



# FIJI NATIONAL UNIVERSITY

College of Agriculture, Fisheries & Forestry

School of Veterinary Science, Animal Husbandry and Fisheries

Department of Animal Science

Trade Diploma in Animal Husbandry-Year 2

Trimester I Final Examination - 2018

## [AHB 503] – Introduction to Livestock Products Processing

**Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 100**

### INSTRUCTIONS:

1. This paper consists of six pages including two pages Answer Sheet.
2. Please check to see that all your paper is complete.
3. Answer all the Objective Type Questions on the Answer Sheet and Descriptive Type Question in the Answer Booklet only.
4. No written or printed material and mobile phones are allowed in the examination hall
5. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Two Parts. First Part contains Objective Type Questions which is having four Sections – A, B, and C. All questions of this part are compulsory. Second part is Descriptive Type which is having eight (8) questions. Attempt any six questions from this part.

### I. OBJECTIVE TYPE QUESTIONS (40 Marks)

To be answered only on the Answer Sheet.

Section A: Multiple choice (10 Marks)

Section B: True or False (20 Marks)

Section C: Fill in the blanks (10 Marks)

### II. DESCRIPTIVE TYPE QUESTIONS (60 marks)

There are **EIGHT (8)** descriptive type questions provided, please attempt any **SIX (6)** questions only and write on the Answer Booklet. Answer every question from a new page to facilitate evaluation.

## I. OBJECTIVE TYPE QUESTIONS (40 Marks)

### Section A: Multiple choice (10 Marks)

- Which of the following is a key function of FCDCL?
  - make available supplement feed, drugs and farm implements to farmers in order to improve their livelihood through dairy farming
  - provision of technical support in animal health and animal husbandry to farmers
  - subsidization of the cost of farm inputs such as copra, calf milk replacer, mill mix and molasses through bulk purchase
  - all of the above
- When making ice cream, ice cream mixture is cooled to temperatures of approximately \_\_\_\_\_.
  - 5°C
  - 5°C
  - 50°C
  - all of the above
- How many parts of cream with 40% fat and whole milk with 5% fat must be mixed to make milk with 10% fat? Use Pearson square method.
  - 2 parts cream and 5 parts whole milk
  - 1 part cream and 6 parts whole milk
  - 6 parts cream and 1 part whole milk
  - none of the above
- Yoghurt is a dairy product produced by bacterial \_\_\_\_\_ of milk.
  - Homogenization
  - Esterification
  - Freezing
  - Fermentation
- Which of the following method is used to stun animals in an abattoir?
  - knife
  - carbon dioxide
  - oxygen
  - all of the above
- Meat processing involves a wide range of physical and chemical treatment methods. Which of the following is a chemical treatment method?

- A. cutting/chopping/comminuting
- B. salting/curing
- C. stuffing/filling
- D. heat treatment

7. Which of the following is a traditional method of preserving meat?

- A. smoking
- B. drying in wind and sun
- C. salting
- D. all of the above

8. Which of the following machine is used in meat processing?

- A. grinder
- B. butter churner
- C. lactometer
- D. none of the above

9. Sodium chloride /common salt in meat processing \_\_\_\_\_.

- A. inhibits the growth of spoilage bacteria by dehydration and alteration of osmotic pressure
- B. slows down the action of enzymes
- C. reacts with fatty acids to enhance the flavor of the cured products
- D. all of the above

