



# Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

## Bachelor's Degree Examination – November 2025

### V Semester

Class: III UG

Major: Food Service Management and Dietetics

Time: 3 Hours

Max. Marks: 100

### 23BFDC09 Food Microbiology and Sanitation

#### Course Outcomes:

1. Acquire the knowledge on the basic concepts of microbes in food and human welfare.
2. Relate theoretical knowledge with microbes in the environment.
3. Comprehend the knowledge gained on the characteristics of the microorganism in food and apply the techniques to control microbes.
4. Understand the relevance of microbial spoilage of various foods and its toxic effects.
5. Suggest frame work on the concepts of Quality Control Activities.

#### Part A

10 x 1 = 10

#### Choose the Correct Answer

1. Antibiotic penicillin is produced by \_\_\_\_\_ CO1 K1  
a. *Aspergillus* b. *Saccharomyces*  
c. *Penicillium notatum* d. *Rhizopus*
2. Which of the following structure is responsible for bacterial adherence to host cells? CO2 K1  
a. Capsule b. Pili (Fimbriae)  
c. Flagella d. Plasmid
3. Which pathogenic bacteria is most commonly transmitted through contaminated milk? CO3 K2  
a. *Vibrio cholerae* b. *Salmonella typhi*  
c. *Mycobacterium bovis* d. *Clostridium botulinum*
4. The main cause of spoilage in fresh fruits and vegetables is: CO4 K2  
a. High protein content b. High carbohydrate and water content  
c. Low moisture content d. High fat content
5. Aflatoxins in groundnuts are produced by: CO4 K2  
a. *Aspergillus flavus* b. *Salmonella enterica*  
c. *Listeria monocytogenes* d. *E. coli*
6. Which regulatory body in India issues guidelines related to SOPs in food safety? CO5 K1  
a. FAO b. WHO  
c. FSSAI d. WTO
7. Which of the following is a *biological indicator* of water contamination? CO3 K1  
a. pH level b. Coliform bacteria  
c. Hardness d. Turbidity
8. Which of the following is a common method of sterilization? CO4 K1  
a. Pasteurization b. Boiling  
c. Autoclaving d. Freezing
9. The FSSAI registration number for a small food business is called: CO5 K2  
a. License number b. 14-digit FSSAI registration number  
c. GSTIN d. Bar code
10. FSSAI was established under which act? CO5 K2  
a. Prevention of Food Adulteration Act, 1954  
b. Food Safety and Standards Act, 2006  
c. Consumer Protection Act, 1986  
d. Essential Commodities Act, 1955

**Part B** **5 x 6 = 30**  
**Answer ALL questions**  
**Each answer should not exceed 400 words or four pages**

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|---|--------|
| 11. a. Explain the morphological characteristics of virus.<br>(or)  | CO3 K3 |
| 11.b. Outline the benefits of yeast in food industry.               | CO3 K2 |
| 12.a. Describe the sources of contamination of milk.<br>(or)        | CO4 K2 |
| 12.b. Explain the spoilage of fruits and vegetables.                | CO3 K2 |
| 13.a. Explain the types of hazards.<br>(or)                         | CO4 K3 |
| 13.b. Discuss the factors affecting food safety.                    | CO4 K2 |
| 14.a. Explain the testing of water to ensure safe drinking.<br>(or) | CO4 K2 |
| 14.b. Explain the microbial contamination of air.                   | CO4 K2 |
| 15.a. Explain the laws of Food safety.<br>(or)                      | CO5 K3 |
| 15. Describe the regulation standards of food safety.               | CO4 K2 |

**Part C** **5 x 12 = 60**  
**Answer ALL questions**  
**Each answer should not exceed 800 words or four pages**

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|---|--------|
| 16. a. Explain the spread of diseases through water contamination.<br>(or)                  | CO2 K5 |
| 16.b. Enumerate the benefits of mold in food.   | CO2 K3 |
| 17. a. Describe the microorganisms associated with the spoilage of cereals.<br>(or)         | CO3 K5 |
| 17.b. Discuss the spoilage of microorganisms in fleshy foods and its preventive measures.   | CO4 K2 |
| 18. a. Elaborate on standard operation procedure (SOP) of food safety.<br>(or)              | CO4 K4 |
| 18.b. Infer the major quality control functions in food safety.                             | CO4 K2 |
| 19.a. Explain any three methods of sterilisation to control microorganisms in food.<br>(or) | CO4 K3 |
| 19.b. Explain the methods of disinfection to control microbial growth.                      | CO4 K3 |
| 20.a. Elaborate the FSSAI regulation for milk and milk products.<br>(or)                    | CO5 K4 |
| 20.b. Explain the Steps in HACCP.   | CO5 K4 |

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