



FACULTY OF CULINARY ARTS

FINAL EXAMINATION

Student ID (in Figures) :

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Student ID (in Words) : _____

Course Code & Name : **CUL2023.v2 Food Preservation & Toxicology**
Semester & Year : May _ August 2024
Lecturer/Examiner : Wan Ruzanna Wan Ibrahim
Duration : 3 Hours

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 2 parts:
PART A (70 marks) : SEVEN (7) short answer questions. Answers are to be written in the Answer Booklet provided.
PART B (30 marks) : Answer ALL essay question. Write your answers in the Answer Booklet(s) provided.
2. Candidates are not allowed to bring any unauthorized materials except writing equipment into the Examination Hall. Electronic dictionaries are strictly prohibited.
3. This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.
4. Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple choice questions, where 2B pencils are to be used.

WARNING: The University Examination Board (UEB) of BERJAYA University College regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College.

Total Number of pages = 4 (Including the cover page)

PART A : SHORT ANSWER QUESTIONS (70 MARKS)

INSTRUCTION(S) : Answer **SEVEN (7)** short answer questions. Write your answers in the Answer Booklet(s) provided.

1. Explain **FIVE (5)** basic factors of bacteria growth and how it contributes to food spoilage (10 marks)
2. List down and explain **FIVE (5)** importance of food preservation. (10 marks)
3. List **TWO (2)** possible fermented products that can be produced from the following food commodities:
 - a. Meat
 - b. Grains
 - c. Vegetables
 - d. Fruits
 - e. Milk(10 marks)
4. Differentiate between rapid freezing (blast freezer) and slow freezing (normal freezer) methods. (10 marks)
5. People often assume that unpleasant reaction to a food is due to an allergy. The majority of cases suspected food allergies turn out to be due reactions called “food intolerances”.
 - a. Differentiate between food allergy and food intolerance (6 marks)
 - b. List down **TWO (2)** foods or food substance that will cause unpleasant reaction for each food allergy and food intolerance. (4 marks)
6. Oxygen always associates as a factor on bacterial growth. In most cases, bacteria require oxygen to grow because their methods of energy production on the transfer of electrons that causes reaction on food products.
 - a. Describe **TWO (2)** effects of spoilage cause by oxygen. (4 marks)

- b. Explain **THREE (3)** methods in food processing that can be used to prevent spoilage due to oxygen. (6 marks)
7. Hurdle technology involves several factors to preserve food with the aim to give safety from microbial spoilage and retains the nutritional quality of food. Explain this statement by using an example of salami fermented sausage food. (10 marks)

END OF PART A

PART B : ESSAY QUESTIONS (30 MARKS)

INSTRUCTION(S) : Answer **ALL** essay questions. Write your answers in the Answer Booklet(s) provided.

1. Food processing is the transformation of raw ingredients, by physical or chemical means into food, or of food into other forms. Food processing combines raw food ingredients to produce marketable food products that have longer shelf-life and can be easily prepared and served by the consumers.
 - a. Analyze **FIVE (5)** usages of food additives and preservative in the food industry. (10 marks)
 - b. List **FIVE (5)** common food-processing techniques with brief explanation on how these techniques will promote longer shelf-life in food product and reduce foodborne illnesses. (10 marks)

2. As a part-time food technology consultant you are being approached by a company representative seeking for your advice on how to preserve passion fruit. Propose **FOUR (4)** most appropriate preservation methods to preserve the fruit. Justify your answer for each method chooses. (10 marks)

END OF EXAM PAPER