

**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**DEPARTMENT OF GENERAL NURSING**

**MAIN EXAMINATION – DECEMBER 2012**

**TITLE OF PAPER** : NUTRITION AND DIETETICS  
**COURSE CODE** : GNS 210  
**MARKS ALLOCATED** : SEVENTY FIVE (75)  
**TIME ALLOWED** : TWO (2) HOURS

Number of pages including cover page: 8

**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

Section A consists of multiple choice questions. Indicate your response to this section by writing the question number and your chosen letter among those provided for each sub-question e.g. 1. D

1. Which of the following BEST describes nutrition?
  - A. The body's need for calories, water, protein, carbohydrates, fats, vitamin, and minerals
  - B. The process whereby the body uses food and fluids to reach and maintain health
  - C. The comparison of a certain volume or weight of the energy source with its ability to produce heat
  - D. The source of body energy for human beings and the means by which human being function
  
2. Consumption of certain foods with high caloric values may contribute to raised cholesterol levels in the blood. Four meals (a-d) are provided by a restaurant. Which of the meals would yield the greatest caloric value?
  - A. Beef curry with rice
  - B. Sour milk and porridge
  - C. Bean stew and samp
  - D. Fried chicken and potato chips
  
3. You have been assigned to provide a health talk to a population that has an increased incidence of hypertension. Your talk is likely to suggest that they reduce intake of \_\_\_\_\_
  - i. meats
  - ii. sugars and sweets
  - iii. dairy products
  - iv. salt
  - A. iv
  - B. i, iv
  - C. ii, iii, iv
  - D. i, ii, iii, iv
  
4. Amino acids are essential in the body for all the following, EXCEPT:
  - A. Production of hormones
  - B. Production of antibodies
  - C. Formation of cell organelle membranes
  - D. A source of quick energy

5. You are part of a surgical team performing hysterectomy in theatre, and the surgeon suddenly collapses. You then take vital signs and find the pulse rate of the surgeon to be 120 beats / min. Which one of the following types of carbohydrate is utilized by the heart muscle in the given scenario?
- A. Maltose
  - B. Triglyceride
  - C. Glycogen
  - D. Fructose
6. A health worker is assessing a patient with diabetes mellitus for obesity through calculation of the body mass index (BMI). If the patient has a mass of 60kg and a height of 1.5m, the BMI of the patient is:
- A. 0.4 kg/cm
  - B.  $0.0375\text{m}^2/\text{kg}$
  - C.  $27\text{ kg/m}^2$
  - D. 400 g/cm
7. Your overweight friend is embarking on a weight reduction programme where she has to take a low-calorie diet. You would advise your friend to eat foods that contain:
- A. At least 200 kcal/day
  - B. Sufficient protein, but not vitamins and minerals
  - C. Two grams of fish oil
  - D. 800 kcal/day plus all essential nutrients
8. All of the following are biochemical functions of amino acids, EXCEPT:
- A. Substrates for protein synthesis
  - B. Regulator of mRNA translation
  - C. Transport of nitrogen
  - D. Synthesis of tissue protein

9. An 80-year old woman attends a health care clinic for nutritional status assessment. The attending healthcare worker determines that the woman has a shortage of proteins and reckons it is common for people of her age. Why does the old woman have a shortage of proteins?
- A. The woman can no longer store excess proteins in her body
  - B. The woman's protein uptake is lower to compensate for those required for optimal muscle and bone function
  - C. The woman's digestive system is failing to break down enough proteins to make up for the total amino acids required by the body
  - D. The woman's body is failing to convert other food groups to make amino acids
10. A 25-year old man comes to your health facility complaining of abdominal cramps and diarrhoea after drinking milk. What is the most likely cause of his problem?
- A. Bacterial and yeast overgrowth in the large intestine
  - B. Presence of the trophozoites of parasite *Giardia lamblia* that detach from the intestinal lumen due to the presence of the milk
  - C. Lack of pancreatic amylase
  - D. Insufficient lactase in the small intestines
11. Regurgitation is most commonly associated with:
- A. the elderly
  - B. toddlers
  - C. infants
  - D. adolescents

**Please refer to the scenario below for questions 12, 13 and 14.**

Mrs. Maseko is 33 years old and is pregnant for the first time. She comes to your health facility during the first trimester complaining of discomfort in her gastro-intestinal tract in such a way that she is unable to eat well. She is concerned that her inability to eat well may affect her nutritional status and that of the baby in a negative way.

