



UNIVERSITY OF LUSAKA

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COURSE: FOOD SAFETY AND TECHNOLOGY

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QUESTION 1: MULTIPLE CHOICE

1. Pathogenic bacteria are associated with food poisoning
2. Using a paper towel
3. 1-4 degrees Celsius
4. By Handling the Open Food You Increase the Risk Of Cross Contamination from the Pathogen from Your Hands to the Food
5. You should only reheat leftovers once
6. False.
7. They cause changes in the taste, smell and texture of the food in which they grow, which can more easily be detected by the consumer
8. Any of the above
9. Lightly cooked egg products
10. Evidence will have to be obtained by the Environmental Health Department to positively prove here you pick up the bug that made you ill
11. None of the above
12. Because germs and bacteria are more easily spread with wet hands
13. Wedding rings
14. None of the above
15. Fresh Eggs
16. Protective clothing cuts the risk of food contamination
17. Tell the supervisor
18. Food contaminated with live pathogenic microorganisms
19. Prevention of defects rather than their detection after they have occurred
20. Provide for not only the positive identification of pathogenic organisms, but also quantification of their numbers per gram.

QUESTION TWO

PRODUCT	ASSOCIATED DISEASE	ASSOCIATED MICROORGANISM
Poultry	-Toxoplasmosis -Avian chlamydiosis	-A bacteria called chlamydia psittaci - protozoa parasite called toxoplasma gondii
Poultry eggs	-salmonellosis	-A bacteria called salmonella
Fish	-Vibriosis -Parasitic meningitis	-Vibrio bacteria -Aeromonas bacteria
Game meat	-Hepatitis E -trichinellosis	-Hepatitis E viruses -Nematodes (round worm) of the genus trichinella
Fresh beef	-anthrax	-salmonella spp -e-coli
Canned foodstuff	-botulism	-Clostridium botulinum bacteria
Cereals	Pneumonia Meningitis	- Bacteria called pseudomonadaceae
Vegetables	-Listeria meningitis -Diarrhea and vomiting	-listeria

QUESTION 3

They are precautions of a food handler that must be taken into consideration in order to minimize the risk of the freezer becoming a source of contamination are;

Ensuring that firstly the freezer is kept at right temperatures. The freezer must also be kept clean at all times using a mild solution of bleach and properly organized to avoid contamination. Cross contamination occurs when food drips from one food to another causing uncontaminated food to also become contaminated. Therefore, food must be stored following the recommended order from top to bottom according to the type of food. Ready to eat foods such as ice cream and cake can be stored on top followed by vegetables and cooked meats. Raw meats should be stored at the very bottom of the freezer. The freezer must not be overloaded because cold air will not circulate properly around the food causing bacteria to begin to breed in the freezer making it a source of contamination.

Raw meat products and dairy products should always be stored in tightly sealed containers to prevent contact with other food items. Raw meat can also be stored by wrapping it properly. Wrapping ensures that the meat products will not drip any fluids to other food items.

QUESTION 4

Hazard analysis and critical control point (HACCP), is a food management control system that aims to proactively identify food safety hazards and comes up with certain steps to reduce or eliminate potential hazards from food production to food consumption. The following are the advantages of the system over traditional methods;

Firstly, the practice, procedures and processes which often lead to outbreak of food borne diseases and epidemiological evidence reviews that factors which lead to these problems are more or less the same across the world. This has called for a

profound rethink of the potential effectiveness and contribution of traditional approaches to food safety control and a more enthusiastic acceptable modern strategy. Therefore, the HCCPA system has proven to be a more reliable method because it can be applied throughout the food chain from primary producer to secondary producer. Aside from enhancing food safety, another advantage of HACCP is that it enables a more effective use of resources and timely response to food problems. The system is proactive meaning that actions can be taken before problems occur. Furthermore, it can be used to identify potential hazards, it is cheap compared to other ways of analysis and it focuses resources on controlling those aspects of the operation that are critical to consumer safety.

Furthermore, the HACCP through traditional control methods is that it aids inspection by food control regulatory authorities and promotes international trade by increasing the buyers' confidence. The HACCP system is also capable of accommodating change such as technological advancements and equipment design.

QUESTION 5

- a) The cream processor violated the stipulated food regulations because the regulation indicated that milk fat content shall contain not less than 35% and the cream processor's milk was less than that, i.e. 30.2%. The cream processor also went against the stipulation of not having more than 100,000 bacterial count per gram as he exceeded the bacterial count to 101,000. According to the Food Safety Act sec11 (1) of the laws of Zambia, where a standard is prescribed and is supposed to meet for any food, a person who labels packages, sells or advertises the food in contravention to the standard, or in a manner that is likely to be mistaken for food according to the standards commits a serious offense
- b) The measures that I would take is not to allow the cream processor to sell the milk to the public because, he violated the food regulation and not complied with the standards. According to section 7 of The Food Safety Act, a person shall not sell, import, export, manufacture or store any food that is unsafe. According to

the data given it is visible to say that the manufactures of the cream did not meet the required the known standards they were supposed to reach in a manner that they failed to use the correct amount of milk fat and bacteria count, hence this is liable to the general punishment or penalty which is stated under sec 62(1) of the Food Safety Act as the food would be unsafe to consume to the general public. Section 62 of the food safety act states that, a person who commits under this act for which a specified penalty is not provided for on conviction is liable to a fine not exceeding three hundred thousand penalty unit or to imprisonment to a term not exceeding three years or both.

REFERENCES

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4. the public health act – Zambia
5. www.microbiologysociety.org – food spoilage
6. www.mayoclinic.com/ bacterial infections