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PAGE 1 OF 6

**UNIVERSITY OF ESWATINI**

**RE-SIT/SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME** : **BACHELOR OF SCIENCE IN FOOD  
SCIENCE, NUTRITION AND TECHNOLOGY,  
CONSUMER SCIENCE AND CONSUMER SCIENCE  
EDUCATION YEAR II**

**COURSE CODE** : **FNS203**

**TITLE OF PAPER** : **HUMAN NUTRITION**

**TIME ALLOWED** : **TWO (2) HOURS**

**INSTRUCTION** : **ANSWER QUESTION ONE (1) AND  
ANY OTHER TWO (2) QUESTIONS**

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CHIEF INVIGILATOR**

73

**QUESTION 1: COMPULSORY**

Choose the correct answer and write the question number and your answer choice on the answer sheet. For example, if the answer for number 1 is "a" then you should write "1 a" on your answer sheet.

**Multiple choice**

1. Which of the following substances helps with digestion and absorption by emulsifying fats?
  - a. Salivary amylase
  - b. Hydrochloric acid
  - c. Bile acids
  - d. Pepsin
  - e. Trypsin
  
2. Heme iron is more \_\_\_\_ than nonheme iron. This means that a higher percentage of heme iron can be absorbed and used by the body.
  - a. Competitive
  - b. Bioavailability
  - c. Essential
  - d. Energy efficient
  - e. Energy efficient
  
3. Which of the following polysaccharides is not digestible?
  - a. Glycogen
  - b. Fiber
  - c. glucose
  - d. Starch
  - e. Amylase
  
4. Which of the following is a critical function of water-soluble vitamins?
  - a. Promote blood clotting
  - b. Act as coenzymes to facilitate chemical reactions
  - c. Act as hormones to promote bone formation
  - d. Yield energy
  
5. What is the relation between vitamin B6 and amino acids?
  - a. It can be produced from certain essential amino acids
  - b. It can be produced from certain amino acids
  - c. It facilitates transamination to produce non-essential amino acids
  - d. It prevents the production of neurotransmitters from amino acids
  - e. It is not involved in amino acids synthesis

6. What is the role of vitamin C in iron absorption?
  - a. It reduces non-heme iron to enhance its absorption
  - b. It oxidizes non-heme iron to enhance its absorption
  - c. It binds to iron to prevent absorption
  - d. It oxidizes heme iron to enhance its absorption
  - e. It is not involved in amino acids synthesis
  
7. Which of the following characterizes vitamin C deficiency?
  - a. Diarrhea, dermatitis, dementia, death
  - b. Microcytic anemia, encephalopathy
  - c. Bleeding gums, slow wound healing, poor appetite
  - d. Numbness, fatigue
  - e. None of the above
  
8. Which micronutrient(s) is/are important for blood formation?
  - a. Iron
  - b. Vitamin B<sub>12</sub>
  - c. Vitamin C
  - d. Both a and b
  - e. All of the above
  
9. Folate or folic acid supplementation is especially important for women during pregnancy in order to prevent \_\_\_\_\_
  - a. Scurvy
  - b. Rickets
  - c. Pallegra
  - d. Neural tube defects
  - e. Pneumonia
  
10. \_\_\_\_\_ is/are necessary to prevent megaloblastic (macrocytic) anemia.
  - a. Folate
  - b. Niacin
  - c. Vitamin B<sub>12</sub>
  - d. Vitamin C
  - e. Both a and c
  
11. \_\_\_\_\_ is a measure of the nutrients a food provides compared to its energy content.
  - a. Calorie count
  - b. Weight
  - c. Nutrient density
  - d. Fortification level
  - e. Energy density

12. During energy consumption processes, such as anabolism, ATP loses a \_\_\_\_\_ molecule/group to become ADP.
- a. Pentatonic acid
  - b. Phosphate
  - c. Protein
  - d. Polyethylene
  - e. Potassium
13. A healthy diet should provide which of the following?
- a. The right amount of energy to keep weight in a desirable range
  - b. A balance of carbohydrates, protein and fats
  - c. Sufficient water
  - d. The correct amount of essential vitamins and minerals
  - e. All of the above
14. Which of the following is a/are function(s) of nutrients?
- a. Providing structure for the body
  - b. Providing energy
  - c. Helping with growth and development
  - d. Both a and b
  - e. All of the above
15. The majority of ATP is produced in the \_\_\_\_\_ of the cell.
- a. Mitochondria
  - b. Nucleus
  - c. Lipid bilayer
  - d. Ribosomes
  - e. All of the above
16. The process of digestion starts when we see food and our body prepares to receive it by secreting gastric juices and increasing stomach motility. This is called the \_\_\_\_\_ phase of digestion.
- a. Cephalic
  - b. Salivary
  - c. Intestinal
  - d. Gastric
  - e. None of the above
17. Protein complementation is the practice of combining different plant foods in order to obtain the proper ration of \_\_\_\_\_ in the diet.
- a. Essential fatty acids
  - b. Fiber
  - c. Polysaccharides
  - d. Essential amino acids
  - e. Lipids

18. Pepsin and hydrochloric acid helps to digest proteins in which part of the digestive tract?
- Mouth
  - Esophagus
  - Liver
  - Stomach
  - Large intestine
19. One of the fat-soluble vitamins involved in coagulation is:
- Vitamin K
  - Vitamin A
  - Vitamin D
  - Vitamin E
20. Marasmus and kwashiorkor are both types of \_\_\_\_\_ that can occur in young children.
- Protein-energy malnutrition
  - Micronutrient deficiency
  - Over nutrition
  - Lipid deficiency
  - None of the above

[20 x 2 = 40 MARKS]

### QUESTION 2

- (a) Describe the factors affecting resting energy expenditure (REE). (5 x 3 = 15 Marks)
- (b) What are the physical signs of both protein and energy malnutrition? (15 Marks)

[TOTAL MARKS = 30]

### QUESTION 3

- (a) Globally, malnutrition is the most important risk factor for illness and death and the cause of more than half the death of children worldwide. Apart from infants and adolescents, which are susceptible to malnutrition for various reasons, identify other categories of people at risk of malnutrition. (10 Marks)
- (b) Identify **two (2)** of the categories of people at risk of malnutrition and describe their special nutritional requirements. (20 Marks)

[TOTAL MARKS = 30]

77

**QUESTION 4**

(a) Describe the advantages of breastfeeding.

**(10 Marks)**

(b) Discuss factors affecting lactation.

**(20 Marks)**

**[TOTAL MARKS = 30]**

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