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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2012/2013**

COURSE NAME : INTRODUCTION TO FOOD
SCIENCE AND TECHNOLOGY

COURSE CODE : BWD 10303

PROGRAMME : 1 BWD

EXAMINATION DATE : DECEMBER 2012/JANUARY 2013

DURATION : 3 HOURS

INSTRUCTION : ANSWER **ALL** QUESTIONS IN
SECTION A AND ONE (1)
QUESTION IN **SECTION B**

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

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SECTION A

Q1 (a) List five consumer rights.

(5 marks)

(b) Egg is valued as one of the most nutritious food available and has been staple food since the earliest civilization. The structure of an egg is made up of five main parts. Describe briefly all of them.

(5 marks)

(c) There have been controversies concerning the benefit and risk of genetically modified food (GM Food). Analyze the potential benefit and potential risk of GM Food.

(10 marks)

Q2 (a) Protein is composed from chains of amino acids joined by peptide bond which give the structure of protein.

(i) Give two examples structure of protein which contains more than one polypeptide chain in its structure.

(ii) Apply the functional properties of protein in the production of bread.

(4 marks)

(b) Illustrate the role of ATP in linking anabolic and catabolic reactions.

(6 marks)

(c) Differentiate between unsaturated and saturated fats.

(10 marks)

- Q3** (a) Explain briefly the four major aims of food processing. (4 marks)
- (b) Malaysia produces varieties of banana. Some varieties can be processed to banana flour as a by products. Illustrate with a flowchart diagram the process and units operation involved in the production of banana flour. (6 marks)
- (c) Outline briefly the nine points to be considered prior to the establishment of a food industry. (10 marks)
- Q4** (a) Explain the **FOUR** causes of world hunger. (4 marks)
- (b) What is the difference between protein energy malnutrition and micronutrient deficiency. (4 marks)
- (c) The government has enacted food laws and regulations designed to ensure foods are fit for human consumption. Distinguish between Food Act 1983 and Food Regulation 1985. (6 marks)
- (d) The food industry has both legal and moral responsibilities for providing customers and consumers with food that meet all established quality and safety requirement. Construct a quality program and quality system that can be applied in the food industry. (6 marks)

SECTION B

Q5 (a) Differentiate between cleaning and sanitizing.

(5 marks)

(b) Plan a healthy menu for whole day complete with the size serving based on the Food Guide Pyramid in **FIGURE Q5(b)**.

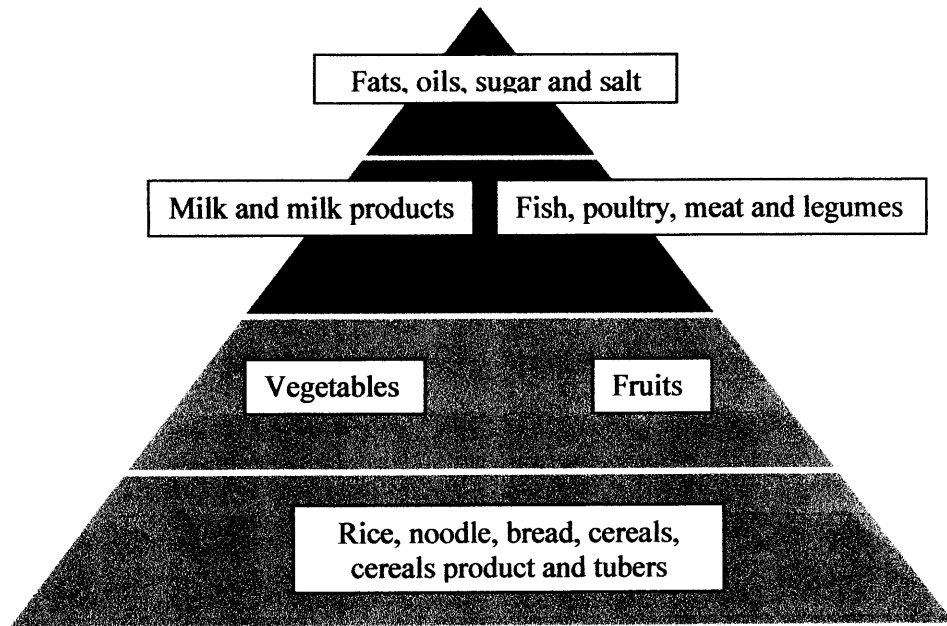


FIGURE Q5(b)

(10 marks)

(c) Relate socioeconomic status influences on obesity.

(5 marks)

Q6 (a) Compare the differences between pasteurization and sterilization which are commonly used in food processing.

(5 marks)

(b) Evaluate the positive and negative impacts of food processing.

(5 marks)

(c) You are involved in cattle rearing farm to produce small scale milk production. Propose the **FOUR** unit process involved in milk preservation.

(10 marks)