KYPJ
KOLEJ YAYASAN
PELAJARAN JOHOR

KOLEJ YAYASAN PELAJARAN JOHOR
FINAL EXAMINATION

COURSE NAME	:	FOOD NUTRITION
COURSE CODE	:	DCA1073
EXAMINATION	:	JUNE 2023
DURATION	:	3 HOURS

INSTRUCTION TO CANDIDATES

1. This examination paper consists of **THREE (3)** :   PART A (30 Marks)

    PART B (40 Marks)

    PART C (30 Marks)

2. Candidates are not allowed to bring any material to examination room except with the permission from the invigilator.

3. Please check to make sure that this examination pack consist of:

    i.   Question Paper

    ii.   Objective Answer Paper

    iii. Answer Booklet

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

This examination paper consists of 13 printed pages including front page

© Hak cipta Kolej Yayasan Pelajaran Johor

PART A

MULTIPLE CHOICE QUESTIONS

This part consists of **THIRTY (30)** questions.

Answer ALL in Objective Answer Paper.

1. Hydrogenation is a process of adding hydrogen atoms to carbon atoms in oil. What is the product that applied the hydrogenation practice in food industry?

   A   Butter

   B   Cheese

   C   Margarine

   D   Mayonnaise

2. Which digestive system organ in humans is involved in insulin secretion?

   A   Lungs

   B   Kidneys

   C   Stomach

   D   Pancreas

3. Which of the following belongs to disaccharides?

   A   Fibre

   B   Maltose

   C   Starches

   D   Galactose

4. The four characteristics of a nutritious diet are adequate, balanced, moderate and

   _____.

   A   diet

   B   varied

   C   calories

   D   energy out

5. What are nutrients?

A The energy needed to digest and absorb foods.

B Measurement unit of energy produced by foods.

C Nourishing substances in foods that provide energy.

D The minimum energy needed by the food for vital function.

6. Based on Healthy Eating Plate for creating healthy and balanced meals, half of Healthy Eating Plate should consist of what kind of food?

A Protein

B Whole grains

C Protein and fruits

D Fruits and vegetables

7. What is the process of turning the colour of sugar brown when exposed to heat known as?

A Radiation
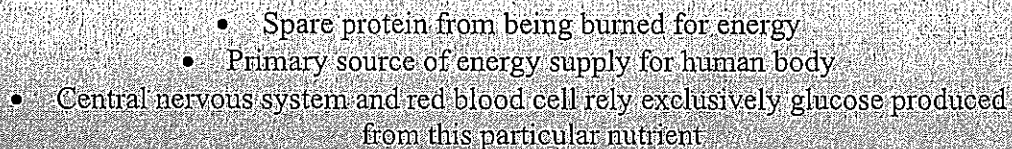
B Coagulation

C Gelatinization

D Caramelization

- Spare protein from being burned for energy
- Primary source of energy supply for human body
- Central nervous system and red blood cell rely exclusively glucose produced from this particular nutrient

Figure 1

8. Figure 1 had shown some information about a certain macronutrient. What is the macronutrient in Figure 1 referring to?

A Lipid

B Protein

C Carbohydrate

D Essential amino acid

9. How many proteins needed for the newborn?

   A   9.1 grams per day

   B   1.1 grams per one kilogram (kg) of body weight

   C   1.0 grams per one kilogram (kg) of body weight

   D   2.0 grams per one kilogram (kg) of body weight

10. In Food Guide Pyramid, one (1) serving size equals to_____.

   A   150 gm or 1 cup

   B   228 gm or 1 cup

   C   250 gm or ¼ cup

   D   300 gm or 2 cups

11. Which of the following is **NOT** a source of fibre?

   A   Fish

   B   Fruits

   C   Vegetables

   D   Cereal grains

12. What are disaccharides?

   A   Sugar naturally produced in foods.

   B   Long chain of glucose linked together.

   C   Two or more monosaccharide units in carbohydrates linked together.

   D   Type of carbohydrates that cannot be digested and absorbed by the body.

13. Which of these following is the best way in storing nuts?

   A   Vacuum pack the nuts.

   B   Wrap the nuts with paper.

   C   Storing the nuts in airtight container and put it in the freezer.

   D   Storing the nuts in airtight container and leave it on the shelf.

