IUFoST Distance Education

Food Hygiene and Basic Food Microbiology (Module 4)
Assignment 2014

Once you have finished reviewing Module 4, you should complete this assignment and submit your answers for marking. All answers are awarded one mark per correct fact given. This assignment is designed to:

- Increase your awareness and understanding of the microbial world.
- Increase your awareness and understanding of the interaction of various microorganisms with foods and their environment and the effect this interaction has on their growth, survival, death as well as their potential to cause food spoilage or foodborne disease.
- Understand the importance of applying good food hygiene practices and how their application can play a significant role in avoiding foodborne disease.

1. Observe any food preparation of your choice that includes a heating process (this may be at home or a local street vendor for example), from use and handling of raw food to cooked food and final serving of the food to the family or consumer.
   a. List at least five examples you can see of bad hygiene practices (5 marks).
   b. Supply alternative good hygiene practices that should rather have been used (5 marks).

2. Observe any food preparation of your choice if you are not employed in the food industry or a food processing operation if you do work in the food industry. List at least two potential contaminants for each of the following groups that could enter or be present in the product at any stage and give two possible sources for each of these contaminants:
   a. Biological contamination (6 marks)
   b. Chemical contamination (6 marks)
   c. Physical contamination (6 marks)

3. Practicing personal hygiene is vital to prevent transfer of foodborne pathogens from humans to food. Conduct some research and list any four microbiological contaminants by name that could be transferred to food from humans due to bad personal hygiene. Also, state what bad practice you think could have led to the transfer of each contaminant listed (example, the parasite Cryptosporidium: not washing hands after visiting the toilet) (8 marks).

4. The term “food safety culture” is used commonly today. Besides training, what else do you think could contribute towards creating a positive food safety culture either at home/street food level or in the food industry, and why? (5 marks).

5. Bacteria “x” can double every 20 minutes under optimum (best) conditions. If an initial contamination level in a food is 20 cells/gram and the food weighs 200 grams, how many bacterial cells would be present in that food after 8 hours if the food presented optimum conditions for bacteria “x”? (4 marks).
6. You are required to conduct a food safety audit on the food hygiene practices implemented by a supplier of one of your products (this can be a raw material such as raw vegetables, raw meat, food ingredients etc or it could be a final product that you may wish to stock and sell). Prepare a checklist of all the food hygiene requirements that you think should be included in such a food safety audit (20 marks).

7. A raw fish is frozen prior to thawing, after which it is served as sushi (fish that is consumed raw).
   a. Do you think that this food is high risk or low risk and why? (2 marks)
   b. Of all the **groups** of pathogenic microorganisms mentioned in the module, which groups do you think could potentially be present before freezing? (3 marks)
   c. Regarding the pathogens you listed in (b) above, what do you think their sources could be? (4 marks)
   d. Of all the **groups** of pathogenic microorganisms mentioned in the module, which of these do you think could potentially be present after freezing and why? (2 marks)

**TOTAL: 76 MARKS**