NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, APPLIED SCIENCES AND NATURAL RESOURCES
DEPARTMENT OF HEALTH SCIENCES

QUALIFICATION : ENVIRONMENTAL HEALTH SCIENCES	
QUALIFICATION CODE: 08BOHS	**LEVEL:** 8
COURSE CODE: FMH 811S	**COURSE NAME:** FOOD AND MEAT HYGIENE 4
SESSION: June 2022	**PAPER:** THEORY
DURATION: 3 HOURS	**MARKS:** 120 marks

FIRST OPPORTUNITY EXAMINATION PAPER	
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MODERATOR:	MS MANORIA NIINGO

INSTRUCTIONS
1. Answer ALL the questions in Sections A and B. Only select one question from Section C. 2. Plagiarism is not allowed.

PERMISSIBLE MATERIALS: NONE

THIS QUESTION PAPER CONSISTS OF 5 PAGES .

SECTION A [20 MARKS]

QUESTION 1 (10 Marks)

1.0 Select the best possible answer.

1.1 The bacteria that can grow during the preservation of salt and sugar. [1]

A. Staphylococcus aureus Correct
B. Salmonella
C. Escherichia coli
D. Typhi
E. Salmonella

1.2 ???.....grows when food is vacuumed while molds don't grow when food is vacuumed. [1]

A. Protozoa
B. Endospores
C. Protozoa Viruses
D. Yeast
E. None of the

1.3 Minimum time and temperatures used for Pasteurization. [1]

A. One hour with 72 Degrees Celsius
B. 20 Seconds with 72 Degrees Celsius
C. 15 Seconds with 72 Degrees Celsius
D. 10 Hours with 72 Degrees Celsius
E. None of the above

1.4 Listeria microorganisms are mainly found in. [1]

A. Kapana (pieces of meat)
B. Boerewors Sausage
C. Mupani worms
D. Salami
E. Lamp chop

1.5 ..... process may kill endospores. [1]

A. UHT and sterilization
B. Washing and cooking
C. Pasteurization and freezing
D. Preservation and pasteurization
E. UV radiation and disinfectants

1.6 To kill most of the microorganisms one should cook food under the following conditions. [1]

A. 121 Degree Celsius for 5 minutes
B. 135 Degree Celsius for 5 minutes
C. 100 Degree Celsius for 1 minute
D. 120 Degree Celsius for 15 minutes
E. 80 Degrees Celsius for 10 minutes

1.7 The most dangerous microorganism finds in yogurt. [1]

A. Listeria monocytes
B. Salmonella
C. Staphylococcus
D. Clostridium Botulinum
E. E. coli

1.8 Sterilization of food can be done under certain conditions. [1]

A. 1 Hour 100 Degrees Celsius
B. 1-5 Min 55 Degrees Celsius
C. 2 Hours 80 Degrees Celsius
D. E.0-5 Min 20 Degrees Celsius
E. 10-15 Min 121 Degrees Celsius

1.9 An example of endospores. [1]

A. Salmonella
B. E.coli
C. Staphylococcus
D. Clostridium Correct
E. None of the above

1.10 The minimum and maximum temperature for microorganisms to grow. [1]

A. -18 Degrees Celsius and 60 Degrees Celsius
B. 3 Degrees Celsius and 37 Degrees Celsius
C. -2 Degrees Celsius and 55 Degrees Celsius
D. 10 Degrees Celsius and 30 Degrees Celsius
E. 5 Degrees Celsius and 25 Degrees Celsius

QUESTION 2 (10 Marks)

2.0 Indicate if the statement is True or False

2.1 Killing all pathogenic microorganisms is called pasteurization. [1]

2.2 Food additives are a wide range of chemical compounds used for different purposes of food processing and storage. [1]

2.3 Inspections are also a part of quality assurance. [1]

2.4 Sterilization is the process of heating milk up and then quickly cooling it down to eliminate certain bacteria. Killing some pathogenic organisms. [1]

2.5 Inspections are also a part of quality assurance.

2.6 Sterilization does not kill all micro-organisms in milk but is intended to kill some bacteria and make some enzymes inactive. [1]

2.7 A contaminant can be defined as any biological or chemical agent foreign matter to other substances not intentionally added to food that may compromise food safety or suitability. [1]

2.8 There are no available treatments for fowl cholera. Nearly all chickens that are infected with the disease bad news is dying swiftly. [1]

2.9 Newcastle Disease: The symptoms are relatively easy to spot. They will stop laying eggs, diarrhoea will probably litter your garden and their face may become inflamed. [1]

2.10 HACCP approach can avoid the false sense of insecure security that is often associated with inspections when hazardous practices are missed during a brief and infrequent visit. [1]

SECTION B [50 MARKS]

QUESTION 3 (20 Marks)

3.1 What is the purpose of the Codex Alimentarius. [3]

3.2 Mention at least five favorable environments for microorganisms to grow or multiply and explain with an example how it multiply. [10]

3.3 Summarise the seven principles of HACCP. [7]

QUESTION 4 (30 Marks)

4.1 Tabled the advantages and disadvantages of a Food factory that is accredited with the ISO 22 000 and one that is not accredited with it. [10]

4.2 Describe the requirements for Labeling According to Codex Alimentarius. [10]

4.3 Prepare health education notes for food handlers on the golden rules for food handlers. [10]

SECTION C: [50 MARKS]

ANSWER ONLY ONE OF THE QUESTIONS IN SECTION C.

QUESTION 5 (50 Marks)

5.1 Elaborate on the procedures that a Port Health Officer should follow and complete before a consignment arrives in Namibia. [25]

5.2 You are appointed by Namibia Standard Institution as an accreditor, The ISO 22000 standard was just adopted, please explain to the factory owners what this standard is all about and why should you acquire it. [25]

OR

QUESTION 6 (50 Marks)

6.1 You are just appointed in district A as the Environmental Health Practitioner. You received a lot of complaints about Shop X. The owner is a very strict and difficult man. Please explain how you will carry out a complete food safety quality control inspection. [30]

6.2 Summarise the following ISO standards (ISO 9000; ISO 14 000; ISO 18 000 and ISO 22 000) by discussing the following topics. [20]

A. Description

B. Focus/aim.

GOOD LUCK