

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

Term-End Examination

June, 2006

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

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

Maximum Marks : 75

Note : Answer **four** questions in all. Question no. 1 is
compulsory.

1. (a) Explain the following in 2 – 3 sentences only : **10**

- (i) Probiotics
- (ii) Water Activity
- (iii) Favism
- (iv) Sequestrants
- (v) Bar Code

(b) Match the items in Column A with the items in
Column B. **5**

<u>Column A</u>	<u>Column B</u>
(i) ISO 1400	(a) Carbonates of calcium and magnesium
(ii) Controlled atmosphere packaging	(b) Disinfectant with bactericidal capacity
(iii) Iodophor	(c) Cyanogenic glycosides
(iv) Buffering agent	(d) International reference for quality requirement to meet the environmental challenges
(v) Toxicant in plant foods	(e) Acetic acid used in beverages and cold drinks
	(f) Phytates, tannins, oxalates
	(g) Maintain the desired atmosphere throughout the shelf-life of the product

2. (a) Briefly discuss the role of microbiology in biotechnology and fermented foods, giving any two examples for each. 5+5
- (b) Elaborate on the factors affecting food safety. 10
3. (a) Graphically, present the four phases of bacterial growth and discuss any three factors which affect the growth of bacteria. 3+7
- (b) Briefly, explain the physical methods used for the control of micro-organisms. 10

4. (a) List the three categories of food borne diseases.
Describe any one of the above categories. 3+7
- (b) “A variety of naturally occurring toxicants present in animal foods have been linked to human ill-health and death.” Elaborate on the statement, giving appropriate justifications. 10
5. (a) Differentiate between food contamination and food adulteration, giving examples. 5
- (b) With the help of examples, briefly explain the functional role of additives in foods. 7
- (c) Discuss the voluntary schemes of certification aimed at providing quality and safety of foods in our country. 8
6. (a) “Packaging is crucial for food safety.” Justify the statement, highlighting the significance and functions of packaging. 10
- (b) What is HACCP ? Discuss the need, relevance and the principles of HACCP in a food service establishment. 10
7. Write short notes on any **four** of the following : 5+5+5+5
- (i) Recent concerns of food safety
 - (ii) Measures to be adopted by the street food vendors to ensure food safety
 - (iii) Spoilage of meat
 - (iv) Use of disinfecting agents in food industry
 - (v) Environmental issues linked to food packaging