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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2015/2016**

COURSE NAME : FOOD PROCESSING TECHNOLOGY I  
COURSE CODE : BWD 21003  
PROGRAMME : 2 BWD  
EXAMINATION DATE : JUNE / JULY 2016  
DURATION : 3 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1**
- (a) Give **THREE (3)** main methods of coating foods. (3 marks)
  - (b) Explain **TWO (2)** types of enrobers used in coating process. (4 marks)
  - (c) Why do you think it is important to coating biscuits with chocolate? Discuss **FOUR (4)** reasons. (8 marks)
  - (d) Soft coating and hard coating are two of the main types of pan-coated products. Outline **THREE (3)** comparisons between soft and hard coatings. (6 marks)
- Q2** Pineapple pie could be preserved by freezing. The vegetables contained in the porridge are carrot, broccoli and green peas.
- (a) Describe how the process of freezing can preserve the pineapple pie for future use. (4 marks)
  - (b) Outline **TWO (2)** differences in the physical, sensory and chemical properties of the pineapple pie in comparison with the pie before it was frozen. (12 marks)
  - (c) You are assigned to select an appropriate freezer to freeze the pineapple pie. There are three types of freezers, which are plate, blast, and fluidised-bed freezers to be chosen. Which freezer is more suitable for freezing your food product? How would you justify your preference? (7 marks)
  - (d) You might choose to use the cook-chill or cook-freeze processing method in the production of the pineapple pie. In order to choose the best method, outline **THREE (3)** comparisons between cook-chill and cook-freeze. (6 marks)
- Q3** A take-away food consisting of a savoury vegetable filling in a batter coating is prepared from wheat flour, water, potato, broccoli, carrots, chicken, salt and spices.
- (a) The food might be cooked using shallow or deep fat frying method. Outline **TWO (2)** comparisons between shallow and deep fat frying. (4 marks)
  - (b) Food frying systems include continuous processing and batch production. Outline **TWO (2)** comparisons between these two systems in the production of the food products. (8 marks)

- Q4** Cosy Café is a new café opening in early September. The café will focus on serving delicious and healthy dinners for casual dining. The menu will be emphasised on fresh, high quality and well-presented food. Vegetarian choices will be available. The café also wants to make a feature of preserved foods so that there is variation in texture and flavours.
- (a) Identify **THREE (3)** preserved food items that can be prepared in the café using each chilling and freezing technique. (6 marks)
- (b) Outline how each food item in (a) could be used in a meal for customers. (6 marks)
- (c) Equipment for chilling are mechanical refrigerators and cryogenic systems. Outline **TWO (2)** comparisons of mechanical refrigerators and cryogenic systems. (4 marks)
- Q5** (a) If you are given 300 g of mashed pineapple in a bowl and 150 g of fine sugar, describe how would you cook those materials using a microwave? Predict the outcomes of your cooked product. Your outcomes should include type of final food product, and physical, chemical and sensory qualities. (10 marks)
- (b) High pressure processing of foods is a novel nonthermal processing technology by using high hydrostatic pressure in order to pasteurise foods. Why do you think in-container processing is better than bulk processing? Explain **FOUR (4)** reasons. (8 marks)
- (c) Microorganisms can be inactivated using pulsed electric field processing to extend the shelf life of foods while retaining their sensory characteristics and nutritional value. Explain how pulsed electric field processing could destroy *Aspergillus niger* at concentrations of  $10^5$  CFU per gram. (4 marks)

- END OF QUESTIONS -