

UNIVERSITY OF ESWATINI
FINAL EXAMINATION PAPER

DEPARTMENT OF GENERAL NURSING SCIENCE

MAIN EXAMINATION - DECEMBER, 2019

TITLE OF 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

DO NOT OPEN UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

SECTION A

Choose the most appropriate answer; e.g. 1. D

1. Obesity is an underlying factor among non-communicable diseases. Which of the following is the least healthy for humans to eat?
 - A. Unsaturated fatty acids
 - B. Saturated fatty acids
 - C. Trans fatty acids
 - D. Cholesterol
2. Which of the following is a consequence of protein turnover?
 - A. We need to eat protein regularly
 - B. We do not need to eat proteins
 - C. We can use proteins as a way to store amino acids for the long-term
 - D. Our amino acid pool is always full
3. Which of the following is **NOT** a function of lipids?
 - A. They are used for energy
 - B. They are used to make testosterone
 - C. They are used to make our cell membranes
 - D. They are used to make proteins
4. Which of the following people is expected to show a positive protein balance?
 - A. A food insecure child who has no food to eat
 - B. A cancer patient
 - C. A normal, healthy human being who is not pregnant or frequently exercising
 - D. A pregnant woman
5. Poor nutrition results in a range of disease processes. Which of the following statements is **CORRECT**?
 - A. Obesity is a major risk factor for cancer, cardiovascular (CVD) and type 2 diabetes
 - B. High total carbohydrate intake is an established risk factor for CVD
 - C. Diets high in soluble fiber are associated with lower plasma HDL cholesterol levels
 - D. Consumption of predominantly low glycaemic index (GI) foods is a risk factor in the development of type 2 diabetes.
6. What is the effect of insulin on the body?
 - A. It tells the cells to absorb sugar, which lowers blood sugar levels.
 - B. It tells the cells to spare sugar, which leaves the blood sugar levels unchanged.
 - C. It tells the cells of the body to release sugar, which raises blood sugar levels.
 - D. It causes diabetes.

7. 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
8. All of the following are potentially modifiable risk factors for osteoporosis **EXCEPT**:
- A. Anorexia nervosa
 - B. Chronically low intake of calcium and vitamin D
 - C. Chronically low intake of vitamins C and B6
 - D. Excessive alcohol consumption
9. Changes in nutritional intake can affect the risk of future illness. Which of the following statements is **CORRECT**?
- A. Low GI diets decrease the body's sensitivity to insulin
 - B. Weight loss of 10 kg or more is required to significantly decrease risk of diabetes in those with impaired glucose tolerance
 - C. A 10% weight loss is associated with at least a 40% reduction in obesity related cancer deaths
 - D. An extra serve per day of fruit/vegetables per adult would have a minimal effect on cancer incidence.

Questions 10-14; refer to the scenario below:

Merri's father, Sam, aged 69 years, lives alone since his wife died 3 years ago. He presents with a vague unwell feeling; is treated for mild hypertension and chronic glaucoma; appears to have lost weight.

10. Which is the **MOST** helpful screening question for assessing Sam's current nutrition?
- A. Are you taking any nutritional supplements such as multivitamins?
 - B. Have you noticed any decrease in your appetite recently?
 - C. Have you been eating more 'take away' meals than you used to?
 - D. Have you been drinking at least 8 cups of fluid per day?
11. Sam asks your advice regarding a healthy intake of fruit and vegetables. Which of the following statements is **CORRECT**?
- A. Rice is considered a vegetable and may be included in the daily requirements
 - B. 5 serves of fruit and vegetables should be consumed each day
 - C. Fruits and vegetables are a good source of protein – an essential nutrient
 - D. Frozen or canned vegetables are an acceptable source of daily vegetable intake.
12. Sam asks what other advice you can give him regarding his daily intake of nutrients in order to optimise his health. You advise him to consume each day:
- A. 1 serve of meat/fish/poultry/eggs/nuts
 - B. Butter in preference to margarines
 - C. 3 serves of bread, cereals, rice, noodles
 - D. 4 serves of dairy, including milk/yoghurt/cheese.

