

KOLEJ UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF APPLIED SCIENCES

ACADEMIC YEAR 2019/2020

SEPTEMBER EXAMINATION

AAFS2314 INTRODUCTORY FOODS

TUESDAY, 17 SEPTEMBER 2019

TIME: 2.00 PM – 4.00 PM (2 HOURS)

DIPLOMA IN FOOD SCIENCE

**Instructions to Candidates:**

Answer ALL questions. All questions carry equal marks.

**AAFS2314 INTRODUCTORY FOODS****Question 1**

- a) There are three classes of natural sweeteners, namely granulated sugar, syrup and sugar alcohol.
- (i) List **THREE (3)** functions of sweetener in bakery products. (3 marks)
  - (ii) Name **ONE (1)** syrup that is commonly used in carbonated drink. (2 marks)
  - (iii) Sugar alcohol *X* is widely used to give mint flavor to confectionery. What is sugar alcohol *X*? (2 marks)
- b) Briefly describe the process to produce crystalline candy. (8 marks)
- c) Rice grain must be cooked before eating.
- (i) Discuss **THREE (3)** factors that affect cooking time of rice grain. (6 marks)
  - (ii) Water must be added during rice cooking. Describe **TWO (2)** functions of water. (4 marks)
- [Total: 25 marks]

**Question 2**

- a) Spinach turns into dull brownish green color after 15 minutes stir frying in a hot pan.
- (i) Provide **ONE (1)** possible cause of this change. (2 marks)
  - (ii) Propose **TWO (2)** strategies to avoid this change. (4 marks)
  - (iii) Besides color change, discuss another **THREE (3)** possible changes in spinach. (6 marks)
  - (iv) Suggest **ONE (1)** suitable cooking method to retain maximum nutrients, color, flavor and textural quality of spinach. (2 marks)
- b) Fruit juice is a beverage contains 100% of natural liquid extracted from fruits.
- (i) Briefly describe the process flow of fruit juice manufacturing. (8 marks)
  - (ii) About 30% of water is mixed with 70% of fresh juice to produce fruit juice at lower cost. In your opinion, is this an ideal strategy to reduce the production cost of fruit juice manufacturing? Justify your answer. (3 marks)
- [Total: 25 marks]

**AAFS2314 INTRODUCTORY FOODS****Question 3**

- a) Explain the occurrence of rigor mortis that leads to the contraction of muscles of cattle. (6 marks)
- b) List **FOUR (4)** factors that affect the tenderness of meat. (4 marks)
- c) What are the purposes of aging process after a bull is being slaughtered? (2 marks)
- d) Why drumsticks of chicken cannot be stored as long as chicken breasts? (3 marks)
- e) Describe how trisodium phosphate aids in reducing Salmonella contamination on poultry. (4 marks)
- f) State **FOUR (4)** ways to determine the doneness of a fish. (4 marks)
- g) What are the proper ways to store a fish in a refrigerator? (2 marks)
- [Total: 25 marks]

**Question 4**

- a) List **TWO (2)** reasons why tap water cannot be used in soft drinks production. (2 marks)
- b) Compare **TWO (2)** differences between beer, wine and spirits. (6 marks)
- c) (i) Why should you grind roasted coffee beans before brewing? (2 marks)
- (ii) Explain **TWO (2)** reasons why boiling water should be avoided for coffee brewing. (4 marks)
- d) List **THREE (3)** major constituents, other than water, in a cup of tea. (3 marks)
- e) (i) Describe **FOUR (4)** steps of chocolate production. (4 marks)
- (ii) What are the **TWO (2)** constituents in chocolate that could produce a stimulating effect? (2 marks)
- (iii) Give **TWO (2)** problems that may result from improper storage of chocolate. (2 marks)
- [Total: 25 marks]