

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF GENERAL NURSING SCIENCE

MAIN EXAMINATION - DECEMBER, 2015

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

Number of pages including cover page: **10**

INSTRUCTIONS

1. Read questions carefully
2. Answer all questions
3. Write legibly

DO NOT OPEN UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR

SECTION A: MULTIPLE CHOICE QUESTIONS
Choose the most appropriate answer; e.g. 1. G

1. Lipids are made up of.....
 - A. Carbon, Hydrogen, Nitrogen
 - B. Hydrogen, Oxygen, Nitrogen
 - C. Carbon, Hydrogen, Oxygen
 - D. Hydrogen, Nitrogen, Fluoride

2. What information should the nurse give a new mother regarding the introduction of solid foods to her infant?
 - A. Solid foods should not be given until the extrusion reflex disappears, at 8-10 months of age
 - B. Solid foods should be introduced one at a time, with 4 to 7 day intervals
 - C. Solid foods can be mixed in a bottle or infant feeder to make feeding easier
 - D. Solid foods should begin with fruits and vegetables

3. Cholesterol is synthesized from:
 - A. Acetyl-CoA
 - B. Methyl-malonyl-CoA
 - C. Malate
 - D. Oxaloacetic acid

4. Non-digestible 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

5. Which of the following is **NOT** a health risk associated with excess body weight?
- A. Sleep apnea
 - B. Cancer
 - C. Asthma
 - D. Diabetes
6. Swaziland is among the countries that adopted Baby Friendly Hospital Initiative (BFHI) as one of the strategies towards scaling up breastfed infants. According to WHO/UNICEF all of the following are involved in BFHI, **EXCEPT**:
- A. Infants should be put to breast within the first 30 minutes after birth
 - B. Infants should room in with their mothers
 - C. Mothers should be informed of the benefits and management of breastfeeding
 - D. Infants should be given pacifiers to improve their suck coordination
7. Supplemental iron has been prescribed for a prenatal client; your advice to the client would be to take the medication with:
- A. Milk, to prevent stomach upset
 - B. Tomato juice, to increase absorption
 - C. Oatmeal, to prevent constipation
 - D. Water, to increase serum iron levels
8. How can you best assist a breastfeeding woman who perceives that she has a low milk supply?
- A. Supplementing the baby by cup or finger-feeding to give the mother a break
 - B. Taking a breastfeeding history and assessing the infant at the breast
 - C. Having the mother pump for 15 minutes after every feeding
 - D. Reassuring the mother that it is only an infant growth spurt that her milk supply is adequate

9. Lycopene is a phytochemical which is provided by eating vegetables.
- A. Orange
 - B. Red
 - C. Green
 - D. Yellow - Green
10. The major role of leptin in body weight is to.....
- A. Signal satiety to hypothalamus
 - B. Reduce dietary storage of fats
 - C. Modulate energy expenditure
 - D. Enhance the metabolism of carbohydrates
11. When positioning a newborn to breastfeed, all of the following are correct **EXCEPT:**
- A. After a cesarean section delivery, the side-lying or football hold (clutch) positions are most comfortable for mother.
 - B. When using the cradle hold, the infant should be placed in a supine position across the mother's lap, with the infant's neck extended and rotated to latch on to the nipple.
 - C. The mother needs to be sitting or lying in a comfortable position without excessive strain on her shoulders, arms, or back.
 - D. The cross-cradle, or transitional, hold usually works well for most breastfeeding infant and mother when learning to breastfeed.

12. A 45 year old male builder decided to go on a diet consisting of egg white to increase his intake of protein in an effort to enhance muscle growth. After several weeks, his blood glucose levels were found to be below 3.9 mmol/L. Following hospital consultation, he was told to be deficient of Biotin whose function is to transfer carbon dioxide in carboxylation reactions. Which of the following enzymes is unable to catalyse its step in synthesising glucose from pyruvate?
- A. Pyruvate carboxylase
 - B. Phosphoenol pyruvate carboxykinase
 - C. Glucose-6- phosphatase
 - D. Fructose1, 6 bisphosphatase

Read the given scenario and answer questions 13-15. Anthropometrics are useful in determining the nutritional status of a child. An infant aged 10 months is brought to your health facility, a regional hospital. Findings from your nutritional assessment show a mid-upper-arm circumference (MUAC) <11 cm, weight for height (W/H) <70% and hypothermia.

13. The condition described is called.....
- A. Severe uncomplicated malnutrition
 - B. Severe complicated malnutrition
 - C. Moderate acute malnutrition
 - D. No acute malnutrition
14. The criteria for severe complicated malnutrition for a 10 months old infant include all of the following danger signs, **EXCEPT**:
- A. Pyrexia
 - B. Mother's BMI <18kg/m²
 - C. Failing an appetite test
 - D. Blood in stools

15. Which of the following statements is **TRUE**?
- A. A child that takes at least the amount of ready-to-use therapeutic food (RUTF) fails the appetite test
 - B. Children with severe complicated malnutrition must be treated in an in-patient facility
 - C. A child on out-patient therapeutic program and fails to reach the discharge criteria after five weeks should be referred for in-patient care and detailed follow-up
 - D. Children whose mid-upper arm circumference ≥ 12 cm indicate moderate acute malnutrition
16. Which of the following molecules accept electrons in the catabolic pathways?
- A. NAD⁺ and FAD⁺
 - B. NADH⁺ and FADH⁺
 - C. NAD⁺ and FADH⁺
 - D. NADH⁺ and FAD⁺
17. A client with human immunodeficiency syndrome has gastrointestinal symptoms, including diarrhoea. The nurse should teach the client to avoid:
- A. Calcium-rich foods
 - B. Canned or frozen vegetables
 - C. Processed meat
 - D. Raw fruits and vegetables
18. All of the following are aerobic pathways involved in extracting energy from carbohydrates, **EXCEPT** one anaerobic pathway, and that is
- A. Glycolysis
 - B. Pyruvate to acetyl CoA
 - C. Citric acid cycle
 - D. Electron transport chain

