

02070

MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

December, 2012

MFN-003 : FOOD MICROBIOLOGY AND SAFETY

Time : 2½ hours

Maximum Marks : 75

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

1. (a) Give the full form of the following : 10
- (i) GATT (ii) NCCP
 - (iii) JECFA (iv) HACCP
 - (v) ISO (vi) AGMARK
 - (vii) ALARA (viii) BHT
 - (ix) VOD (x) HTST
- (b) Define the following : 5
- (i) Hazard (ii) Food Additive
 - (iii) GM Food (iv) Detergent
 - (v) Risk Analysis
2. (a) Differentiate between : 6x2
- (i) Polypropylene (PP) vs polyethylene Terephthalate (PET)
 - (ii) CAP vs MAP
 - (iii) Aluminium foils vs Metallized films
 - (iv) Vacuum packaging vs Gas Packaging

- (v) Flexible Packages vs Rigid Packages
- (vi) Water activity vs water content of food
- (b) What is a Nutrition label ? Illustrate and describe its various components. **8**
3. (a) Explain how HACCP is a preventive and continuous approach to food safety ? Elaborate highlighting the benefits, principles of HACCP. **10**
- (b) How is Risk Analysis a new paradigm in food safety assurance ? Explain, highlighting the various components and their application in food safety assurance. **10**
4. (a) What is the difference between a food infection and a food intoxication ? Explain giving examples. **6**
- (b) Give the symptoms, foods involved and preventive measures of the following : **7+7**
- (i) Water borne infection
- (ii) Food Handler's Contamination
5. Comment on the spoilage pattern of the following : **4+4+4+4+4**
- (a) Fruits and vegetables
- (b) Meat
- (c) Milk
- (d) Bread
- (e) Butter

6. (a) Explain the importance of : 5x2
- (i) Temperature viz growth of microorganisms
 - (ii) Food Additive
 - (iii) Pest Control
 - (iv) Waste Disposal
 - (v) Cleaning Agents
- (b) Define the term 'food contamination'. 10
Briefly discuss the different types of environmental contaminants, which impact food safety.
7. (a) Briefly elaborate on the recent concerns of 10
food safety which have resulted in a heightened consumer concern world over.
- (b) With suitable examples discuss the role of 10
microorganisms in fermented foods.
8. Write short notes on any *Four* of the following. 5+5+5+5
- (a) Harmful effects of adulterants
 - (b) Codex Alimentarius
 - (c) PFA Act
 - (d) Mycotoxins
 - (e) Toxicants in animal foods.
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