

**UNIVERSITY OF KWAZULU-NATAL  
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES  
DIETETICS AND HUMAN NUTRITION  
EXAMINATION: NOVEMBER 2012  
SUBJECT, COURSE & CODE: DIET 711  
THERAPEUTIC DIETETICS INTERNSHIP-PY**

**DURATION: 3 HOURS**

**TOTAL MARKS: 150**

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**External Examiner: Mrs J. Visser  
Internal Examiner: Mrs J. Galliers, Mrs S. Kassier**

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**NOTE: THIS PAPER CONSISTS OF SEVEN (7) PAGES, PLUS THIRTEEN (13) REFERENCE PAGES (ON YELLOW PAPER) AND APPENDIX I, II, III AND IV FOR CALCULATIONS (ON GREEN PAPER). PLEASE SEE THAT YOU HAVE THEM ALL.**

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**INSTRUCTIONS:**

- **ANSWER THREE (3) OF THE FOUR (4) QUESTIONS**
- **WRITE YOUR STUDENT NUMBER ON ALL ANSWER BOOKS AS WELL AS APPENDIX I, II, III OR IV (EXTRA COPIES HAVE BEEN INCLUDED IN CASE YOU MAKE A MISTAKE)**
- **DO NOT WRITE IN PENCIL- IT WILL NOT BE MARKED**
- **ANSWER EACH QUESTION IN A SEPARATE ANSWER BOOKLET**
- **WRITE LEGIBLY-IF IT CANNOT BE READ IT WILL NOT BE MARKED**

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**Question 1**

Bongani is a 7 year old boy with Cerebral Palsy from birth. He lives with his mother, aunt and 3 siblings who are all currently attending school. His mother cannot work as there is no one to look after Bongani during the day. His mother receives a Child Support Grant and a Disability Grant, and Bongani's aunt is employed at Checkers. She is often allowed to take home food that is past its sell by date.

Bongani is admitted to the paediatric ward over the weekend with diarrhoea and vomiting for the past 3 days. He is dehydrated and an IV drip is inserted, with IV fluids running at 100ml/hr.

You receive a doctor's consult requesting Nasogastric feeds for Bongani. The doctor's notes specify Bongani is allowed 1200ml/day fluid allowance.

Upon assessment you gather the following information on Bongani:

Weight= 12kg Height=95cm

	Na	K	Cl	U	Cr	Alb	TP	Ca	Mg	P
4/11/2012	145	3.1	112	8	56	34	89	2.6	0.96	1.7

Home diet: Bongani's mother reports he copes well on a soft diet

Early morning	125ml cup tea with 4 tsp sugar and ¼ cup FC milk
Breakfast	1 cup porridge with 2 tsp sugar
Mid morning	125ml cup tea with 4 tsp sugar and ¼ cup FC milk
Lunch	1 cup Mashed potato, pumpkin and gravy
Mid afternoon	125ml cup tea with 4 tsp sugar and ¼ cup FC milk
Dinner	1 cup samp and beans

- 1.1 What is the definition of diarrhoea? (1)
- 1.2 Interpret Bongani's anthropometric status (4)
- 1.3 Using Appendix I calculate Bongani's nutritional requirements and plan an appropriate enteral feed for him (Use a stress factor of 50%). Indicate on the Annexure 4 at what rate you would start the feed, and the ultimate rate of feeding you hope to achieve (20)
- 1.4 The doctors have requested Bongani receive probiotics to treat the diarrhoea. You supply the ward with 1 tablet per day for Bongani to take. That afternoon the Sister in charge phones you to find out about the tablet you have prescribed for Bongani, prior to her giving it to him. Please explain briefly to the Sister in charge what probiotics are, and how she should administer the probiotic to Bongani. (2)

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- 1.5 By day 3 Bongani is receiving full feeds and is tolerating them well, with no further vomiting and diarrhoea. The doctors want to remove his nasogastric tube and give him the full ward diet. Please comment on this. (7)
- 1.6 Bongani is due for discharge, and you have been asked to counsel his mom on his home diet. What recommendations/suggestions would you make? (16)

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Question 2

Mr Sithole is a 38 year old taxi driver diagnosed with HIV in 2008. He currently is not on any treatment, and at his last clinic visit in 2011 his CD4 count was 500. He presents to the HIV clinic on Wednesday with complaints of nausea, vomiting and fatigue.

Multiple tests and procedures are performed on Mr Sithole, and the doctors diagnose him with HIVAN. He is admitted to hospital, and you are sent a referral for dietary management. Mr Sithole is not yet on Haemodialysis.