19. An adequately breastfed healthy, term infant can be expected to have all of the following **EXCEPT**:
- A. Loose, yellow, seedy stools after most feedings in the early weeks of life, beginning when the mother experiences an increase in her milk production
 - B. Infrequent stools in the first 2 weeks of life
 - C. Desire to feed frequently, at least every 2–3 hours
 - D. Weight gain pattern of 15–30 grams per day beginning with mother's increased milk production
20. Poor weight gain in a breastfed infant is **MOST** often caused by.....
- A. Low fat content of the milk
 - B. Inappropriate feeding routines
 - C. Neglect
 - D. Inadequate maternal milk intake
21. Post-operative care for a client after gastric resection should focus on
- A. Body image
 - B. Nutritional needs
 - C. Skin care
 - D. Spiritual needs
22. A client with type II diabetes mellitus (T2DM) states, "I cannot eat big meals; I prefer to snack throughout the day." The nurse should carefully explain that the:
- A. Regulated food intake is basic to control
 - B. Salt and sugar restriction is the main concern
 - C. Small, frequent meals are better for digestion
 - D. Large meals can contribute to a weight problem
23. In a client with diarrhoea, which outcome indicates that hydration is successful?
- A. The client passes formed stools at regular intervals
 - B. The client reports a decrease in stool frequency and liquidity
 - C. The client exhibits firm skin turgor
 - D. The client no longer experiences perianal burning.

24. When teaching an elderly client on how to prevent constipation, which of the following instructions should the nurse include?

- A. Drink 6 glasses of water each day
- B. Avoid grain products and nuts
- C. Add at least a gram of bran to your cereal each morning
- D. Be sure to get regular exercise

25. A client with irritable bowel syndrome is being prepared for discharge. Which of the following meal plans should the nurse give the client?

- A. Low fiber, low-fat
- B. High fiber, low-fat
- C. Low fiber, high-fat
- D. High-fiber, high-fat

[Total marks=25]

SECTION B: SHORT ESSAY QUESTIONS

Clearly explain your points and provide a rationale for your point

Question1

Read the given scenario and answer the questions that follow:

Mr. MIM is a 50-year old unmarried man with three children aged 13, 15, and 17 years. Mr. MIM is 180 cm tall and currently weighs 106.8 kg which increased from 90 kg in the past 2 years ago. His blood pressure is 140.88 mmHg; high density lipoprotein (HDL) is 36 mg/dL, triglycerides are 220 mg/dL, and his fasting blood glucose (FBG) is 7.1 mmol/L. He is employed as a lecture in one of the campuses of the University of Swaziland and is so busy that he doesn't have adequate time for exercise. Mr. MIM tells you that in his family, there is a strong history of diabetes and as such desires to lose weight and reduce his sugar intake. Mr. MIM does not eat breakfast at home, however, buys muffins to eat while taking a cup of coffee with sugar and cream at his working desk during. He eats lunch in the university cafeteria and drinks coke lite. He usually stays at the campus till late, hence he drinks low fat milk for his dinner as means towards reducing his weight. On weekends Mr. MIM takes only 2 bottles of castle lite. Analysis of a 24-hour diet recall combined with a food frequency questionnaire reveals that Mr. MIM's caloric intake is $\pm 4,200$ kcal/day. BMR applicability: 873 and 11.5.

- A. With reference to the given scenario, describe the nutritional condition that Mr. MIM is likely to be suffering from? (3 marks)
- B. You learnt from the scenario that Mr. MIM drinks coke and castle lite as well as low fat milk. What is meant by 'lite' and 'low fat'? (2 marks)
- C. How would you describe Mr. MIM's nutritional status? (2 marks)
- D. Given that Mr. MIM's level of activity is light (1.55), determine his estimated daily energy requirements (kcal/day). Does Mr. MIM's intake of calories match his daily requirements? (5 marks)
- E. State one **nutritional diagnosis** for Mr. MIM using the nutritional data given from the scenario. (3 marks)

- F. Outline your nutritional interventions towards assisting Mr. MIM attain nutritional wellbeing including two indicators that you would consider to evaluate your nutritional interventions. (10 marks)

[Total marks=25]

Question 2

Read the given scenario and answer the questions that follow:

Jeyi is a 4 year old boy. His mother visits a Health Center where you are assigned for your nursing practicals. Jeyi's mother tells you that her son is swollen and that he is highly irritable. On examination, you find the following:

- Weight 11kg
- Reddish colour hair
- Generalized oedema
- Moon faces
- Abdominal distension
- Hepatomegaly.
- Skin- dark, dry, with crazy pavement dermatitis

- A. Discuss the form of protein-energy malnutrition (PEM) that Jeyi is suffering from (5 marks)
- B. Which investigations would you conduct and or advocate for with regards to Jeyi's condition? (7 marks)
- C. How would you manage Jeyi's condition? (3 marks)
- D. Guide all mothers attending the Health Center on ways to improve micronutrient intakes. (10 marks)

[Total marks= 25]