

MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

02493

Term-End Examination

December, 2010

MFN-003 : FOOD MICROBIOLOGY AND SAFETY

Time : 2½ hours

Maximum Marks : 75

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

1. (a) Differentiate between the following sets of terms: 10
- (i) Physical and chemical hazard
 - (ii) Yeasts and Moulds
 - (iii) Aflatoxicosis and Deoxynivalenol Mycotoxicosis
 - (iv) Direct and Indirect food additive
 - (v) Food label and Nutrition label
- (b) Fill in the blanks : 5
- (i) _____ is a voluntary scheme of certification of agricultural products.
 - (ii) _____ is a measure of free water in a food sample, as opposed to bound water.

- (iii) An anhydrous substance that can pick up moisture without themselves becoming wet are called ____ agents.
- (iv) Itai Itai disease is an example of ____ tonicity.
- (v) _____ is one bacteria responsible for the spoilage of cheese.

2. "Microbes can spoil the food. However some of them can be useful in the food industry". 20
 Comment on the statement giving appropriate justifications.
3. (a) What do you understand by the term "Food Safety"? 3
- (b) Briefly discuss some of the recent concerns about food safety worldwide today. 7
- (c) Explain the physical methods you would adopt to control the growth of microorganisms. 10
4. (a) Differentiate between the following giving appropriate examples. 5
- (i) Food infection
 - (ii) Food intoxication
 - (iii) Food -borne toxic infections

- (b) Discuss about the causative agent and methods of control for any one disease condition, from each of the above (a,b,c) listed diseases 5+5+5

5. Explain the following briefly : 5+5+5+5

- (a) Complications linked to shell fish poisoning
- (b) Ways to reduce our exposure to various food contaminants
- (c) Various methods of packaging employed in the food industry.
- (d) Types and uses of cleaning compounds in the food industry.

6. (a) Explain the functional role of food additives, giving appropriate examples. 10

- (b) If you were to set up a milk processing unit, how would you apply the HACCP principles to provide safe milk to the customers ? Discuss briefly. 10

7. Write short notes on any FOUR of the following

- (a) The prevention of Food Adulteration Act. 1954 5+5+5+5
 - (b) The three elements of risk analysis
 - (c) Hygiene requirements for setting up a food service unit
 - (d) Classification of adulterants
 - (e) Spoilage of cereals and cereal products.
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