

Exam in Microbiological Control Techniques

Name: _____

Exercise N° 1 (5 pts)

You are a quality control officer carrying out a microbiological quality control inspection in a food processing plant producing an industrial fermented food product (sourdough bread). Your mission is to ensure the microbiological safety and quality of the product throughout the production chain.

- 1) Identify the main sampling points along the production chain where microbiological control should be performed.

Raw Material, During Production (critical points), Final Product

- 2) Specify the main microorganisms that should be investigated in a sourdough product during microbiological quality control.

Lactic or acetic bacteria, Bacteria, bacteriophage.....

- 3) Describe the conditions of sampling required to obtain reliable microbiological results.

Sample must be representative, Sampling must be carried out using sterile tools and containers, Samples should be transported rapidly to the laboratory in 4°C.

- 4) List the preliminary microbiological analyses that should be carried out in the quality control laboratory for this product.

Bacterial isolation in plate medium, Gram staining, Observation in the fresh state, Biochemical identification
.....

5) If the objective is to detect minor pathogenic microorganisms such as *Salmonella* or *Shigella*, what is the main laboratory step that must be performed before isolation and identification?

.....**Enrichment step**.....

Exercise N° 3 (8pts) Choose ONE correct answer

- 1) Which of the following practices represents a potential microbiological risk?
- A. Consuming cooked vegetables to preserve nutrients
 - B. Eating raw vegetables irrigated with contaminated water**
 - C. Storing canned foods at room temperature
 - D. Using calibrated thermometers during sampling

- 2) Food hygiene mainly refers to:
- A. Cleaning food contact surfaces only
 - B. Ensuring food safety only at the consumption stage
 - C. All conditions and measures ensuring food safety throughout the food chain**
 - D. Personal cleanliness of food handlers

3) About the temperature measurement during microbiological sampling

- A. The temperature must be measured directly on the withdrawn sample
- B. Any household thermometer can be used
- C. Calibrated thermometers with a defined accuracy must be used**
- D. Temperature measurement is optional during sampling

4) Why is a representative sample essential in microbiological food analysis?

- A. To reduce laboratory analysis time
- B. Because pathogens or toxins may be unevenly distributed in food**
- C. To avoid using sterile sampling tools
- D. Because only one unit is sufficient for analysis

Exercise N° 4 (2,5 pts) Complete the diagram