12. Which major signs and symptoms would you expect Mrs. Maseko to report to you?
- A. Nausea and diarrhea
  - B. Diarrhea and vomiting
  - C. Nausea and vomiting
  - D. None of the above

13. Which of the following foods would you advise Mrs. Maseko to eat in order to alleviate the signs and symptoms accompanying the discomfort in her gastro-intestinal tract?
- A. Noodles in garlic soup, plain yoghurt
  - B. A poached egg on dry toast, soya milk
  - C. Crackers, dry cereal, toast
  - D. None of the above
14. Mrs. Maseko is concerned about her nutritional status and that of the baby. In order to deal with Mrs. Maseko's concern, you would:
- A. Re-assure her that the baby will not be affected because the symptoms are false
  - B. Instruct her to consult with a physician
  - C. Re-assure her to adhere to advices given by nurses during ante natal care
  - D. None of the above
15. When a patient is unable to take oral fluid or food over an extended period of time, which of the following is the best alternative?
- A. Liquid nutrients through a tube leading from the nose to the stomach or intestine
  - B. Giving solutions through a tubing in a peripheral vein
  - C. Giving continuous tube feedings regulated via an electric feeding pump
  - D. Giving feedings through a tube inserted through the skin and tissue of the abdomen
16. What could be the consequence of highly concentrated tube feeding?
- A. Constipation
  - B. Nausea and vomiting
  - C. Aspiration
  - D. Diarrhoea
17. Which nursing intervention is MOST likely to prevent the clogging of a nasogastric feeding tube?
- A. Attaching the tubing to suction after each feeding
  - B. Flushing the tube with water and clamping it after each feeding
  - C. Clamping the tube before all of the nourishment has drained
  - D. Giving the patient ice chips to suck after each feeding
18. Human breast milk is the best food for babies. Which of the following minerals are MOST LIKELY to be deficient in a lactating mother?
- A. Iodine and iron
  - B. Calcium and iron
  - C. Calcium and sodium
  - D. Magnesium and iron

19. The following are basic warning signs of malnutrition in older adults, EXCEPT:
- A. Unintended weight loss
  - B. Dry mouth
  - C. Increased secretion of saliva
  - D. Mental confusion
20. Individuals who eat vegetarian diets (vegans) may end up lacking which one of the following?
- A. Amino acids
  - B. Vitamins B-complex
  - C. Electrolytes
  - D. Iron

**Appropriately match the following; e.g. 21 G:**

21. A condition that results from eating an imbalanced diet; such as potatoes and porridge.	A. Nutrient
22. Occurs when people do not eat (or absorb) enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system.	B. Saccharide
23. A substance in food that is used by the body to promote normal growth, maintenance and repair.	C. Glycogen
24. A multi-branched polysaccharide that serves as a form of energy storage.	D. Malnutrition
25. Table sugar, honey, lactose, maltose.	E. Under nutrition
	F. Obesity
	G. Monosaccharide
	H. Nutrition

**[Total marks = 25]**

## SECTION B

### Question 1

A. For each of the following scenarios, discuss them under the following headings:

- nutritional element (1)
- desired effects (1)
- two food sources (1)
  - i. A man who is injured and bleeding profusely
  - ii. An immuno-compromised individual who needs antioxidants for elimination of harmful substances
  - iii. A woman with damaged nails and hair loss
  - iv. A teen girl who is diagnosed with anaemia
  - v. A child with poor development of bones and teeth

(15)

B. High blood cholesterol levels are a major risk factor for heart disease.

- i. Explain FOUR major factors that affect blood cholesterol levels (4)
- ii. Outline the contents of a health education and promotion talk that you may deliver to an audience on strategies for lowering or management of high blood cholesterol levels. (6)

**[Total = 25 marks]**

## Question 2

A. A 10-year old girl shows at your clinic with a condition that you suspect is iodine deficiency.

- i. Briefly describe THREE symptoms or signs that would make you suspect the girl has iodine deficiency (3)
- ii. Discuss the health education you would share with the family to assist them prevent iodine deficiency. (8)
- iii. The parents of the girl also mention that the girl's academic performance is deteriorating. How is iodine deficiency associated with poor academic performance? (3)
- iv. Mention one condition during infancy that is likely to manifest in the presence of iodine deficiency (1)

B. Protein-energy malnutrition has been reported to affect many children in Swaziland.

- i. Provide two reasons why protein-energy malnutrition affects children more than adults? (2)
- ii. Discuss two health conditions that could result from protein-energy malnutrition. (6)
- iii. Protein malnutrition is linked with significant lifelong effects. Describe one unfavorable consequence that may arise as a result of protein-energy deficiency. (2)

**[Total marks=25]**