10. Factor considered when grading poultry is \_\_\_\_\_.

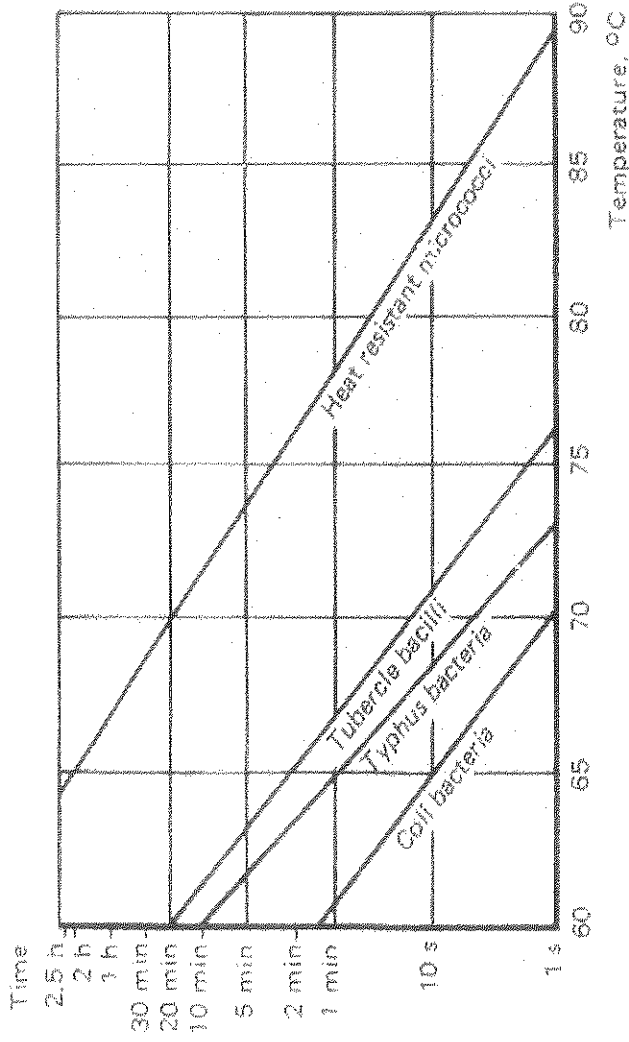
- A. exposed flesh
- B. disjointed or broken bones
- C. missing parts
- D. all the above

**Section B: Write True or False (20 Marks)**

1.	Ghee is made from butter which has been heated and clarified.
2.	Phosphatase test is used to check if milk products with butterfat content above 8% have been properly pasteurized.
3.	Pasteurization is important to kill all pathogenic micro-organisms in milk.
4.	The internal organs that are removed are referred to as stunning.
5.	Stressing of animals before slaughter affects meat quality.
6.	Ultra High Temperature (UHT) is a technique for preserving liquid food products by exposing them to temperatures in the range of 60-70 °C.
7.	High Temperature Short Time (HTST) process involves heating milk to 72 - 75 °C with a 15 second holding time before cooling.
8.	Paneer is an example of a soft cheese.
9.	Khoa is made by completely dehydrating whole milk by continuous applying heat until it becomes solid.
10.	Proteins are unchanged during frozen storage but fats are susceptible to rancidity.
11.	Sodium chloride /common salt inhibits the growth of spoilage bacteria by dehydration and alteration of osmotic pressure.
12.	Pork and poultry meat are not susceptible to rancidity since they are richer in unsaturated fatty acids than other meats.
13.	Ice in meat processing is important to keep the temperature of the meat batter low.
14.	Scalding and dehairing of pigs can be done using water heat to temperatures of around 35°C.
15.	Captive-bolt stunner is used to stun poultry in abattoirs.
16.	Skim milk has 10% butterfat content.
17.	Sodium chloride /common salt contributes to the tenderness of meat product.
18.	Meat is a food which degrades if one does not cure it.
19.	Sausage casings are obtained from animal intestines derived from slaughtering.
20.	Butterfat content in ice cream mixture should be 3%.

**Section C: Fill in the blanks (10 Marks)**

Fig 1.



1. Using fig. 1, write down temperature and holding time for killing the following bacteria species in milk. (8)

	Temperature	Holding time
Coli bacteria	A.....(1)	B.....(1)
Typhus bacteria	C.....(1)	D.....(1)
Tubercle bacilli	E.....(1)	F.....(1)
Heat resistant micrococci	G.....(1)	H.....(1)

2. Two systems for curing entire meat pieces are ..... and ..... (2)

## II. DESCRIPTIVE TYPE QUESTIONS (60 marks)

1. Describe the sources of milk contamination and how you can reduce the risk of contamination. (10)
2. What are the requirements for registered slaughterhouses other than rural slaughterhouses in Fiji? (10)
3. Describe the processes involved in paneer production. (10)
4. Briefly describe the different methods used to stun animals in an abattoir. (10)
5. Describe the refrigeration, handling and transportation of carcasses and meat products. (10)
6. Describe the processes involved in yoghurt production. (10)
7. Why is it important to prepare the livestock well before slaughtering? (10)
8. Describe the standard practices in meat processing technologies. (10)

THE END

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