



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2023/2024**

COURSE NAME : FOOD SAFETY AND QUALITY  
ASSURANCE

COURSE CODE : BWD 22503

PROGRAMME CODE : BWD

EXAMINATION DATE : JULY 2024

DURATION : 2 HOURS AND 30 MINUTES

INSTRUCTIONS :

1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA  
 Open book  
 Closed book
3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

- Q1** Food safety and quality are paramount considerations in the food industry, ensuring that food products are safe, wholesome, and meet regulatory standards.
- (a) Describe the concept of food quality and safety, emphasizing their importance in the food industry.  
(4 marks)
- (b) Describe how food safety and quality analysis methods contribute to ensuring the integrity of food products and safeguarding public health and list **FOUR (4)** examples of analytical techniques used to assess food safety and quality.  
(8 marks)
- (c) Describe the strategies that can be implemented to maintain food safety and quality standards, considering the precise directives and guidelines outlined by Malaysian authorities.  
(8 marks)
- Q2** You hold the position of a quality manager at a medium-sized food processing company. Recently, your company has experienced increased customer complaints about product quality issues, such as inconsistent taste and texture. Additionally, regulatory authorities have raised concerns regarding the adequacy of your QMS in ensuring compliance with food safety standards.
- (a) In this scenario, analyze how you would evaluate the existing Quality Management System (QMS) and pinpoint areas requiring enhancement to tackle customer complaints and regulatory issues.  
(10 marks)
- (b) As the quality manager, you are tasked with improving employee engagement and commitment to quality management within a food manufacturing facility. Discuss how would you apply your knowledge of QMS principles to foster a culture of continuous improvement and accountability.  
(10 marks)
- Q3** You hold the position of a quality assurance manager at a medium-sized food manufacturing company specializing in canned goods. Recently, during a routine inspection by the food safety regulatory authority, several deviations from Good Manufacturing Practices (GMP) standards were identified in the production facility. These deviations include inadequate sanitation procedures, improper storage of raw materials, and insufficient documentation of quality control measures. Consequently, the company faces the risk of regulatory penalties and reputational damage.
- (a) In view of the deviations from GMP standards identified during the recent inspection, recommend actionable measures to correct the deficiencies and improve GMP compliance in all production processes.  
(10 marks)

- (b) Given the deviations from GMP standards found during the recent inspection, analyze the integration of the prerequisite programs with the Hazard Analysis and Critical Control Points (HACCP) plan.

(10 marks)

- Q4** The production manager at Company Z oversees the quality of the production process, particularly regarding the accuracy of filling 16 ounces of fruit juice. Concerns have arisen about the consistency of this operation, which is intended to achieve a fill level of  $16.00 \pm 0.30$  ounces. The company has gathered the sample data presented in **Table Q4.1**. Utilizing Statistical Process Control (SPC), the value  $A_2$  is 0.31, assess whether the process mean and range are within statistical control. Additionally, determine if this process is capable of meeting the designated standard.

**Table Q4.1**

Sample	Observation (ounces)			
	1	2	3	4
1	16.40	16.11	15.90	15.78
2	15.97	16.10	16.20	15.81
3	15.91	16.00	16.04	15.92
4	16.20	16.21	15.93	15.95
5	15.87	16.21	16.34	16.43
6	15.43	15.49	15.55	15.92
7	16.43	16.21	15.99	16.00
8	15.50	15.92	16.12	16.02
9	16.13	16.21	16.05	16.01
10	15.68	16.43	16.20	15.97

(20 marks)

- END OF QUESTIONS -