

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE IN HUMAN
NUTRITION AND DIETETICS**

HNDS 224: MATERNAL AND CHILD NUTRITION

STREAMS: BSC (HND) Y2S2

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 16/04/2025

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- **Answer ALL questions**
- **Do not write anything on the question paper**
- **No use of mobile phones or any other unauthorized materials**
- **Write your answers legibly and use your time wisely**

SECTION A: MULTIPLE CHOICE QUESTIONS [ONE MARK EACH] [20 MARKS]

1. Which micronutrient is essential for the prevention of neural tube defects during pregnancy?
 - A. Iron
 - B. Vitamin C
 - C. Folate (Vitamin B9)
 - D. Vitamin D

2. -----is a condition characterized by high blood pressure and protein in the urine during pregnancy.
 - A. Gestational diabetes
 - B. Pre-eclampsia
 - C. Ectopic pregnancy
 - D. Placenta previa

3. A deficiency in which vitamin can lead to delayed physical growth in children?
 - A. Vitamin A
 - B. Vitamin C
 - C. Vitamin D
 - D. Vitamin E

4. Which trimester of pregnancy has the highest increase in energy requirements?
 - A. First trimester
 - B. Second trimester
 - C. Third trimester
 - D. Energy requirements remain constant throughout pregnancy
5. Which one of the following statements is incorrect?
 - A. Introduction of complementary foods too early may give rise to allergic reactions
 - B. Delayed introduction of complementary foods may give rise to growth faltering
 - C. Breastfeeding should continue to the age of 2 years or beyond
 - D. Low-fat and high-fibre diets are appropriate for infants under the age of 2
6. Which of the following is not a consequence of maternal malnutrition?
 - A. Increased risk of low birth weight
 - B. Higher risk of gestational diabetes
 - C. Reduced risk of anemia
 - D. Increased risk of maternal mortality
7. What is the best approach for a mother experiencing let-down reflex issues?
 - A. Using relaxation techniques and skin-to-skin contact
 - B. Avoiding breastfeeding when stressed
 - C. Feeding only when the baby cries
 - D. Taking hormonal medications immediately
8. A newborn should be breastfed:
 - A. Every 4–5 hours
 - B. Only when the baby cries
 - C. On demand, at least 8–12 times per day
 - D. Only at night to prevent overfeeding
9. Which of the following micronutrient deficiencies is a leading cause of preventable childhood blindness?
 - A. Iron deficiency
 - B. Iodine deficiency
 - C. Vitamin A deficiency
 - D. Zinc deficiency

10. Which of the following statements is/are true?

There is increasing concern about the importance of adequate nutrition in the pre-conception period to support a successful pregnancy. This is because:

- A. In the embryonic period the foetus is vulnerable to external factors in its environment
 - B. the embryonic period often occurs before a woman knows she is pregnant
 - C. interventions in late pregnancy may be too late to be effective
 - D. all of the options given are correct
11. Infants born to mothers who are vegan may be at increased risk of deficiency of which nutrient?
- A. Vitamin C
 - B. Folate
 - C. Vitamin B12
 - D. Calcium
12. Which of the following nutrients is found in the highest concentration in breastmilk during the first few days after birth (colostrum)?
- A. Protein
 - B. Immunoglobulins (antibodies)
 - C. Carbohydrates
 - D. Fat
13. Which of the following is a key difference between breastmilk and infant formula?
- A. Formula contains higher amounts of carbohydrates
 - B. Formula contains fewer immunological components
 - C. Formula lacks the natural antibodies found in breastmilk
 - D. Formula is more easily digested than breastmilk
14. Which of the following is the most common cause of nipple pain in breastfeeding mothers?
- A. Engorgement
 - B. Poor latch
 - C. Thrush infection
 - D. Mastitis
15. What is the most common nutritional deficiency in infants and toddlers worldwide?
- A. Iron deficiency
 - B. Vitamin C deficiency
 - C. Protein deficiency
 - D. Zinc deficiency

16. A pregnant lady has been complaining of constipation all the time. Which of the following will you recommend to her ?
- Daily enemas
 - Decreased fluid intake
 - Laxatives
 - Increased fibre intake
17. At what age do infants require additional iron from dietary sources beyond breast milk?
- Around 6 months
 - 3 months
 - 9 months
 - 12 months
18. What is the recommended total weight gain during pregnancy for a woman with a normal BMI (18.5–24.9 kg/m²)?
- 5–10 kg
 - 11.5–16 kg
 - 17–20 kg
 - 20–25 kg
19. Which of the following is not an attribute of human milk?
- high lactose content
 - presence of a bifidus factor
 - antibody content
 - high mineral content
20. The third trimester is the main time for storage of:
- iron, fat, and calcium.
 - iron, calcium, and folate.
 - vitamin D, vitamin K, and fat.
 - fat, calcium, and folate.

SECTION B: SHORT ESSAY QUESTIONS

[30 MARKS]

- Give five signs of an active oxytocin reflex (5 marks)
- Explain the nutritional superiority of breast milk to other infant foods (5 marks)
- What are critical periods of development, and why are they significant in embryonic growth? (3 marks)
- Suggest five tips you would give to a pregnant woman for managing heartburn (5 marks)

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5. Considering the unique opportunities both men and women have to prepare for pregnancy, suggest five specific habits that a couple can establish in preparation for conception (5 marks)
6. Highlight three advantages of cup feeding (3 marks)
7. Briefly describe the hormonal control of milk production (4 marks)

SECTION C: LONG ESSAY QUESTIONS

[20 MARKS]

1. Examine the feeding problems that parents and care givers face with their infants (10 marks)
 2. Explain five factors predicting high-risk pregnancies and give one consequence of each (10 marks)
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