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University Examinations 2013/2014

SECOND YEAR, SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF
BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY AND BACHELOR OF
SCIENCE IN FOOD SCIENCE AND NUTRITION

AFS 2204: FOOD MICROBIOLOGY I

DATE: DECEMBER 2013

TIME: 2 HOURS

INSTRUCTIONS: Answer questions *one* and any other *two* questions.

QUESTION ONE (30 MARKS)

- a) List five primary sources of micro-organisms in Food. (5 Marks)
- b) Define the following: (14 Marks)
 - i. Food infection
 - ii. Inherent acidity
 - iii. Eh
 - iv. Sterilization
 - v. Proteolytic
 - vi. D-value
 - vii. Hazard
- c) List 5 factors that result in bacterial spoilage of foods. (5 Marks)
- d) List characteristics of an infectious organism. (6 Marks)

QUESTION TWO (20 MARKS)

- a) Define food spoilage. (1 Mark)
- b) List 5 causes of food spoilage. (5 Marks)
- c) Briefly explain the classification of food based on the ease of spoilage. (6 marks)
- d) Explain the following with regard to food spoilage.
 - i. Putrefaction. (4 Marks)
 - ii. Slime production. (4 Marks)

QUESTION THREE (20 MARKS)

- a) What are food borne diseases? (1 Mark)
- b) Distinguish between invasive and non-invasive infectious micro-organisms. (4 Marks)
- c) Briefly discuss the evidence to show that a disease is food borne. (4 Marks)

- d) Discuss coliforms as microbial quality indicator organism. (5 Marks)
- e) Explain 3 ways in which micro-organisms are used in the food industry. (6 Marks)

QUESTION FOUR (20 MARKS)

- a) Explain soil and water as sources of contamination in food. (5 Marks)
- b) Briefly explain four extrinsic parameters that affect growth of micro-organisms (8 Marks)
- c) Discuss the role of pH on growth of micro-organisms (7 Marks)

QUESTION FIVE (20 MARKS)

- a) Define the following: (6 Marks)
 - i. Hazard Analysis Critical Control Point (HACCP)
 - ii. Hazard analysis
 - iii. Critical control point
- b) List the 7 principles of HACCP (7 Marks)
- c) Briefly explain the following:
 - i. Modified atmosphere packaging (4 Marks)
 - ii. Ascetic packaging (3 Marks)