14. Which one is the Body Mass Index (BMI) for Jonathan who weighted 60kg and heighted 167cm?

    A Normal

    B Obesity

    C Overweight

    D Underweight

15. Which food contains complete protein?

    A Lamb

    B Natto

    C Tempe

    D Vegan shrimp

16. What is type of sugar that can be found in milk and dairy produces?

    A Fibre

    B Starch

    C Disaccharide

    D Monosaccharide

17. What is the normal range for human body temperature?

    A 35°C and below

    B 36.1°C - 37.8°C

    C 38°C and above

    D 40.5°C – 45.5°C

18. Which of the vitamin is important for nerve function?

    A Thiamin

    B Riboflavin

    C Vitamin B6

    D Panthothenic acid

19. Which way is a good practice to preserve vitamins in food?

    A Maximize reheating foods.

    B Keep fruits and vegetables in freezer.

    C Use frozen rather than canned fruits and vegetables.

    D Adding baking soda to the washed vegetables before storing.

20. What is the important source of vitamin C to the human body?

    A Vegetables

    B Citrus fruits

    C Dairy produces

    D Fish and shellfish

21. Which of the following are included in essential amino acids?

    A Histidine

    B Asparagine

    C Aspartic acid

    D Glutamic acid

22. Which is one of the impacts from too little protein to human body?

    A Kwashiokor

    B Heart attack

    C Hypertension

    D High sugar level in blood

23. The process of denaturation could be either coagulation and uncoiling the bond between protein. What is the main cause for protein to denaturise?

    A Fraction

    B Pressure

    C Toxication

    D High temperature

24. How many blocks of amino acids are needed to form complete protein?

    A 20

    B 30

    C 40

    D 50

25. Which of these are the types of bottled water?

    i. Well water

    ii. Spring water

    iii. Artesian well

    iv. Mineral water

    A i, ii, iv

    B i, ii, iii

    C ii, iii, iv

    D All of the above

26. Why do people accumulate excess body fat?

    A Genetic

    B Physiological problem

    C Psychological problem

    D Increasing household income

27. What is hunger?

    A The feeling of fullness after meal.

    B The painful sensation caused by lack of food.

    C The integrated response to the sight, smell, taste of food.

    D A rate at which body expends energy for life sustaining activities.

28. Define the term of Basal Metabolic Rate (BMR)?

    A The method of measuring degree of classification of weight.

    B The rate of gastrointestinal tract speeds up rhythmic contraction.

    C The rate at which the body expends energy for life sustaining activities.

    D Proportions of muscle, bone, fat and other tissue that make up person's weight.

29. These following are plant sources for protein **EXCEPT**?

    A Grains

    B Legumes

    C Nuts and seeds

    D Green vegetables

30. Calculate the recommended dietary allowance (RDA) for protein for Isaac who's aged 30 years old and weighted 75kg daily?

    A 60 grams

    B 110 grams

    C 130 grams

    D 150 grams

[30 MARKS]

PART B

This part consists of **SEVEN (7)** questions.

Answer ALL questions in the Answering Booklet.

QUESTION 1

Calorie intake is determined by several factors, including age and level of activity. Most women require 1,600-2,400 calories per day to maintain their weight. While, most men require 2,000-3,000 calories per day.

    a. Define calories.

(1 marks)

    b. By referring to the food guide pyramid, recognize **five (5)** ways to stay healthy mentally and physically.

(5 marks)

QUESTION 2

A nutrient is a substance that such an organism requires in order to survive, grow, and reproduce. Not only human being, but also animals, plants, fungi, and protists are all required to ingest dietary nutrients.

    a. List down **four (4)** types of nutrients with example.

(4 marks)

    b. Briefly explain the characteristics of nutritious diet.

(4 marks)

QUESTION 3

Protein is found throughout the body, in muscle, bone, skin, hair, and virtually every other body part or tissue. It makes up the enzymes that power many chemical reactions and the hemoglobin that carries oxygen in your blood.

a. Name **two (2)** sources of protein with example.

(2 marks)

b. Based on your understanding about protein, differentiate between **two (2)** conditions of denaturation of protein with example.

(4 marks)

QUESTION 4

Lipid is the chemical name for a group of compounds than includes fats, oils, cholesterol and lecithin. Fats and oils are the most abundant lipids in nature and are found in both plants and animals. Lipid is customarily called a fat, if it is a solid at room temperature, and an oil, if it is a liquid at that temperature.

a. Define rancidity and give an example from rancidity occurance.

(2 marks)

b. List down **four (4)** functions of lipids to human body.

(4 marks)

QUESTION 5

Body weight is a major influence of health throughout life. Maintaining a normal body weight can lower the risks for many conditions. Obese and overweight people are more prone to illnesses and conditions such as diabetes, hypertension, heart diseases, gall bladder diseases and osteoarthritis.

a. Ismail weighted 120kg and heighted 165cm. Identify ways for Ismail to maintain his Body Mass Index (BMI) at normal rate.

(2 marks)

b. Briefly explain **two (2)** aggressive treatments Ismail can take to overcome his problem due to his weight.

