



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**SECOND YEAR FIRST TRIMESTER EXAMINATION**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN NURSING (DL/UPGRADING)**

**COURSE CODE: NCD 215/NCN 221**

**COURSE TITLE:**

**NUTRITION AND HEALTH/ CLINICAL NUTRITION**

**DATE: 21/04/2022 DAY: THUR TIME: 11.30AM – 2.30 PM**

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**INSTRUCTIONS TO CANDIDATES**

**THIS PAPER CONSIST OF THREE SECTIONS A, B AND C**

**ANSWER ALL QUESTIONS**

**TIME: 3 HOURS**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over. 

SECTION A: 20 MCQS (20 MARKS)

1. Which nutrient gives us more than double the energy provided by carbohydrates or proteins in the body?
  - a) Vitamins
  - b) Fats
  - c) Minerals
  - d) Starch
  
1. The component of food which help our body to fight against infection is
  - a) Proteins
  - b) Fats
  - c) Carbohydrates
  - d) Starch
  
2. The mineral which controls the function of thyroid is
  - a) Phosphorous
  - b) Calcium
  - c) Magnesium
  - d) Iodine
  
3. Rickets is caused by the deficiency of
  - a) Vitamins B1
  - b) Vitamins C
  - c) Vitamins D
  - d) Vitamins A
  
4. The highest concentration of minerals are found in
  - a) Skin
  - b) Arms and legs
  - c) None of these
  - d) Bones and teeth
  
5. Iodine is used to test the presence of .....in food.
  - a) Carbohydrates
  - b) Starch
  - c) Fats
  - d) Proteins

6. Nyctalopia is caused by the deficiency of
  - a) Vitamin C
  - b) Vitamin D
  - c) Vitamin B1
  - d) Vitamin A
  
7. Deficiency of proteins and carbohydrates in infants leads to
  - a) Marasmus
  - b) Goiter
  - c) Obesity
  - d) None of these
  
8. Digestion of carbohydrates starts in the
  - a) Large intestines
  - b) Small intestines
  - c) Mouth
  - d) Stomach
  
9. Digestion of proteins starts in the
  - a) Large intestines
  - b) Small intestines
  - c) Mouth
  - d) Stomach
  
10. Fat is completely digested in the
  - a) Stomach
  - b) Mouth
  - c) Small intestine
  - d) Large intestines
  
11. Which one of the following groups consists of common side effects of Phentermine?
  - a) Constipation, dizziness, dry mouth, edema
  - b) Taste changes, tingling in hands and feet, amnesia
  - c) Constipation, dizziness, taste changes, blindness
  - d) Blurred vision, tingling in hands and feet, changes in smell

12. Water from the undigested food is absorbed mainly in the
- Stomach
  - Esophagus
  - Small intestines
  - Large intestines
13. Which one of the following groups is made up of trace minerals?
- Copper, chloride, calcium and chromium
  - Potassium, phosphorus, iodine and zinc
  - Selenium, fluoride, copper and chromium
  - Magnesium, manganese, molybdenum and fluoride
14. Identify the chemical formula of vitamin C
- $C_6H_8O_6$
  - $C_{28}H_{46}O$
  - $C_{29}H_{50}O_2$
  - $C_{31}H_{46}O_2$
15. How many hydrogen atoms are contained in the chemical formula of dextrose?
- 6
  - 8
  - 12
  - 21
16. Identify the chemical name of vitamin B7
- Pyridoxine
  - Biotin
  - Riboflavin
  - Pantothenic acid
17. Polymeric formula contains
- Whole proteins, complex carbohydrates and long chain triglycerides
  - All of the nutrients needed to maintain nutritional sustenance
  - Complete nutrients to meet the needs of individuals with specific health conditions
  - Contain amino acids of varying length, simple carbohydrates, and MCTs

18. Phytonadione is the chemical name of
- Vitamin E
  - Vitamin A
  - Vitamin B6
  - Vitamin K
19. Which of the following are water soluble vitamins?
- B<sub>1</sub>&B<sub>12</sub>
  - ADE&K
  - B<sub>6</sub> D&C
  - All Bs&C
20. A triglyceride consists of
- Eight fatty-acid molecules attached to five glycerol molecule
  - Two fatty-acid molecules attached to three glycerol molecule
  - Four fatty-acid molecules attached to eight glycerol molecule
  - Three fatty-acid molecules attached to one glycerol molecule
21. Which of the following is not a type of fat cell?
- White adipose tissue
  - Brown adipose tissue
  - Grey adipose tissue
  - Beige adipose tissue

**SECTION B: SAQs (40 marks)**

- Draw a well labeled diagram of the villi (3 marks)
- Draw a chemical structure of an amino acid (5 marks)
- Discuss mid upper arm circumference as a method of nutritional assessment (8 marks)
- Explain fat cell development (8 marks)
- Describe “atkins diet” and where it is applicable ( 8 marks)
- Discuss the complications of parenteral nutrition (8 marks)

**SECTION C: LAQs (40 marks)**

- Discuss the three methods used in the management of obesity (20 marks)
- Describe the digestion, absorption and metabolism of carbohydrates (20 marks)