



**FACULTY OF CULINARY ARTS**

**FINAL EXAMINATION**

Student ID (in Figures) : 

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Student ID (in Words) : \_\_\_\_\_  
 \_\_\_\_\_

Course Code & Name : **CUL2023.v2 Food Preservation & Toxicology**  
 Semester & Year : September - December 2021  
 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 ONE (1) 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. Describe **TWO (2)** ways how each of the following factors can contribute to food spoilage.  
a. moisture  
b. oxygen  
c. temperature  
d. enzyme  
e. pH level  
(10 marks)

3. Recommend a suitable food preservation technique to solve the problem encountered in each of the following food ingredients or food events:  
a. dark brown color on the banana skin  
b. fresh squeeze green apple juice turning into a brown color  
c. over produce of tomato during summer  
d. fresh milk that only able to last within 24 hours in room temperature  
e. over stock on fresh fruits and vegetables due to economic restriction  
(10 marks)

4. 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)

5. You are required to preserve 50kg of freshwater fish using any types of preservation technique/ methods. Justify by providing reasons on the technique of preservation you will apply.  
(10 marks)

6. Freezing is the easiest, most convenient and least time-consuming method of preserving foods. In food processing, method of preserving food is aided by lowering the temperature to inhibit microorganism growth.

a. Explain the effects of freezing on physical changes in food (5 marks)

b. Briefly discuss **FIVE (5)** factors affecting the quality of frozen food. (10 marks)

7. The controversy regarding on food additive and preservative become prevalent in most developing country. Even with list of continue 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.

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 **ONE (1)** essay question. Write your answers in the Answer Booklet(s) provided.

---

1. You are currently working as a researcher in a food company. You are required to produce a product based on local fruits. The food product should have a shelf life of at least 1 year and you are allowed to use any preservation technique. Your product should be marketable and saleable in shops .Your task includes:
- a. Choose **ONE (1)** local fruit and create a product based on the item. (2 marks)
  - b. State reasons why you chose the local fruit and why you decided to produce the food product? (8 marks)
  - c. State the recipe (ingredients and method) and justify which preservation technique(s) you used and state your reason why you decided to choose that technique. (10 marks)
  - d. Discuss at least **FIVE (5)** positive and negative impacts as a result the techniques chosen. (10 marks)

**END OF EXAM PAPER**