

**1<sup>ST</sup> SEM. 2018/19**



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**UNIVERSITY OF ESWATINI**

**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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GRANTED BY THE CHIEF INVIGILATOR**

**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 statements about trace mineral is false?
  - a. They are often cofactors to enzymes
  - b. They are important for DNA synthesis
  - c. They do not directly provide energy
  - d. They are not essential in the diet
  - e. They can compete with each other
2. What is the storage form of fat found in adipose tissue?
  - a. Chylomicrons
  - b. Triglycerides
  - c. Cholesterol
  - d. VLDL
  - e. Phospholipids
3. Which statement accurately describes a characteristic of osteoporosis?
  - a. Increased risk for active individuals
  - b. Increased risk for males
  - c. Increased bone density
  - d. Increased calcification of bone
  - e. Reduced calcium and bone matrix
4. \_\_\_\_ and \_\_\_\_ are not consequences of dehydration.
  - a. Dry mouth, reduced urine output
  - b. Muscle weakness, exhaustion
  - c. Dizziness, increased body temperature
  - d. Insulin resistance; decreased blood sugar levels
  - e. Coma, death
5. An enzyme \_\_\_\_ the activation energy required for a reaction, which \_\_\_\_ the rate of a reaction.
  - a. Increases; increases
  - b. Increases; neutralizes
  - c. Neutralizes; increases
  - d. Lowers; increases
  - e. Lowers; lowers



6. All of the following are functions of water except:
  - a. Providing blood volume
  - b. Regulating body temperature
  - c. Dissolving and transporting solutes
  - d. Providing energy
  - e. Maintaining pH balance
7. Which of the following is/are function(s) of the gastro intestinal tract?
  - a. Protecting against infection
  - b. Fluid and electrolyte absorption
  - c. Synthesis of bioactive peptide hormones
  - d. Both a and b
  - e. All of the above
8. The process of \_\_\_\_\_ uses energy to construct components of cells.
  - a. Anabolism
  - b. Catabolism
  - c. Fermentation
  - d. Oxidation
  - e. All of the above
9. The amino acids pool directly helps with all of the following except:
  - a. Energy production
  - b. Synthesis of glucose or fatty acids
  - c. Synthesis of nonprotein molecules that contain nitrogen
  - d. Protein breakdown
  - e. None of the above
10. The \_\_\_\_\_ is an accessory organ to the gastrointestinal tract involved with protein digestion.
  - a. Mouth
  - b. Small intestine
  - c. Pancreas
  - d. Stomach
  - e. Large intestine
11. \_\_\_\_\_ breaks down protein and polypeptides into shorter polypeptides.
  - a. Lactase
  - b. Dextrinase
  - c. Renin
  - d. Lipase
  - e. Trypsin

12. \_\_\_\_\_ can have more than three amino acids.
- Tripeptides
  - Quadriptides
  - Quintipeptides
  - Polypeptides
  - All of the above
13. Transamination is the process by which \_\_\_\_\_ can be created in the body
- Triglycerides
  - Nonessential amino acids
  - Essential amino acids
  - Carbohydrates
  - Oligosaccharides
14. Which of the following is a/are functions of protein in the human body?
- Transport of substances in and out of cells
  - Protection and immunity
  - Muscle contraction
  - Structure for tissues
  - All of the above
15. Blood electrolyte levels are tightly regulated, mainly by the \_\_\_\_\_
- Liver
  - Kidneys
  - Pancreas
  - Bladder
  - Large intestine
16. Which of the following is an important reason to insoluble fiber?
- It provides digestible energy
  - It provides a source of energy for intestinal bacteria in humans
  - It facilitates removal of solid waste by providing bulk
  - It inhibits passage of stools
  - It supplies many water soluble vitamins
17. Which of the following statements regarding niacin deficiency is true?
- It is associated with diets low in fruits and vegetables
  - It is associated with maize-based diets
  - It cannot be supplemented with fortified or enriched foods
  - It is never fatal
  - It may result in bacteria



18. What is the relationship between vitamin B<sub>6</sub> and amino acids?
- It can be produced from certain essential amino acids
  - It can be produced from certain non-essential amino acids
  - It facilitates transamination to produce non-essential amino acids
  - It prevents the production of neurotransmitters from amino acids
  - It is not involved in amino acids synthesis
19. Which of the following is/are (a) function(s) of thiamin?
- Help metabolize carbohydrates
  - Help metabolize some amino acids
  - Help synthesize DNA and RNA
  - Both b and c
  - All of the above
20. In order to derive energy from glucose, what must happen after glycolysis yield pyruvate?
- It must be converted to acetyl CoA to enter the electron transport chain
  - It must be converted to a acetyl CoA to enter the citric acid cycle
  - It must be stored as glycogen
  - It must be converted to a triglyceride
  - It must be used to breakdown triglycerides

[20 x 2 = 40 Marks]

### QUESTION 2

- (a) Discuss the basic, underlying and immediate causes of malnutrition. (13 Marks)
- (b) (i) Describe the treatment of severe protein-energy malnutrition. (9 Marks)
- (ii) Describe UNICEF's inexpensive measures to prevent protein-energy malnutrition. (8 Marks)

[TOTAL MARKS = 30]

### QUESTION 3

- (a) Write brief notes on overnutrition and obesity. (15 Marks)
- (b) Describe the consequences of iron deficiency and anemia and suggest prevention strategies. (15 Marks)

[TOTAL MARKS = 30]

**QUESTION 4**

(a) Describe infant feeding practices recommended by WHO

**(15 Marks)**

(b) Describe the special nutritional requirements for pregnant and lactating women.

**(15 Marks)**

**[TOTAL MARKS = 30]**