

00171

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

**Term-End Examination**

**June, 2010**

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

*Time : 2½ hours*

*Maximum Marks : 75*

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

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1. (a) Define the following : 10
- (i) Food Microbiology
  - (ii) Bovine spongiform Encephalopathy (BSE)
  - (iii) Facultative Anaerobes
  - (iv) Enterotoxin
  - (v) Naemagglutinins
- (b) Give *one* example for each of the following : 5
- (i) Neurotoxin
  - (ii) Foods rich in Cyanogenic Glycoside
  - (iii) Class II preservatives
  - (iv) Plastic films used in food industry.
  - (v) Essential Commodity Act, 1955

2. (a) What are genetically modified foods (G M) ? 2+4  
Highlight the concerns and benefits linked with G M foods.
- (b) List the common microbes used in food fermentation. Describe the common fermented food products available in the market. 2+5
- (c) Describe the sources of food contaminations. 7
3. (a) Describe the factors which influence the growth of bacteria. 8
- (b) Discuss the factors responsible for the spoilage of fruits and vegetables. 5
- (c) Discuss the role of temperature as a preservative technique. 7
4. (a) Give the classification of food-borne diseases. 5
- (b) Name the organism, the causative factors and the preventive measures you would adopt for the following disease conditions.
- (i) Bacillary dysentery 5+5+5
- (ii) Gastroenteritis (food-borne toxic infection)
- (iii) Botulism
5. Explain the following briefly : 5+5+5+5
- (a) Naturally occurring toxicants in plant foods.
- (b) Types of environmental food contaminants
- (c) Functional role of any two food additives
- (d) Harmful effects of adulterants

6. (a) Discuss the need and relevance of the following in the context of food safety. **6+6**
- (i) Risk Analysis
  - (ii) HACCP
- Briefly describe each of the processes.
- (b) Describe briefly the role of the following with regard to food safety. **4+4**
- (i) Voluntary based product certification
  - (ii) Technical Barrier to Trade (T B T) Agreement.
7. Write short notes on *any four* of the following : **5+5+5+5**
- (a) Interaction between packaging and food toxicity hazards.
  - (b) Health status of food handlers and its impact on food safety
  - (c) Disinfectants used in the food industry
  - (d) Food safety measures for street foods
  - (e) Veterinary Drug Residues.
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