



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

**FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE  
DEGREE OF MASTER OF SCIENCE IN COMMUNITY  
NUTRITION AND DEVELOPMENT**

**CITY CAMPUS**

**PCN 813: NUTRITION GROWTH AND DEVELOPMENT**

Date: 28<sup>th</sup> April, 2016

Time: 9.00 - 12.00 noon

**INSTRUCTIONS:**

- This paper is made up of three (3) sections, A, B, and C
- Section A has 10 marks and is composed of Multiple Choice Questions (MCQs)
- Section B has 10 marks and is composed of Short Answer Questions (SAQs)
- Section C has 40 marks and is composed of Long Answer Questions (LAQs)
- Answer ALL questions in sections A and B in the spaces provided in the question paper
- Answer TWO (2) questions in Section C, the first Question is compulsory (each question = 20 marks) in the answer booklet provided.



**ANSWER SHEET FOR (TRUE/FALSE) QUESTIONS**

REG. NO \_\_\_\_\_  
COURSE CODE AND TITLE \_\_\_\_\_  
SECTION \_\_\_\_\_

	<b>T</b>	<b>F</b>		<b>T</b>	<b>F</b>
1			6		
2			7		
3			8		
4			9		
5			10		

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION (20 MARKS)**

**Indicate with a tick, whether the following statements are true/false (10 Marks)**

- MCQ1.** Excess consumption of alcohol is a secondary cause of undernutrition
- MCQ2.** Vitamins are energy yielding nutrients
- MCQ3.** One kcalorie is amount of heat necessary to raise the temperature of 10 kg of water 1°C.
- MCQ4.** Basal energy expenditure' (BEE), is expressed as kcal/h (kJ/h).
- MCQ5.** Polysaccharides are non-sweet and less soluble in water.
- MCQ6.** Calcium is the most abundant inorganic chemical in the human body.
- MCQ7.** Sodium is involved in body fluid osmolarity but does not play the decisive role in determining extracellular osmolarity.
- MCQ8.** National food supply is calculated from domestic food production plus imports and food taken from stocks.
- MCQ9.** Total diet studies are specifically designed to establish chemical analysis of the dietary intake of food contaminants by a person consuming a typical diet.
- MCQ10.** Height combined with age gives an index for acute malnutrition.

### SECTION B (10 Marks)

**SAQ11.** Define the following terms (total 3Mrks- ½ Mrk each)

- |               |                       |
|---------------|-----------------------|
| a). Nutrition | d). Diet              |
| b). Nutrients | e) Nutritional status |
| c). Food      | f) Health             |

**SAQ12.** Differentiate between: (2Marks)

- (i) Growth and Development

**SAQ13.** State **FIVE (5)** advantages of breastfeeding to the infant (2 ½ - ½ Mrk each).

**SAQ 14.** State at least **FIVE (5)** groups of people who are at greatest risk of vitamin deficiency (2 ½ Mrks – ½ Mrk each).

### SECTION C (40 MARKS)

**Answer question 15 and any other in the answer booklet provided.**

**LAQ 15. Read the following Case and answer the questions that follow (20 Marks)**

PL is an obese 22-year-old woman who is pregnant for the fifth time (gravid 5). PL is a single woman, who presents for her first prenatal visit at 22 weeks of gestation reporting constipation and heartburn (the normal gestation period is 40 weeks). She is para 3013. The term para n has four components related to the number of viable pregnancies: 3 full-term births; no preterm births; one abortion, and 3 live children.

All of PL's newborns were delivered by cesarean section. Her first cesarean section was performed for arrest of the normal progress of labor. Subsequent cesarean sections were elective. Each of her infants weighed more than 10 pounds at birth; however, she was never diagnosed with gestational diabetes. She is not hypertensive and has no history of pregnancy-induced hypertension during previous gestations. PL currently takes no medication; she does not smoke or drink alcohol.

PL's physical examination is as follows: Height: 5'6" (168cm); Current weight: 259 lb (118kg); Estimated prepregnancy weight: 242 lb (110kg); General appearance: tired-looking, obese female, poor eye contact; Abdomen: trunkal obesity; Fundal height: cannot be assessed due to obesity; Extremities: Varicose veins, edema +1.

- a) What questions about PL's weight should be asked and why? (4 Mrks)

- b) How much additional weight should PL gain through the remainder of her pregnancy? (5 Mrks)
- c) What medical complications during pregnancy are associated with obesity? (6 Mrks)
- d) What dietary and lifestyle habits contribute to heartburn and constipation in pregnant women? What nutritional advice can be given to help the patient avoid these gastrointestinal discomforts? (5Mrks)

**LAQ16.**

- a) Discuss at least **TEN (10)** factors affecting food choices (10 Marks)
- b) Mary was feeling unwell and for breakfast she only ate 1 slice of bread with 1 teaspoon of peanut butter applied on it. Her diet contained 16 grams carbohydrate, 7 grams protein, and 9 grams fat. Calculate the total energy available from the diet and the percentage kcalories which each of the nutrients contributed to the total. (10 Marks).

**LAQ17. Read the following story and answer the questions that follow (20 Mrks)**

PL (in question 15) is obese and has already gained an excessive amount of weight, her diet should be evaluated prior to suggesting a nutrition plan. A frequently used evaluation tool is the 24-hour dietary recall. PL reported the following 24-hour dietary recall.

**PL's 24-Hour Dietary Recall**

<b>Breakfast</b> ( <i>home</i> )	fried eggs	2
	Fried bacon	4 slices
	Orange juice	1 cup
	Toast/margarine	2 slices/2 tsp
<b>Lunch</b> ( <i>fast food restaurant</i> )	Cheeseburger	¼ lb. size
	French fries	small
	Cola soda	12oz.
	Apple pie	1 piece
<b>Snack</b> ( <i>while shopping</i> )	Sticky bun/margarine	1 small/1 tbs.
<b>Dinner</b> ( <i>home</i> )	Fried chicken breast	4oz.
	Macaroni cheese	½ cup
	Corn on the cob	1 ear
	Margarine	3 tbs.
<b>Snack</b> ( <i>home</i> )	Ice cream	1 cup

Total calories: 2977 kcal/day; Protein: 13% of calories; Carbohydrates:40% of calories; Fat: 47% of calories

- a) What concerns do you have regarding PL's diet? (4 Mrks)

- b) Based on the preceding assessment, what dietary modifications would you suggest? **(4 Mrks)**
- c) Should a vitamin & mineral supplement be considered for this patient? Why or why not **(4Mrks)**
- d) Discuss maternal nutrient needs during pregnancy **(8 Mrks)**