

00102

**CERTIFICATE PROGRAMME IN FOOD  
SAFETY**

**Term-End Examination**

**December, 2011**

**BFN-002 : HAZARDS TO FOOD SAFETY**

*Time : 3 hours*

*Maximum Marks : 100*

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*Note : Attempt five questions in all. Question number 1 is compulsory. All questions carry equal marks.*

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1. (a) Explain briefly in **2-3** sentences each : **10**
- (i) Lathyrism
  - (ii) Giardiasis
  - (iii) Veterinary drug residues
  - (iv) Facultative anaerobic bacteria
  - (v) Indirect food additives
- (b) Give one example for each of the following : **10**
- (i) Protozoa which causes amoebiasis
  - (ii) A physical hazard present in food
  - (iii) Unicellular fungi present in food
  - (iv) Toxin produced by *Aspergillus flavus*
  - (v) Appearance of blue colour on treating milk with iodine solution indicates presence of this adulterant
  - (vi) Food borne bacteria causing cholera
  - (vii) Bacteria causing Listeriosis

- (viii) Low calorie sweetener permitted in India
  - (ix) Toxic compound found in cotton seed oil
  - (x) Substance present in legumes which leads to excessive intestinal gas production and flatulence.
2. (a) Discuss the modes of transmission, foods implicated and symptoms of poisoning of the following pathogenic bacteria 3+3+3
- (i) Bacillus Cereus
  - (ii) Salmonella spp
  - (iii) Escherichia coli
- (b) What measures would you adopt to prevent poisoning by the pathogens mentioned at (a) ? 4
- (c) What are pesticide residues ? What are their harmful effects ? 7
3. (a) Explain in details the factors influencing microbial growth in food. 10
- (b) What are food additives ? Describe the functional role of the following food additives giving suitable examples : 10
- (i) Antioxidants
  - (ii) Food colours
  - (iii) Leavening agents.

4. (a) What are some of the emerging pathogens of concern ? What do you think are the reasons for their emergence ? 10
- (b) What are the toxins present in plant foods ? What are the adverse effects they have on our body ? 10
5. (a) What is meant by food adulteration ? How do adulterants in our food supply affect our health and the economy ? 10
- (b) What are mycotoxins ? How do they pose a health hazard ? Discuss giving suitable examples. 10
6. (a) Briefly describe the different types of physical and chemical hazards that may be present in our food supply ? 10
- (b) List some common ways by which our food can become contaminated. What precautions can we take while handling food to reduce contamination ? 10
7. (a) Why should we avoid storing foods in plastics ? 5
- (b) List two common adulterants each which you may find in milk, edible oils, tea, spices and pulses. 5
- (c) What is botulism ? How can it be prevented ? 5
- (d) What are the adverse effects of consuming ground water contaminated with arsenic ? 5

8. Write short notes on *any four* of the following :

5+5+5+5=20

- (a) Hepatitis A
  - (b) Norwalk virus
  - (c) Toxicants in animal foods
  - (d) Labeling Requirement of prepackaged foods.
  - (e) Epidemic dropsy.
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