Reg. No.



UNIVERSITY OF EMBU

## 2017/2018 ACADEMIC YEAR

## SECOND SEMESTER EXAMINATIONS

## THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MICROBIOLOGY AND BIOTECHNOLOGY

## SBT 317: FOOD MICROBIOLOOGY

#### DATE: APRIL 3, 2018

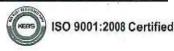
TIME: 2:00 -4:00 PM

**INSTRUCTIONS:** Answer **ALL** Questions from **SECTIONS A** and **B**, and **ONE** Question selected from **Section C**.

SECTION A: Multiple Choice Questions (1 Mark each) Please tick in the box opposite the correct answer.

- 1. Which of the following is not an intrinsic factor for the microbial growth;
  - 🗌 pH
  - □ Moisture
  - Oxidation-Reduction potential
  - □ Temperature
- 2. Which microorganism causes greening of the sausages?
  - $\Box$  Pseudomonas
  - $\Box$  Leuconostoc
  - □ Micrococcus
  - □ Streptococcus

Knowledge Transforms



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 The time temperature combination for HTST pasteurization of 71.7°C for 15 sec is selected on the basis of;

	Coxiella Burnetii	
	C. botulinum	
	E. coli	
	B. subtilis	
4. Which	n of the following requires two types of fermentations for its production?	
	Pickle	
	Yoghurt	
	Vinegar	
	Sausages	
5. A special beer yeast of the top type is;		
	S. cerevisiae	
	S. thermophillus	

- S. carlsbergensis
  None of the above
- 6. Which of the following bacteria genus is used to make yoghurt?
  - Lactobacillus
  - □ Acetobacter
  - Propionibacteria
  - □ Formicillus
- 7. In bread manufacturing, alcoholic fermentation is carried out by;
  - □ Streptococcus thermophillus
  - □ Lactobacillus bulgaricus
  - □ Saccharomyces cerevisae
  - □ None of the above



- 8. The crushed grapes used for wine manufacturing are also known as;
  - □ Wort

 $\{ r_{ij} \}$ 

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- 🗆 Must
- 🗆 Нор
- $\Box$  None of the above

#### 9. A stable food is;

- $\Box$  One that has not spoiled yet
- □ Nonperishable
- $\Box$  One that has had additives added
- $\Box$  All the above
- 10. The main cause of green rot in eggs is?
  - □ Pseudomonas fluorescens
  - □ Micrococcus species
  - $\Box$  Molds
  - $\Box$  All the above
- 11. Botulism is caused by the presence of toxin developed by;
  - □ Clostridium tyrobutyricum
  - □ Clostridium sporogenes
  - □ Clostridium botulinum
  - $\hfill\square$  None of the above
- 12. Which of the following microorganisms is commonly used as probiotics?
  - □ Saccharomyces cerevisiae
  - □ Lactobacillus acidophilus
  - 🗌 Ralstonia eutropha
  - $\Box$  All the above



- 13. Hydrolysis is undergone by which food products;
  - Meat
  - Starchy food
  - □ Fruits
  - $\hfill\square$  All the above
- 14. The chief spoilage organisms on smoked fish are;
  - □ Molds
  - 🗆 Bacteria
  - 🗆 Fungi
  - $\hfill\square$  None of the above

## 15. Lactic acid bacteria include;

- □ Lactococcus lactis
- □ Lactococcus cremoris
- Bifidobacterium
- $\Box$  All the above

## SECTION B: SHORT ANSWER QUESTIONS (5 Marks Each)

## Your answers should be brief and to the point (Use the examination answer book provided)

- 16. Describe the microbial growth cycle in a contaminated food sample.
- 17. Outline the types of spoilage that can occur in raw meat under aerobic condition.
- 18. You have been appointed as a chief quality control officer of a regional wine manufacturing industry. Discuss briefly the mechanisms you would put in place, to ensure that the company produces quality and safe wine as required by the authority.
- 19. Explain the principle behind sauerkraut preparation.
- 20. Give a brief account of the contamination of cereal and cereal products.
- 21. Distinguish between food borne infections and food intoxication.



### SECTION C: ESSAY QUESTIONS (25 Marks Each)

# Write an essay on any ONE of the following topics (Use the examination answer book provided)

- 22. Discuss the common food preservation methods.
- 23. You are appointed as a senior Public Health Officer in your county. Explain how you would investigate a suspected incident of food borne pathogen outbreak.
- 24. Give an account of the microbiology of fruits and vegetables.

#### --END---

