

**CERTIFICATE PROGRAMME IN FOOD
SAFETY**

Term-End Examination

December, 2007

**BFN-001 : INTRODUCTION TO FOOD
SAFETY**

Time : 3 hours

Maximum Marks : 100

Note : Answer **five** questions in all. Question No. 1 is **compulsory**. All questions carry equal marks.

1. (a) Explain the following in two to three sentences each. 10
- (i) Pasteurization
 - (ii) Chemical sanitizers
 - (iii) Hygiene requirements
 - (iv) Hurdles
 - (v) Oxidation-reduction potential

(b) Fill in the blanks. 5

- (i) Food safety is concerned with acute and chronic _____ that make food injurious to the health of the consumer.
- (ii) Contamination may _____ the number of micro-organisms in the food and may even introduce new kinds.
- (iii) Soaps and detergents _____ fats, oils and grease so that they are easily washed away.
- (iv) Upto 40 percent of adults carry Staphylococcus bacteria in the nose and _____ .
- (v) Protective clothing should not be worn _____ food premises.

(c) Describe the relationship between the following sets of terms in one to two sentences each : 5

- (i) Food preservation – retarding microbial growth
- (ii) Food hazards – food safety
- (iii) Food additives – preservation
- (iv) Heat – food processing
- (v) Danger zone – bacteria

2. (a) What do you understand by the following terms ? 8

- (i) MRA
- (ii) Genetically modified foods
- (iii) Toxicity
- (iv) Absolute food safety

- (b) What are the recent trends influencing food safety concerns ? Explain in brief. 5
- (c) List and describe in brief the emerging food-borne illnesses. 7
3. (a) What are the sources of potential spoilage organisms in food ? Describe in brief. 5
- (b) How do environmental conditions influence the growth of micro-organisms ? Explain in detail. 15
4. (a) Define food processing. 2
- (b) List and briefly describe the methods of food processing associated with 5+5
- (i) ambient temperature
- (ii) application of heat
- (c) Differentiate between controlled atmosphere packaging and aseptic packaging. Mention their chemical and antimicrobial effects. 8
5. (a) What are the types of food storage ? Explain giving examples. 5
- (b) Give guidelines for the following : 15
- (i) dry storage
- (ii) refrigerated storage
- (iii) freezer storage
- Explain in detail.

6. (a) Why should employees in food service establishments maintain good personal hygiene ? Explain in brief. 5
- (b) Suppose you were conducting a training programme for food handlers. What advice would you give to them regarding 3+3+3+3+3
- (i) washing hands
 - (ii) using protective clothing
 - (iii) preventing spread of droplet infection
 - (iv) periodic medical examination
 - (v) cross contamination
7. (a) What effects do processing methods have on foods ? Explain in brief, giving examples. 5
- (b) What are the measures needed to maintain food quality and food safety ? Explain in detail the measures relevant to the food processing industry. 15
8. Write short notes on any **four** of the following : 20
- (a) Pest control
 - (b) Factors influencing food safety
 - (c) Types of food spoilage
 - (d) Safe waste disposal
 - (e) Emerging issues in food safety