


Name:			
Enrolment No:			
UPES End Semester Examination, December 2024			
Course: Fundamentals of Food Science		Semester: I	
Program: MSc-Nutrition and Dietetics		Time: 3 Hours	
Course Code: HSND7002		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
Q1	Identify the cooking methods that involve moist heat. A. Roasting B. Grilling C. Baking D. Steaming	1.5	CO-1
Q2	Which of the following is the most energy-dense food component? A. Carbohydrates B. Proteins C. Fats D. All of the above	1.5	CO-1
Q3	Which of the following foods is the most significant source of calcium in the diet? A. Cereals B. Legumes C. Milk and milk products D. All the above	1.5	CO-2
Q4	Identify the food which is not a source of vitamin B ₁₂ in the diet. A. Eggs B. Fish and Shellfish C. Meat and meat products D. Fruits and vegetables	1.5	CO-2

Q5	Foods rich in proteins are called: A. Energy-yielding foods. B. Body building foods C. Protective and Regulatory foods D. All the above.	1.5	CO-2
Q6	Proteins present in one of the foods have the highest biological value. A. Egg B. Legumes C. Rice D. Meat	1.5	CO-2
Q7	Identify the antioxidant compounds present in food. A. Anthocyanins and polyphenolic acid B. Carotenoids and tocopherols C. Ascorbic acid D. All	1.5	CO-2
Q8	Name the pigments responsible for the red color of pomegranate and strawberry fruits.	1.5	CO-3
Q9	Fill in the blank: The wheat variety,..... is used to make pasta and semolina.	1.5	CO-3
Q10	In cereal grain, layer helps to mobilize the food from the endosperm to the embryo during germination. A. Pericarp B. Aleurone layer C. Scutellum D. Cross-layer	1.5	CO-3
Q11	Fruits and vegetables are the primary sources of lactose in the diet (A-True; B-false).	1.5	CO-3
Q12	Identify the nutritional changes taking place during germination. A. Increase in vitamins B. Reduction in anti-nutrients C. Enhanced enzymatic activity D. All the above	1.5	CO-4
Q13	What is the size of the fat globule in the homogenized milk?	1.5	CO-4
Q14	What is the main product of sugar fermentation by yeast? A. Ethanol B. Lactic acid C. Acetic acid D. Carbon dioxide	1.5	CO-4
Q15	Name the two proteolytic enzymes found in fruits.	1.5	CO-4
Q16	Identify the incorrect statement about egg white protein.	1.5	CO-4

	<p>A. Ovalbumin is a major protein in egg whites.</p> <p>B. Avidin binds to biotin and makes the vitamin unavailable for absorption.</p> <p>C. Lysozyme has bactericidal properties.</p> <p>D. Cooking causes a significant decrease in the nutritional quality of egg white protein.</p>		
Q17	Polyphenols and tannins are responsible for the astringent taste of some vegetables (A-True, B-False).	1.5	CO-4
Q18	<p>The following process stabilizes newly formed milk fat globules during milk homogenization.</p> <p>A. Fat globule breakdown</p> <p>B. Adsorption of proteins or lipoproteins</p> <p>C. Loss of original membrane</p> <p>D. All</p>	1.5	CO-4
Q19	<p>Which compound is primarily responsible for the strong aroma and flavor of cloves?</p> <p>A. Eugenol</p> <p>B. Curcumin</p> <p>C. Capsaicin</p> <p>D. Vanillin</p>	1.5	CO-5
Q20	<p>What role does alkaline phosphatase play in pasteurization?</p> <p>A. It enhances the flavor of milk during pasteurization.</p> <p>B. It serves as a built-in indicator to gauge the adequacy of pasteurization.</p> <p>C. It accelerates the spoilage of milk after pasteurization.</p> <p>D. It increases the viscosity of milk during pasteurization.</p>	1.5	CO-5
<p>Section B (4Qx5M=20 Marks)</p>			
Q1	What are the various anatomical elements that constitute the structure of an egg?	5	CO-1
Q2	Describe the nutritional composition of milk.	5	CO-3
Q3	Explain how eggs are utilized in cookery.	5	CO-4
Q4	Discuss the protein composition of egg white and egg yolk.	5	CO-4
<p>Section C (2Qx15M=30 Marks)</p>			
Q1	Discuss in detail the quality parameters of an egg (7 marks). Explain how these parameters are evaluated (8 marks).	15	CO-2
Q2	What are the health-beneficial compounds in fruits and vegetables (8 marks), and explain how cooking and preservation methods impact these compounds (7 marks)?	15	CO-5

Section D (2Qx10M=20 Marks)			
Q1	What is rigor mortis? (3 marks) Explain how it influences the tenderization of meat. Describe the various methods used to tenderize and cure meat (7 marks).	10	CO-1
Q2	Discuss the mechanism of renin enzyme-mediated coagulation of milk. Explain the factors affecting the coagulation of milk.	10	CO-3