



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 : September - December 2023
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 why it is important to study or know the water activity of a product prior to storage?

(5 marks)

2. Food spoilage defined as any change that renders food unfit for human consumption. These changes may be caused by various factors, including contamination by microorganisms, infestation by insects, or degradation by endogenous enzymes (those present naturally in the food).

Food preservation has been introduced in food processing technique since 12000 B.C and still become relevant until today.

List down and explain **FIVE (5)** importance of food preservation.

(10 marks)

3. Recommend possible combination of hurdles used in order to preserve the following products.

- a. Dry salted fish
- b. Canned tomato sauce
- c. Fruit juice
- d. MRE energy bar
- e. MRE nasi lemak and beef rendang

(10 marks)

**MRE = Meal, Ready to Eat*

4. 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)

5. The inhibition of microbial growth is one of the principles of food preservation. Discuss **FIVE (5)** parameters that can use to slow down or inhibit the growth of the bacteria. (10 marks)
6. Differentiate between rapid freezing (blast freezer) and slow freezing (normal freezer) methods. (10 marks)
7. The controversy regarding on food additive and preservative become prevalent in most developing country. Even with list of continuous numbers of food additive and preservative been approved by the Food, Drug & Administration (FDA) as safe to be consume, and numbers of research been done prior to the statement, it still not able console the community toward the usage of it in food processing.
- a. Define food additive and preservative. (5 marks)
- b. Discuss **FIVE (5)** each positive and negative attributes of food additive and preservative toward food processing and human health. (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. Robert wanted to prepare a banana fruit candy as part of the ingredients in his newly developed breakfast cereal. After preparation, the candy will be dried in the cabinet drier.
 - a. Describe food dehydration. (5 marks)
 - b. State **TWO (2)** alternative pre-treatment steps that could be performed by Robert in order to obtain a good quality dried fruit candy. (5 marks)
 - c. Discuss the factors that he should consider when drying the candy in the cabinet drier. (10 marks)
 - d. List **FIVE (5)** quality defects he may encounter when using the cabinet drier to dry the fruit candy. (10 marks)

END OF EXAM PAPER