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1ST SEM. 2016/17



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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION AND
TECHNOLOGY, CONSUMER
SCIENCE, CONSUMER SCIENCE
EDUCATION YEAR II

COURSE CODE : FNS 203

TITLE OF PAPER : HUMAN NUTRITION

TIME ALLOWED : TWO (2) HOURS

INSTRUCTION : ANSWER QUESTION ONE (1) AND
ANY OTHER TWO (2) QUESTIONS

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GRANTED BY THE CHIEF INVIGILATOR

QUESTION 1 (COMPULSORY)

Case study: Teenage pregnancy and its complications:

Zodwa is a 17-year old female at 24 weeks' gestation. She is attending high school and lives with the father of her baby. During her health checkup at the community centre clinic, she complained of feeling tired most of the time. A blood sample was drawn and analyzed; her hemoglobin level was 8.5 mg/dl and hematocrit was 30 percent. The normal hemoglobin value is 12 to 16 g/dl and hematocrit 37 to 47 percent. Typically, many physiologic and biochemical changes occur during pregnancy, but Zodwa's blood values were lower than what is usual. Zodwa indicated that she is still smoking three packs of cigarette a day because she is worried about gaining too much weight. She has only visited the community centre clinic twice since she found out she was pregnant, and she has stopped taking her prenatal vitamins because one of her friends told her that the vitamins can cause constipation. She continues to wear the clothes she wore before the pregnancy even though the clothes are tight on her. Additional assessment showed that Zodwa's weight for height (BMI) was less than 18.5 and she had spoon-shaped fingernails on two fingers. The dietician assessed Zodwa's dietary intake using a 24-hour recall and the Nutritional Risk Score. Her 24-hour recall showed a lack of some of the essential nutrients such as protein, iron, folate, calories, and some vitamins. Zodwa's Nutritional Risk Score was less than 50. Her daily caloric intake was 1,000 Kcal per day. She likes to drink espresso, at least 4 cups a day. Zodwa's present income is at 185 percent of the poverty guidelines. The dietician asked Zodwa if she wants to breastfeed her baby and if she could attend a workshop on breastfeeding.

- (a) What are some issues in adolescent pregnancy that influence nutritional well-being and need to be addressed in intervention strategies? **(6 Marks)**
- (b) What are the requirements for energy and protein during infancy for Zodwa's baby? Explain why carbohydrates and fat are so important during infancy. **(6 Marks)**
- (c) What vitamins and minerals are of main concern during infancy, and why should the dietician explain them to Zodwa? **(6 Marks)**
- (d) What are some of the benefits of breastfeeding for infants? For Zodwa and other mothers? **(8 Marks)**
- (e) Consuming large amounts of caffeine during pregnancy is discouraged because of its effect on some essential nutrients and on the fetus. What are the negative effects of excessive consumption of caffeine, which nutrients may be affected, and how many cups of coffee should a pregnant woman consume each day? **(4 Marks)**

- (f) Zodwa is smoking three packs of cigarette a day. What are the consequences of cigarette smoking during pregnancy. (2 Marks)
- (g) Explain to Zodwa why dieting during pregnancy is not recommended. What are the functions of calories during pregnancy? List the recommended amounts of calories during the second and third trimesters. (4 Marks)
- (h) Zodwa's hemoglobin is very low due to inadequate iron intake. What are the consequences of low blood iron? List the foods that Zodwa should consume to increase her iron intake (4 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Briefly explain how the body extracts and utilizes energy from food. (15 Marks)
- (b) Using the UNICEF's conceptual Framework, describe the causes of poor nutrition. (15 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- (a) Describe infant and young child feeding practices recommended by the World Health Organization (WHO) (15 Marks)
- (b) Discuss nutrition-related concerns during childhood and adolescence. (15 Marks)

[TOTAL MARKS = 30]

QUESTION 4

Write brief notes on the following important food and nutritional problems:

- (a) Protein-Energy Malnutrition (PEM) (10 Marks)
- (b) Vitamin A deficiency (10 Marks)
- (c) Iodine Deficiency Disease (IDD) (10 Marks)

[TOTAL MARKS = 30]