


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 Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1	Define nutritional status.	1.5	CO1
Q 2	State two key differences between saturated and unsaturated fatty acids.	1.5	CO1
Q 3	How is nutritional status typically assessed? a. Through subjective feelings b. Based on BMI c. Using a comprehensive approach with multiple assessment indicators d. Reliance on personal dietary preferences	1.5	CO1
Q 4	Name any three fat 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	Why do oligosaccharides commonly cause gas formation in the gut? a. Oligosaccharides are not fully digested in the small intestine and are fermented by gut bacteria in the large intestine. b. Oligosaccharides are absorbed quickly and cause bloating. c. Oligosaccharides stimulate the production of digestive enzymes. d. Oligosaccharides are rich in fiber and slow down digestion.	1.5	CO2
Q 7	Why is it important to consume cut fruits as soon as possible after preparation?	1.5	CO3

	<ul style="list-style-type: none"> a. Cut fruits are more prone to oxidation, leading to the loss of vitamin C. b. Cut fruits become less flavorful over time and may lose their appeal. c. The presence of oxygen helps preserve the nutrients in cut fruits. d. Cut fruits are safe to eat after a few hours as bacteria grow gradually. 										
Q 8	<p>Which of the following statements about glycemic load (GL) is correct?</p> <ul 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> <ul style="list-style-type: none"> A. 1, 2, and 4 only B. 2 and 3 only C. 1 and 3 only D. 1 and 4 only 	1.5	CO2								
Q 9	<p>Which of the following hormones are correctly paired with their role in regulating hunger and satiety?</p> <ul 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> <ul style="list-style-type: none"> A. 1, 2, and 3 only B. 2 and 4 only C. 1 and 3 only D. All of the above 	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>Which of the following factors inhibits the absorption of both calcium and iron in the body?</p> <ul style="list-style-type: none"> a. Vitamin C b. Vitamin E c. Lactose d. Phytates and oxalates 	1.5	CO2								
Q 12	<p>Reflect on what happens with Vitamin D when individuals rely on toned milk.</p>	1.5	CO4								
Q 13	<p>Identify which staple food item can act as a good fortification vehicle for Vitamin E.</p>	1.5	CO3								

Q 14	Name the coenzymes of a. Thiamin b. Riboflavin c. Niacin	1.5	CO2
Q 15	State the signs and symptoms of Iodine deficiency in children.	1.5	CO2
Q 16	Describe Wernicke-Korsakoff syndrome.	1.5	CO2
Q 17	Examine the role of Vitamin K in blood clotting.	1.5	CO3
Q 18	State three factors affecting BMR.	1.5	CO2
Q 19	Sandeep is suffering from kidney failure and is on dialysis. How does kidney failure affect calcium absorption?	1.5	CO4
Q 20	Deven is in the habit of drinking tea with his lunch. Suggest what could happen to the absorption of minerals.	1.5	CO4
Section B (4Qx5M=20 Marks)			
Q 1	Differentiate between simple and complex carbohydrates.	5	CO1
Q 2	Define dietary fiber. Discuss the various types of resistant starch along with their sources.	5	CO2
Q 3	Analyze the role of alcohol in vitamin B complex deficiency in the human body.	5	CO3
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 vision cycle and role of vitamin A in dark adaptation time using a clearly illustrated diagram. (7.5 marks) b. Elucidate the function and clinical deficiency symptoms of folic acid during prenatal development. (7.5 marks)	15	CO3
Q 2	a. Outline the hormonal regulation of water and electrolyte balance in the human body. (5 marks) b. Describe the mechanism by which vitamin D facilitates calcium absorption in the human body. (5 marks) c. Ashita is following a strict low-fat diet to reduce weight. She is also taking fat-soluble vitamin supplements. Discuss the potential implications of this dietary approach on the absorption of fat-soluble vitamins. (5 marks)	15	CO3
Section D (2Qx10M=20 Marks)			
Q 1	Illustrate the digestion and absorption of fats 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