence spoilage of the following foods : 5+5+5
- (a) Meat
- (b) Fruits and Vegetables
- (c) Milk and Milk Products
- Explain with suitable examples.
4. Name the causative agent, foods implicated and the preventive measures for the following food-borne diseases : 5+5+5
- (a) Botulism
- (b) Cholera
- (c) Ergotism

5. What are environmental contaminants ? Explain briefly, giving examples. List the ways by which they enter our food chain and explain what measures you would adopt to reduce your exposure to these contaminants. 15
6. Explain the following briefly : 5+5+5
- (a) Uses of food additives
  - (b) Harmful effects of adulterants
  - (c) Factors to be considered for ensuring safety of street foods
7. (a) What are the common disinfectants used in the food industry ? 5
- (b) “Different products require different packaging.” Justify the statement enumerating the different packaging methods used in the food industry. 5
- (c) What do you understand by risk communication ? List its objectives. 5

8. Write short notes on any **three** of the following : 5+5+5

- (a) Codex Alimentarius and Codex India
  - (b) Pests and Rodent Control in a food review establishment
  - (c) Natural and synthetic food colours permitted for use in India
  - (d) Safety measures to be adopted during transportation of food
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