Name: **Enrolment No:**	UPES UNIVERSITY OF TOMORROW

UPES

End Semester Examination, May 2025

Course Nutrition Through the Life Cycle — **Semester: II**

Program: M.Sc. in Nutrition and Dietetics — **Time: 03 hrs.**

Course Code: HSND7020 — **Max. Marks: 100**

Instructions: Please read all the questions carefully.

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1.	**The onset of menarche is influenced by which of the following factors?** A. Genetic factors B. Nutritional status C. Hormonal regulation D. All of the above	**1.5**	**CO 2**
Q 2.	**Which of the following hormones is primarily responsible for regulating the menstrual cycle after menarche?** A. Progesterone B. Estrogen C. Luteinizing Hormone (LH) D. Follicle Stimulating Hormone (FSH)	**1.5**	**CO 1**
Q 3.	The age of menarche can be delayed in individuals who have a low body mass index (BMI). **True/False**	**1.5**	**CO 2**
Q 4.	**During adolescence, an increased need for which nutrient is observed due to rapid growth and development?** A. Protein B. Calcium C. Iron D. All of the above	**1.5**	**CO 3**
Q 5.	**Which dietary modification can help alleviate symptoms of premenstrual syndrome (PMS)?** A. High caffeine intake B. Increased intake of magnesium and vitamin B6 C. Low-fat diet D. Increased sugar intake	**1.5**	**CO 3**

Q 6.	Adolescents have a greater risk of developing eating disorders due to societal pressure and body image concerns. **True /False**	**1.5**	**CO 2**
Q 7.	**Which micronutrient is essential for DNA synthesis and is especially important during pregnancy in adulthood?** A. Folate B. Vitamin A C. Calcium D. Zinc	**1.5**	**CO 2**
Q 8.	**The primary cause of sarcopenia in older adults is:** A. Increased physical activity B. Chronic inflammation C. Decreased protein intake and muscle synthesis D. Excessive carbohydrate consumption	**1.5**	**CO 1**
Q 9.	**The theory of aging that emphasizes damage to cells by free radicals is called:** A. Genetic theory B. Wear and tear theory C. Free radical theory D. Evolutionary theory	**1.5**	**CO 1**
Q 10.	**Which nutrient is most commonly deficient in older adults due to decreased gastric acid production and absorption efficiency?** A. Iron B. Calcium C. Vitamin B12 D. Vitamin D	**1.5**	**CO 3**
Q 11.	**The Recommended Dietary Allowance (RDA) for protein in infants is:** A. 0.6 g/kg body weight B. 1.2 g/kg body weight C. 2.5 g/kg body weight D. 0.8 g/kg body weight	**1.5**	**CO 3**
Q 12.	**Nutritional requirements for preschool children include an increased need for:** A. Protein and fat B. Carbohydrates and fiber C. Vitamins and minerals, especially calcium and iron D. Water and electrolytes	**1.5**	**CO 4**
Q 13.	**Protein-energy malnutrition (PEM) in preschool children is most commonly due to:** A. Excessive protein intake B. Deficiency of both protein and energy	**1.5**	**CO 2**

	C. Iron deficiency D. All the above		
Q 14.	**Fetal programming refers to:** A. The development of organs in the womb B. The influence of maternal nutrition on the long-term health of the offspring C. The physical activity of the mother during pregnancy D. The use of supplements during pregnancy	**1.5**	**CO 2**
Q 15.	**Which of the following is NOT a complication associated with pregnancy?** A. Gestational diabetes B. Pre-eclampsia C. Hyperthyroidism D. Morning sickness	**1.5**	**CO 3**
Q 16.	**The recommended increase in calorie intake during the second and third trimesters of pregnancy is:** A. 100 kcal/day B. 300 kcal/day C. 500 kcal/day D. 700 kcal/day	**1.5**	**C0 3**
Q 17.	**Which of the following is NOT a degenerative disease of old age?** A. Sarcopenia B. Osteoporosis C. Type 1 diabetes D. Cognitive decline	**1.5**	**CO 2**
Q 18.	Older adults need fewer micronutrients than younger adults. **True/False**	**1.5**	**CO 2**
Q 19.	**Early marriages and conception in adolescence increase the risk of:** A. Low birth weight infants B. Maternal mortality C. Nutritional deficiencies D. All of the above	**1.5**	**CO 3**
Q 20.	**The Tanner stages are used to assess:** A. The nutritional status of children B. Pubertal development and physical maturity C. Bone density in children D. The effectiveness of growth hormones	**1.5**	**CO 1**

Section B **(4Qx5M=20 Marks)**			
Q 1	Explain the physiological changes that occur in the Integumentary System during aging.	**5**	**C0 4**
Q 2	Discuss premenstrual syndrome (PMS). Highlight the role of nutrition and lifestyle modifications in managing PMS symptoms	**5**	**CO 3**
Q 3	Explain the Tanner Stages (SMR) and discuss their importance in evaluating pubertal development.	**5**	**CO 2**
Q 4	Explain the physiology of menarche and the menstrual cycle, focusing on the hormonal regulation by the hypothalamus, pituitary, and ovaries.	**5**	**CO 1**
Section C **(2Qx15M=30 Marks)**			
Q 1	Discuss common eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorder. Explain their potential impact on physical and mental health, and suggest strategies for prevention and treatment	**15**	**CO 1,** **CO 3,**
Q 2	A 16-year-old female Student, Ana, presents to the clinic with complaints of fatigue, dizziness, and pale skin. She has also experienced frequent headaches and difficulty concentrating at school. She reports heavy menstrual bleeding over the last 6 months, with periods lasting 7-8 days. Her dietary intake mainly consists of fast food, and she avoids leafy vegetables, red meat, and iron-rich foods due to personal preferences. Upon examination, her hemoglobin level is found to be 9.2 g/dL, and other laboratory tests confirm low serum ferritin levels. **Question:** 1. Based on the case study provided, discuss the likely causes of Ana's anemia. 2. Describe the nutritional interventions and dietary modifications that would be most effective in managing Anjali's anemia. 3. Discuss the potential long-term consequences of untreated anemia in adolescents and the importance of early diagnosis and treatment.	**15**	**CO 2,** **CO 3,** **CO 4**

Section D (2Qx10M=20 Marks)			
Q 1	Explain the physiological changes that occur in the musculoskeletal system during aging. Discuss how these changes affect muscle mass, bone density, joint function, and mobility	**10**	**CO 1, CO 2**
Q 2	Outline the nutritional and biological challenges faced during adolescence marriage and discuss strategies to prevent these challenges. Focus on the impacts of early marriage on adolescent health and well-being.	**10**	**CO 2 CO 3**