

**CERTIFICATE PROGRAMME IN FOOD  
SAFETY**

01033

**Term-End Examination  
December, 2010**

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

*Time : 3 hours*

*Maximum Marks : 100*

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

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1. (a) Describe the relationship between the following sets of terms in two to three sentences each : 10
- (i) Additives - improvement in food quality.
  - (ii) Personal hygiene - disease
  - (iii) Lathyrism - toxicant
  - (iv) Carrier - bacterial infections
  - (v) Pathogens - measures for prevention
- (b) Fill in the blanks : 10
- (i) BHA is an \_\_\_\_\_.
  - (ii) Anti-foaming agents are usually added to edible \_\_\_\_\_.
  - (iii) GRAS stands for \_\_\_\_\_ regarded as safe.

- (iv) \_\_\_\_\_ causes paralytic shellfish poisoning.
  - (v) \_\_\_\_\_ containers slowly dissolve under acidic conditions.
  - (vi) Hyperkeratosis and hyperpigmentation are symptoms of \_\_\_\_\_ poisoning.
  - (vii) Migration of contaminants into foods from plastic containers can be prevented by using \_\_\_\_\_ plastics.
  - (viii) Food adulteration may involve intentional addition, substitution or \_\_\_\_\_ of substances in food.
  - (ix) \_\_\_\_\_ inhibitors are easily inactivated by the normal cooking procedures.
  - (x) If fruits and vegetables are harvested before completion of the waiting period, they are likely to have a higher level of \_\_\_\_\_ residues that are hazardous to health.
2. (a) "The presence of a hazard in food decreases the quality of the food and makes it unsafe to eat". Explain the statement in detail giving suitable examples. 10
- (b) How do microbiological hazards impact human health ? Discuss in detail. 10
3. (a) List five precautions to be taken while handling food in order to ensure food safety and prevent food and water borne diseases. 5

- (b) List the major pathogenic bacteria which have caused food poisoning outbreaks. Describe their mode of transmission, reservoir/carrier, foods implicated and symptoms of poisoning. 10
- (c) Discuss the role of yeasts in spoilage of food products. 5
4. (a) How can we prevent food poisoning outbreaks caused by the following organisms ? 4+4+4
- (i) Bacillus cereus
- (ii) Salmonella
- (iii) Shigella
- (b) What is gastroenteritis ? How is it caused ? 4
- (c) What can we do to prevent gastroenteritis ? 4
5. (a) Discuss the health effects of toxicants in animal and plant foods. Give suitable examples to support your answer. 15
- (b) How do pesticide residues influence our health ? Explain in brief. 5
6. (a) Differentiate between direct and indirect food additives giving suitable examples. 4
- (b) Which types of label declarations are made for added colour in foods ? Give three types of label declarations for permitted colours. 3
- (c) "Synthetic food colours permitted for use in India are allowed only in certain foods". Explain giving examples. 3
- (d) Discuss the safety issues related to use of food additives. 10

7. (a) When is food considered to be adulterated by law ? Explain in detail giving examples. 10
- (b) What are the common types of adulterants detected in different food items ? 5
- (c) What is the impact of food adulteration on the economic sector ? 5
8. Write short notes on *any four* of the following : 5+5+5+5
- (a) Amoebiasis
- (b) Mycotoxins in Food
- (c) Factors affecting microbial growth
- (d) Botulism
- (e) Infectious hepatitis
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