


Name:			
Enrolment No:			
UPES			
End Semester Examination, December 2024			
Course: Principles of Nutrition		Semester : I	
Program: BSc Food Nutrition and Dietetics		Duration : 3 Hours	
Course Code: HSND 1001		Max. Marks: 100	
Instructions: Read all the questions carefully.			
S. No.	Section A	Marks	COs
	Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)		
Q 1	Define health.	1.5	CO1
Q 2	State two key differences between saturated and unsaturated fatty acids.	1.5	CO1
Q 3	Which of the following methods of nutritional status assessment relies on self-reported data regarding food consumption habits over a specified period? a. 24-hour dietary recall b. Food frequency questionnaire c. Anthropometry d. Biochemical assessment	1.5	CO1
Q 4	List any three water soluble vitamins.	1.5	CO1
Q 5	Anjali is a vegetarian and wants to ensure she is consuming complementary proteins to meet her amino acid requirements. Which of the following combinations of plant-based foods would provide all the essential amino acids? 1. Rice and beans 2. Peanut butter and pita bread 3. Lentils and chickpeas 4. Corn and peas Options: A. 1 and 3 only B. 1, 3, and 4 only C. 2 and 4 only D. 1 and 2 only	1.5	CO4
Q 6	Outline the role of liver and kidney in protein excretion.	1.5	CO2
Q 7	Why is it important to wash vegetables before cutting them? a. Washing after cutting helps reduce vitamin B loss by minimizing exposure to water. b. Washing vegetables before cutting decreases the leaching of water-soluble vitamins.	1.5	CO3

	<p>c. Washing vegetables before cutting helps retain the vitamin B content.</p> <p>d. Vitamin B complex is not affected by cutting or washing vegetables.</p>										
Q 8	<p>Which of the following statements about glycemic load (GL) is correct?</p> <ol style="list-style-type: none"> 1. GL considers both the quality and quantity of carbohydrates in a food. 2. A high GL food causes a rapid increase in blood sugar levels. 3. Foods with a high GL have a low impact on insulin levels. 4. GL is calculated by multiplying the glycemic index by the carbohydrate content per serving and dividing by 100. <p>Options:</p> <p>A. 1, 2, and 4 only</p> <p>B. 2 and 3 only</p> <p>C. 1 and 3 only</p> <p>D. 1 and 4 only</p>	1.5	CO2								
Q 9	<p>Which of the following hormones are correctly paired with their role in regulating hunger and satiety?</p> <ol style="list-style-type: none"> 1. Ghrelin - Stimulates hunger 2. Leptin - Promotes satiety 3. Insulin - Signals satiety after a meal 4. Cortisol - Directly suppresses appetite <p>Options:</p> <p>A. 1, 2, and 3 only</p> <p>B. 2 and 4 only</p> <p>C. 1 and 3 only</p> <p>D. All of the above</p>	1.5	CO2								
Q 10	<p>Match the following minerals with their primary health functions:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1. Zinc</td> <td>a. Prevents dental caries</td> </tr> <tr> <td>2. Iron</td> <td>b. Supports oxygen transport in blood</td> </tr> <tr> <td>3. Iodine</td> <td>c. Essential for thyroid hormone production</td> </tr> <tr> <td>4. Fluoride</td> <td>d. Promotes immune function and wound healing</td> </tr> </table>	1. Zinc	a. Prevents dental caries	2. Iron	b. Supports oxygen transport in blood	3. Iodine	c. Essential for thyroid hormone production	4. Fluoride	d. Promotes immune function and wound healing	1.5	CO2
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Q 11	<p>What makes teeth stronger and more resistant to decay?</p> <ol style="list-style-type: none"> a. Hydroxyapatite b. Fluoroapatite c. Calcium carbonate d. Phosphoric acid 	1.5	CO2								
Q 12	<p>Riya, a college student, noticed that her skin bruises easily and her wounds take longer to heal. She admits to rarely eating fruits or vegetables.</p> <p>How might her diet be affecting collagen production?</p>	1.5	CO3								
Q 13	<p>Which staple food item can act as a good fortification vehicle for Vitamin E?</p>	1.5	CO3								
Q 14	<p>Name the coenzymes of</p>	1.5	CO2								

	a. Thiamin b. Riboflavin c. Niacin		
Q 15	State the signs and symptoms of folic acid in infants.	1.5	CO2
Q 16	What is Wernicke-Korsakoff syndrome?	1.5	CO2
Q 17	Mention the role of renin and angiotensin in water and electrolyte balance.	1.5	CO2
Q 18	State the principle of indirect calorimetry.	1.5	CO2
Q 19	Sandeep is on antibiotics due to a long-standing infection. State which vitamin deficiency will occur in this scenario?	1.5	CO4
Q 20	Yana is a vegetarian, constantly suffers from acidity because of her odd work hours and use antacids for the same. She consulted a doctor about bone issues and constant tiredness. Suggest what could be the reason for the issue she is facing.	1.5	CO4
Section B (4Qx5M=20 Marks)			
Q 1	Differentiate between fat soluble and water-soluble vitamins.	5	CO1
Q 2	Discuss the factors affecting the absorption of minerals in the body.	5	CO3
Q 3	Illustrate the role of bile in lipid digestion.	5	CO2
Q 4	Differentiate between malnutrition and hidden hunger. Provide one example of a health issue caused by hidden hunger and suggest a dietary strategy to address it.	5	CO3
Section C (2Qx15M=30 Marks)			
Q 1	a. Discuss the role of vitamin D and PTH in blood calcium regulation, using a clearly illustrated diagram. (7.5 marks) b. Elucidate the function and clinical deficiency symptoms of vitamin C in healing and bone strength. (7.5 marks)	15	CO3
Q 2	a. Outline the process of absorption and transport of vitamin B12 in the human body. (5 marks) b. Elucidate the role played by vitamin K in blood clotting, using an illustration. (5 marks) c. Emily sets up her camera in a dimly lit room to capture the ambiance of the scene. As she waits for her eyes to adjust to the low light, she notices changes in her vision. Describe the normal physiological changes that occur in the eye while they are adapting to dim light. (5 marks)	15	CO3
Section D (2Qx10M=20 Marks)			
Q 1	Illustrate the digestion and absorption of carbohydrates in the human body.	10	CO2
Q 2	a. Explain the concept of a balanced diet using the My Plate model. (5 marks) b. Reflect on how studying the Principles of Nutrition has influenced your personal lifestyle choices. (5 marks)	10	CO4