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

Term-End Examination

December, 2014

MFN-003 : FOOD MICROBIOLOGY AND SAFETY

Time : 2½ hours

Maximum Marks : 75

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

Explain the following in **two-three** sentences each :

1. State the significance of the following : **10x1½=15**
 - (a) Critical Control Point
 - (b) Nutrition label
 - (c) Food Additives
 - (d) Mycotoxins
 - (e) Water activity
 - (f) Adulteration
 - (g) Waste Disposal
 - (h) Biological hazards
 - (i) Packaging Materials
 - (j) GM Foods

2. Mention the role of the following in food safety : **4x5=20**
 - (a) Codex Alimentarius
 - (b) ISO
 - (c) WHO
 - (d) JECFA

3. (a) Explain briefly the factors which affect spoilage of a food. 10
- (b) Justify the statement that hazards need to be controlled to ensure safe food. 10
4. Justify the following statements : 4x5=20
- (a) Cleaning agents are essential for food industry.
- (b) Food packaging extends the shelf life of the food product.
- (c) Fruits and vegetables are prone to microbial spoilage.
- (d) Mycotoxins are harmful secondary metabolites of molds.
5. (a) What are the natural toxicants present in plant foods ? Explain giving examples. 10
- (b) Justify the statement 'HACCP is a process based approach'. Illustrate your answer giving a suitable example. 10
6. Describe the causative agent, mode of entry, symptoms and preventive measure of **any two** of the following : 10+10=20
- (a) Salmonellosis
- (b) Campylobacteriosis
- (c) Dysentery
- (d) Hepatitis A

7. Write short notes on **four** of the following : **4x5=20**
- (a) Risk Analysis
 - (b) Cleaning agents and sanitizers used in food industry
 - (c) CAP
 - (d) Toxicity hazards linked to food packaging
 - (e) Food standards
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