You obtain the following information from his file and by talking to him:

Anthropometrics: Weight= 87kg                      Height= 1.75m

Biochemistry:

	Na	K	Cl	U	Cr	Alb	TP	Ca	Mg	P	Chol	TG	LDL
7/11/12	130	5.5	105	14	525	16	54	1.6	0.8	1.3	9	1.7	4.5

CD4 is pending

Proteinuria: 2+ on urine dipstick

Urine output: 500ml/day

Diet history:

Breakfast	Nothing
Mid- morning	Vetkoek x 2 and polony x 4 slices, guava juice (20%)
Lunch	1 large takeaway container Samp and beans/bunny chow, and 500ml coke
Supper	4 ladles Chicken curry and 5 ladles rice, beer x 4

Personal habits: Mr Sithole smokes 20 cigarettes per day, and drinks beer every evening to help him relax from his stressful job

- 2.1 Interpret Mr Sithole's anthropometrics (2)
- 2.2 Calculate his dietary prescription, using Appendix II (13)
- 2.3 Comment on his blood results, pertaining to his disease condition (16)
- 2.4 The doctors treating Mr Sithole are concerned about his renal function, and decide to start him on HAART, Regimen 1a. A common side effect of the medication is nausea and vomiting.
  - 2.4.1 Identify one drug in Regimen 1a that is responsible for causing this side effect. (1)
  - 2.4.2 Advise Mr Sithole when he should be taking these drugs in relation to meals. (3)
  - 2.4.3 What tips can you give Mr Sithole to aid his oral intake when he feels nauseous? (4)

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- 2.5 Mr Sithole is shocked to hear his cholesterol is so high. Indicate briefly how his diet could be adjusted to improve his lipid profile. (7)
- 2.6 Mr Sithole's wife does not believe her husband will make the necessary dietary changes you have recommended. As a result she buys him a multivitamin supplement which she feels will improve his health and nutritional status. Upon reading the label on the supplement bottle you see it contains the following:

Vitamin A	2000µg
Vitamin B1	2.8mg
Vitamin B2	4mg
Niacin	38mg
Folic acid	1200µg
Vitamin C	3000mg
Vitamin D	35µg
Vitamin E	50mg

- 2.6.1 What would you advise Mr and Mrs Sithole regarding the use of multivitamin and mineral supplements? (4)

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Question 3

Tessa is 62 years old, and has stage 2 colon cancer. She recently underwent surgery to remove the cancerous tissue, and is now on a 6 month course of chemotherapy treatment.

Her GP refers her to your private practice, as he is concerned about the amount of weight she has lost. He sends Tessa's latest blood results with her when she comes for her first appointment with you.

After chatting to Tessa you obtain the following information from her:

Current weight: 50kg    Weight 1 month ago: 58kg    Weight 6 months ago: 64kg

Height: 1.62m

Blood results:

	Na	K	U	Cr	Ca	Mg	P	TP	Alb	Hb	Lymphocytes	RBC	WBC
28/10/2012	136	3.3	1.9	108	1.8	0.81	1.3	57	19	9.8	1200	3.4	2

Diet history: Tessa informs you she became a vegan after being diagnosed with cancer. Since starting the chemotherapy she has developed lactose intolerance, which her doctor assures her will stop once she has finished chemotherapy. She also suffers from nausea.

Breakfast	1 cup Oats with 1Tbsp honey, 1 cup black Rooibos tea
Mid- morning snack	200ml Smoothie made from alfalfa sprouts, wheatgerm, carrots and beetroot
Lunch	1 side plate Green salad with 1 cup black Rooibos tea
Mid afternoon snack	1 apple, 1 cup black Rooibos tea
Supper	½cup Grilled vegetables (butternut, peppers, broccoli, onions) and ½ cup organic rice.

Whilst Tessa is talking to you, you notice she has a pale complexion, with pale gums and tongue. Her skin appears dry and is peeling, and her nails have ridges in them.

- 3.1 Considering the above information, please interpret Tessa's nutritional status. (26)
- 3.2 Calculate and interpret her Nutrition Risk Score. (2)
- 3.3 What would have caused her nutritional status to have declined so much? (5)
- 3.4 Calculate her nutritional requirements using Appendix III. (12)
- 3.5 How can she improve her diet without compromising her dietary constraints? (10 x ½)

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Question 4

Nerusha is a 42 year old wife and mother of 2 teenage boys. She was retrenched 3 years ago, and has been unable to find another job since then. One day whilst watching TV she sees an advert for life insurance, and decides to investigate further. The company offering Nerusha insurance asks her to go to her nearest Dischem store for an assessment, including blood tests.

A few weeks later she receives a letter from the insurance company saying that her request has been declined due to her poor health status, which they have indicated below.

Wt: 92kg      Ht: 1.56m      BMI: 37.8kg/m<sup>2</sup>

Waist circumference: 91cm      Waist to hip ratio: 0.86

Fasting blood glucose: 7mmol/l

Blood pressure: 145/98mmHg

TG: 1.7mmol/l

HDL cholesterol: 0.82mmol/l

Nerusha is very disappointed by her weight. She is unsure what the rest of the information means, so she asks her neighbour who is a dietitian (you) to interpret the results.

- 4.1 Identify the condition Nerusha suffers from. Justify your answer. (9)
- 4.2 Nerusha asks you to help improve her health. List your goals of treatment. (8)
- 4.3 Calculate Nerusha's dietary requirements using Appendix IV. (14)
- 4.4 Draw up a diet plan using the exchanges. (10)
- 4.5 Nerusha is extremely grateful for your help, and asks for one more favour. Her younger sister has an 8 month old daughter who is often ill, most recently with bronchitis. They are concerned that she hasn't been eating very well for the last 3 weeks.

Weight: 6kg      Length: 63cm      HC: 43cm

- 4.5.1 Interpret her niece's anthropometric measurements. (8)
- 4.5.2 Is her nutritional status an acute or a chronic problem? Justify your answer. (1)

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