(4 marks)

QUESTION 6

Dehydration happens when the body doesn't have as much water as it needs. Without enough, body can't function properly. One can have mild, moderate, or severe dehydration depending on how much fluid is missing from body.

a. Name **three (3)** symptoms of dehydration.

(3 marks)

b. How can someone who showed an early sign of dehydration overcome the problem?

(2 marks)

QUESTION 7

In metabolic reactions, the cells of the body use oxygen. During this process, oxygen occasionally reacts with body compounds, producing highly unstable molecules known as free radicals.

Distinguish **three (3)** factors that could increase the production of free radicals in the body.

(3 marks)

[40 MARKS]

PART C

This part consists of **THREE (3)** questions.

Answer ALL questions in Answer Booklet.

QUESTION 1

Figure 2 shows the global estimates of the need for treatment: the number of adults living with severe obesity

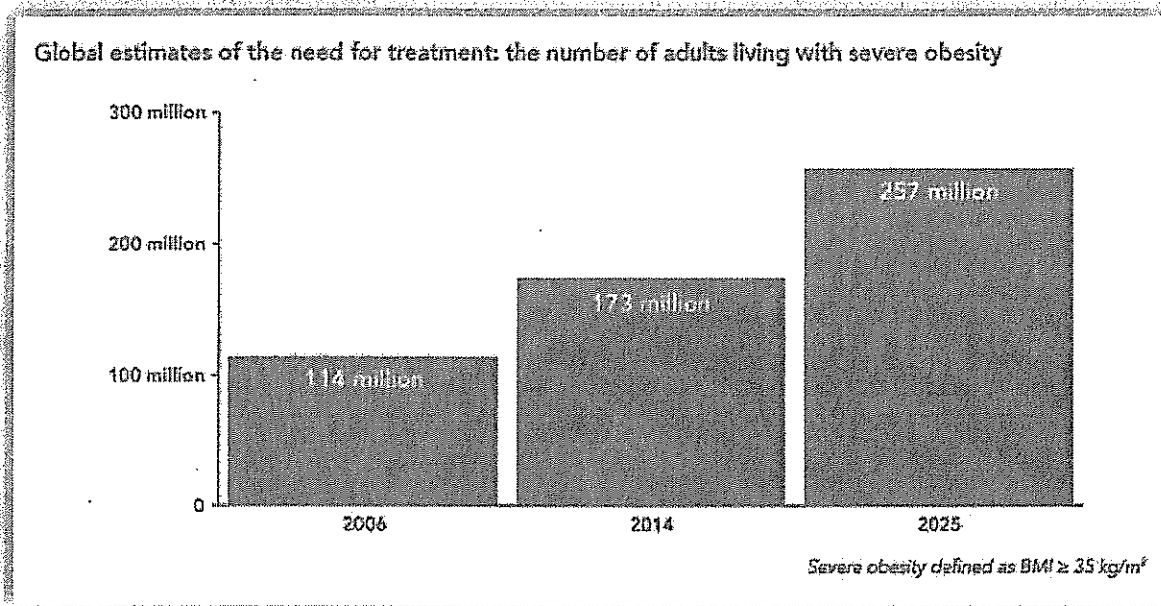Severe obesity defined as BMI ≥ 35 kg/m²

Figure 2

Figure 2 shows the global estimates of adult living with severe obesity and in need for treatment. The severe obesity is defined as BMI more than 35. The numbers increased year by year and by 2025, it was predicted to steeply rise to 275 million people with severe obesity globally.

By your understanding on food nutrition, explain in details on how one can practices weight management program in order to decrease the numbers of predicted 2025's people with severe obesity.

(10 marks)

QUESTION 2

What and how much people eat defines to a large extent their health. As obesity and other diet-related chronic diseases are recognized as major public health issues associated with risk for several of the leading causes of death and disability, there is strong interest in the determinants of food selection and the most effective ways to provide food guidance to individuals and populations to improve their health and well-being. It is known that eating behavior is highly complex, resulting from the interplay of multiple influences across different contexts and conditions.

Demonstrates the factors influencing food choices with example.

(10 marks)

QUESTION 3

Breast milk is a highly complex and variable biofluid that has evolved over millennia to nourish infants and protect them from disease as their immune systems mature. The composition of human breast milk changes in response to a variety of factors, including the infant's age and other characteristics. As a result, it is widely assumed that the composition of breast milk is specifically tailored by each mother to precisely reflect the needs of her infant.

With your knowledge on the particular subject, discuss in detail about the advantages of breast milk to infant.

(10 marks)

[30 MARKS]

END OF QUESTION PAPER