



PROGRAMME : NATIONAL DIPLOMA: ENVIRONMENTAL HEALTH
MODULE : FOOD AND MEAT HYGIENE 111
CODE : FMH 32-1
DATE : 13 NOVEMBER, 2017
DURATION : 180 MINUTES
TOTAL MARKS : 150 MARKS

LECTURER : MS MPINANE FLORY SENEKANE
MODERATOR : MR. CRAIG PILLAY
NUMBER OF PAGES: 5 (FIVE) INCLUDING COVER PAGER

INSTRUCTIONS:

1. CELL PHONES MUST BE SWITCHED OFF OR PUT ON SILENT FACING UPSIDE DOWN ON THE DESK.
2. READ THE QUESTION CAREFULLY BEFORE YOU ANSWER.
3. ANSWER ALL QUESTIONS.
4. WRITE LEGIBLY.
5. LEAVE SPACE BETWEEN ANSWERS
6. FOR LONG ANSWERS, THERE SHOULD BE THREE PARAGRAPHS IN ONE PAGE.
7. INCORRECT NUMBERING OF ANSWERS WILL BE MARKED AS WRONG. REVISE NUMBERING BEFORE SUBMITTING THE ANSWER SHEET.
8. USE BLUE/BLACK INK PENS ONLY TO ANSWER THE QUESTIONS.
9. DO NOT SPLIT THE ANSWERS. ONLY THE FIRST PART OF THE ANSWER WILL BE ALLOCATED MARKS.
10. **KEEP SILENT UNTIL THE END OF ASSESSMENT.** A CANDIDATE WHO BREAKS THIS INSTRUCTION WILL BE DISQUALIFIED.

QUESTION 1

The hazard analysis critical control point (HACCP) is a food safety management system designed to address food safety through the analysis of Physical, chemical and biological hazards. Based on this fact, a team of internal and external experts must be established in order to enable a successful HACCP system in the food establishment. Identify and elaborate on the role of any 10 (ten) team members of the HACCP system in a food manufacturing factory. **[3x10=30]**

QUESTION 2

You are a newly appointed Environmental Health Practitioner that works for the Department of Agriculture, Forestry and Fisheries in the rural areas of Ermelo in Mpumalanga Province. The community notifies your office about the incidences of Brucellosis in the neighboring farms, and, your employer instructs you to act immediately and deal with this matter in such a manner that the community will know and understand this disease. Use the following enlisted factors to plan your action.

- 2.1** What the community should know **(6)**
 - 2.2** Risky farming practices **(6)**
 - 2.3** Auctions and speculations **(6)**
 - 2.4** Responsible seller **(4)**
 - 2.5** Buyers **(3)**
 - 2.6** Zoonosis **(5)**
 - 2.7** Isolation of infected herd **(3)**
 - 2.8** Buying or keeping heifers born from infected cows **(2)**
- [35]**
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QUESTION 3

- 3.1** List any 3 (three) legislative frameworks that are applicable to genetically modified foods and the responsible authorities thereof. **(6)**
- 3.2** Write short notes on the following sections of Meat Safety Act, Act 40 of 2000
 - 3.2.1** Quarantine (Section 81) **(3)**
 - 3.2.2** Handling of condemned materials (Section 118) **(7)**

3.2.3 Importation of meat (section 126) (13)

3.2.4 Exportation of meat (section 125) (6)

[35]

QUESTION 4

State whether or not the following statements are **TRUE OR FALSE** by indicating with the **CAPITAL** letter “**T**” or “**F**”.

4.1 Yeasts are single celled plant organisms that can produce slime on fruit juices and vinegar products and can cause other foods to ferment and thus spoil.

4.2 Ferment production of acid or alcohol by microorganisms that changes the texture, flavour and aroma of food.

4.3 Therefore, foods affected by yeast can give a tingly sensation to the tongue and a slightly acidic flavour.

4.4 Yeasts are unpleasant, but not harmful.

4.5 Storing food correctly is important as it reduces the opportunity for foods to be exposed to conditions that will affect their physical and chemical properties.

4.6 Non-Perishable foods, such as canned foods, should be stored in a clean pantry that is at room temperature and free from any moisture to prevent mould from developing.

4.7 Dry goods, such as cereals and breads, should be stored in airtight containers to stop contamination by insects and rodents.

4.8 Infectious agents are organisms that can be passed to, and between, people in the process of infection transmission.

4.9 Many infectious agents such bacteria, viruses, fungi and protozoa are microorganisms that are too small to be seen with a naked eye.

4.10 The adult stages of disease-causing parasites (e.g. worms) may be seen with the naked eye, but their eggs and immature stages are microscopic.

4.11 Those that cause diseases are often referred to as pathogens (‘pathogenic’ means disease-causing).

4.12 Cold storage includes chilled and frozen storage areas.

4.13 Refrigerators should be operating at or below 5°C, while freezers usually keep foods below -18°C.

4.14 All foods in the refrigerator should be well covered and organised to avoid cross contamination.

4.15 Frozen Foods should be well covered and the air should be released to avoid “freezer burn”

4.16 Storing food correctly is important as it increases the opportunity for foods to be exposed to conditions that will affect their physical and chemical properties.

4.17 Perishable foods, such as canned foods, should be stored in a clean pantry that is at room temperature and free from any moisture to prevent mould from developing.

4.18 Moist goods, such as cereals and breads, should be stored in airtight containers to stop contamination by insects and rodents.

4.19 The growth of microorganisms in food products cannot be affected by *extrinsic factors* and *intrinsic factors*.

4.20 By understanding the factors affecting the growth of microorganisms in food it is not necessary for consumers to know how to keep food safe to eat.

4.21 An abscess is defined as a deficiency of red blood cells in a given volume of blood.

4.22 Arthritis is a condition that occurs due to chronic pathologies and it is characterised by a carcass that does not set.

4.23 Emphysema is an inflammation of the intestinal mucosa in young animals under the age of three months.

4.24 Peritonitis is the inflammation of the outer heart

4.25 Metastasis is the inflammation of the joint which results in conformation changes of articular cartilage.

4.26 Melanosis is the inflammation of one or both kidneys.

4.27 Oedema is an accumulation of an excess air in the interstitial spaces and body cavities.

4.28 Pericarditis is the inflammation of the membrane of the abdomen.

4.29 Pleuritis is the accumulation of air in the thoracic cavity.

4.30 Emaciation is a condition that occurs due to acute pathologies and it is characterized by reduced amount of fat.

[1x30=30]

QUESTION 5

5.1 Identify and discuss four (4) specific important roles of Environmental health practitioner at sea and airports. **(12)**

5.2 Identify and discuss any 4 Four) challenges that South Africa faces in terms of genetically modified foods. **(8)**

[20]

TOTAL = 150 MARKS