13. Sam also asks about fluid intake as he wonders if he should be drinking more water. Which is the **MOST** appropriate advice for Sam's fluid intake?

- A. Three to four glasses of alcohol may be consumed each day for the health benefits it provides
- B. Any beverage or drink is reckoned as fluid, but water is the best choice
- C. Artificially sweetened cordials are acceptable but may have a diuretic effect
- D. Fruit juice should be limited to four glasses per day.

14. You have explained to Sam the number of servings for each of the main food groups he should eat daily. He asks for more information about how much 'a serve' is. Which of the following is equivalent to 1 serve or portion?

- A. One small piece of fruit such as an apricot or a plum
- B. Half a slice of bread
- C. 1 cup of fruit juice
- D. 75 g (100–350kJ)

15. Chloe is: eating 1 piece of fruit (recommended amount is 4 serves), eating 2–3 vegetables (recommended amount is 5–6 serves), not taking any folate supplementation. Chloe is nutritionally at risk. Chloe is willing to make some nutritional changes to benefit her own health and possibly the health of her baby. She is keen to do whatever is best, now that she is finally pregnant. What 'stage of change' is Chloe in?

- A. Pre-contemplation
- B. Contemplation
- C. Ready
- D. Maintenance

16. Parenteral nutrition differs from enteral nutrition in that:

- A. Parenteral nutrition can be given through the digestive system
- B. Either type of nutrition can be given through an IV
- C. Parenteral nutrition by-passes the digestive system
- D. Enteral nutrition by-passes the digestive system

17. A patient receiving parenteral nutrition may have it administered via the following routes **EXCEPT**:

- A. Peripherally inserted central catheter line
- B. Peg tube
- C. Subclavian line
- D. Central Venous Catheter

18. When preparing to change a right subclavian vein Total Parenteral Nutrition (TPN) bag and tubing, the patient's instruction must include:

- A. Inhale deeply, hold it, and bear down
- B. Breathe normally
- C. Exhale slowly and hold it
- D. Turning the head to the left

19. Which one of the following is not a use of nutritional assessment?
- A. Identify malnourished patients
 - B. To provide data to serve as basis for planning nutritional support
 - C. Identify patients that are not at risk of becoming malnourished
 - D. To provide information for evaluation of the effectiveness of nutritional support

20. One weekend you decide to go and eat breakfast with your friends at the Corporate Place, Swazi Plaza-Mbabane. You then order a breakfast made of buttered toast, cream and eggs. Which one of the following would you **NOT** expect to happen?
- A. Gastric motility to increase while you are chewing the food.
 - B. An increase of gastric motility and secretion of hydrochloric acid when food reaches the duodenum.
 - C. Fats to be emulsified in the duodenum by the action of bile.
 - D. A decrease of gastric motility and secretion of hydrochloric acid when food reaches the duodenum

Precisely define the following terms

- 21. Glycogenesis (1 mark)
- 22. Glycogenolysis (1 mark)
- 23. Basal metabolic rate (1 mark)
- 24. Thermic effect of food (1 mark)
- 25. Krebs cycle (1 mark)

[Total marks= 25]

SECTION B: Short essay questions

Question1

- A. Outline three (3) effects of each of the following on energy requirements:
 - i. disease (3 marks)
 - ii. pregnancy (3 marks)
- B. Describe any five (5) factors that influence human energy expenditure (10 marks)
- C. List three components of energy expenditure that are necessary to estimate an individual's total energy expenditure (3 marks)
- D. Explain how probiotic may have a beneficial effect in preventing intestinal infections. (6 marks)

[Total marks= 25]

Question 2

- A. Iodine is critical for brain development.
- i. Describe the consequences of iodine deficiency. (10 marks)
 - ii. How would you address iodine deficiency? (5 marks)
- B. As a nurse working in a Primary Health Care facility, what advice would you give to mothers on ways to improve micronutrient intake? (10 marks)

[Total marks= 25]