



GRETSA UNIVERSITY - THIKA

**UNIVERSITY EXAMINATIONS
MAY - AUGUST 2018 SEMESTER**

**BACHELOR OF SCIENCE IN HOSPITALITY
MANAGEMENT**

COURSE CODE: BSHM 202

COURSE TITLE: HYGIENE & NUTRITION

DATE: 7 AUGUST 2018

TIME: 8.00 AM – 11.00 AM

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY**.
2. SECTION B: ANSWER ANY OTHER **THREE** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

CAUTION: *All exam rooms are under CCTV surveillance during the examination period.*

SECTION A: COMPULSORY

Question One

Fig. 1 is a photograph of a chef in a modern hotel restaurant. Examine and discuss it in connection with food safety. Use the following sub-headings:

- a) The dress code; [4 marks]
- b) Food handling Equipment [4 marks]
- c) Food handling utensils [4 marks]
- d) Conditions of holding cooked foods; [4 marks]
- e) The Chef is at the service point: state how else from this point, the food can be contaminated with pathogens, apart from those directly from the Chef; [4 marks]
- f) Which of the following food pathogens are likely to be transmitted by such a Chef, if care is not taken: [4 marks]
 - i) *Salmonella typhimurium*;
 - ii) *Staphylococcus aureus*
 - iii) *Streptococcus pyogenes*
 - iv) *Escherichia coli*
 - v) *Aspergillus flavus*
- g) List the **four (4)** common symptoms of the illness caused by food borne pathogens; [4 marks]
- h) Explain how one could tell whether the illness is an infection or an intoxication [4marks]
- i) State and explain the conditions under which food borne illness can be fatal to some consumers; [4 marks]
- j) State and justify why ORT is the immediate treatment/management measure usually recommended for victims of food borne poisoning. [4 marks]

SECTION B: ANSWER ANY THREE QUESTIONS

Question Two

Explain the role/purpose of the following in the process of cleaning. In each case state and explain the correct/recommended practice:

- a) Water; [5 marks]
- b) Detergent [5 marks]
- c) Temperature [5 marks]
- d) The nature of surface to be cleaned [5 marks]

Question Three

The increase in the population of a bacterial population in a contaminated food can be described by the equation:

$$N_t = N_o \times 2^n$$

- a) Explain the terms: N_o , N_t , 2 and n [5 marks]
- b) State and explain **five (5)** food handling practices which are intended to minimize the rate at which pathogenic bacteria multiply in foods. [5 marks]
- c) Microbiological examination of a contaminated food showed that the density of the contaminating bacterium after storage at room temperatures for 4 hours was 10^{10} cells/gm. of food. The food contained only 1000 cells of the organism/gm immediately after cooking., Determine the generation time (g-value in min.) of this bacterium, given that $\text{Log } 2 = 0.3010$. [5 marks]
- d) Name factors which define the concept: “quality food”. [5 marks]

Question Four

The following are common food items in our diet:

Bread, maize, potatoes, sugar, butter, margarine, cheese, oils, meat, fish, milk, beans, green grams, arrow roots, eggs, vegetables, oranges, water.

- a) Arrange these foods into categories according to the **major function** they fulfill in the body; [5marks]
- b) Energy supply; [5marks]
- c) Growth and repair; [5marks]
- d) Control of internal body processes [5marks]

Question Five

In connection with human nutrition:

- a) Define the term “Protein”, and give four (4) examples of protein foods; [5 marks]
- b) State **five (5)** signs of manifestations of protein deficiency known as “Kwashiorkor” [5marks]
- c) Describe the signs or symptoms of “Marasmus” and distinguish it from “Kwashiorkor”. [5marks]
- d) State the functions of protein in nutrition; [5 marks]