

UNIVERSITY OF ESWATINI
FINAL EXAMINATION PAPER
DEPARTMENT OF GENERAL NURSING SCIENCE
MAIN EXAMINATION-DECEMBER 2018

TITLE PAPER: NUTRITION AND DIETETICS

COURSE CODE: GNS 203

MARKS ALLOCATED: 75

TIME ALLOWED: TWO (2) HOURS

Number of pages including cover page: 6

INSTRUCTIONS

1. Read questions carefully
2. Answer all questions.
3. Write legibly
4. Each **explained** fact is worth 1 mark unless indicated otherwise

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INVIGILATOR

QUESTION 1

SECTION A:

INSTRUCTIONS: For each of the following question or statements select the most appropriate response. In your answer book write the letter that corresponds with the correct response, e.g. 1. A

1. The essential fatty acids that must be derived from the diet are:
 - A. Stearidonic acid and eicosatetraenoic acid
 - B. Eicosapentaenoic acid and docosapentaenoic acid
 - C. Linoleic and linolenic acid
 - D. Gamma-linoleic acid and arachidonic acid

2. There is limited absorption in the mouth sublingually. Which nutrient is absorbed?
 - A. Vitamin B12
 - B. Vitamin C
 - C. Vitamin B Complex
 - D. All of the above

3. How does food move through your digestive tract?
 - A. By gravity
 - B. By wavelike muscle contractions
 - C. By cilia
 - D. By chemical absorption

4. Where does most of the digestive process take place?
 - A. Small intestine
 - B. Large intestine
 - C. Stomach
 - D. All of the above

5. Which of these can harm the intestinal lining?
- A. Bacterial infection in the stomach
 - B. Aspirin and other anti-inflammatory medications
 - C. Chronic stress
 - D. A and B
6. Fruits, vegetables and cereals are potent sources of:
- A. Antioxidants
 - B. Unsaturated fat
 - C. Saturated fat
 - D. Free radicals
7. The only fat-soluble antioxidant synthesized in the body is?
- A. Vitamin D
 - B. Thiamine
 - C. Ascorbic acid
 - D. CoQ10
8. Good source of vitamin D include all except:
- A. Blueberries
 - B. Sunlight
 - C. Salmon, tuna sardines and mackerel
 - D. Fortified milk and other dairy products
9. One of the fat-soluble vitamins involved in coagulation is:
- A. Vitamin K
 - B. Vitamin A
 - C. Vitamin D
 - D. Vitamin E
10. Products that contain live microorganisms in sufficient numbers to alter intestinal microflora and promote intestinal microbial balance are known as:
- A. Antibiotics
 - B. Probiotics
 - C. Fruits and vegetables
 - D. Digestive enzymes

11. Nondigestible food ingredients that stimulate the growth and activity of certain bacteria in the colon are called:

- A. Insoluble fiber
- B. Probiotics
- C. Prebiotics
- D. Cellulose

12. A deficiency of thiamine (vitamin B1) in the diet causes:

- A. Osteopenia
- B. Beri-beri
- C. Protein malnutrition
- D. Scurvy

13. All of the following statements about vitamin B3 (niacin) are true except:

- A. It helps to release energy in carbohydrates, fat, and protein
- B. It improves blood lipid levels
- C. Deficiency causes beriberi
- D. It is involved in the synthesis of sex hormones

14. Consuming fewer than 130 grams of carbohydrate per day may lead to:

- A. Hypoglycemia
- B. Kwashiorkor
- C. Marasmus
- D. Ketosis

15. Iron supplements are frequently recommended for all of the following except:

- A. Women who are pregnant
- B. Infants and toddlers
- C. Teenage girls
- D. Post-menopausal women

SECTION B

INSTRUCTION: Indicate whether the following statements are *true* or *false*. In your answer sheet write the number and correct response e.g. 1. False

16. During deglutition the oral phase is involuntary.
17. During deglutition the Pharyngeal and esophageal phases are voluntary.
18. Gastrin stimulates the Parietal cells to secrete acid and is released by G cells in the stomach and the duodenum.
19. The stomach is about 1,000,000 times more acidic than blood.
20. Mucus- protects the stomach walls from being 'self-digested'. It is produced faster than it is broken down.
21. The liver has the highest percentage of resting energy expenditure (REE).
22. Increase in body size also increase REE.
23. Glycogen stores are mainly in the liver and brain.
24. Adipose is the long term storage of energy and it account for a bigger portion of the energy reserves.
25. Some health benefits for dietary fiber are to slow glucose absorption and reduce blood cholesterol.

TOTAL = 25 MARKS

QUESTION 2

- A. Define the four (4) classification of nutrient's essentiality. (4)
- B. Briefly explain the criteria for nutrient essentiality. (5)
- C. Briefly highlight the functions of the mouth. (6)
- D. Briefly describe the homeostasis (equilibrium) processes of blood glucose by hormones (Insulin and glucagon). (7)

- E. Match the following glucose transmembrane carrier protein with relevant area of performance. (3)

Glucose transporters	Destination
Glut 1	Liver
Glut 2	Red blood cells
Glut 3	Brain
Glut 4	Small intestines
Glut 5	transporting glucose out of the endoplasmic reticulum (ER)
Glut 7	Insulin-responsive (muscle, adipose)

TOTAL = 25 MARKS

QUESTION 3

- A. Enteral nutrition helps promote or maintain a patient's nutritional status when normal feeding is not possible and is prone to some complications. Briefly highlight these complications associated with enteral feeding method. (6)
- B. What entails monitoring a patient receiving enteral feeding? (4)
- C. Risk factors for food/drug and drug/nutrient interactions can be affected by many factors. List five these factor. (5)
- D. What are functional foods? (2)
- E. What are the health benefits associated with prebiotics? (4)
- F. What are the causes of disease related malnutrition in hospital? (4)

TOTAL = 25 MARKS