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

UPES

End Semester Examination, December 2024

Course: Fundamentals of Food Science — **Semester: I**

Program: MSc-Nutrition and Dietetics (ND) — **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	According to the food pyramid, the lowest servings are composed of: A. Fruit and vegetables B. Bread and cereals C. Meat, poultry, and fish D. Fats and oil	1.5	CO-1
Q2	Identify the cooking method that involves moist heat. A. Roasting B. Grilling C. Baking D. Steaming	1.5	CO-1
Q3	Identify the antinutrient in cereals and pulses that binds to minerals, reducing their bioavailability. A. Lectins B. Phytate and Tannins C. Cyanogenic glycosides D. Alkaloids	1.5	CO-2
Q4	Identify the incorrect pair. A. Myoglobin-pink/red color of meat. B. Ooporphyrins-brown color to the eggshell. C. Xanthophylls-Yellow/orange color of egg yolk. D. Anthocyanins-red color of beetroots.	1.5	CO-2
Q5	Foods rich in vitamins are called: A. Energy-yielding foods. B. Body building foods C. Protective and Regulatory foods	1.5	CO-2

	D. All the above.		
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	Which compound is responsible for the bitter flavor in vegetables? A. Terpenoids B. Flavonoids C. Sulfur compounds D. Alkaloids	1.5	CO-2
Q8	Identify the vitamins and their deficiency disease mismatch. A. Vitamin A- Night blindness B. Vitamin B1- Beriberi C. Vitamin B3- Pellagra D. Vitamin B5- Rickets	1.5	CO-3
Q9	Identify the incorrect statement about egg white protein. A. Ovalbumin is the major protein in egg whites. B. Avidin binds to biotin and makes the vitamin unavailable for absorption. C. Lysozymes have bactericidal properties. D. Cooking causes a significant decrease in the nutritional quality of egg white protein.	1.5	CO-3
Q10	Identify the end product of glucose fermentation by lactobacillus. A. Lactic acid B. Ethanol C. Propionic acid D. Butyric acid	1.5	CO-3
Q11	Whey protein contains significant levels of: A. Lipids B. Minerals C. Lactose D. Proteins	1.5	CO-3
Q12	Fill in the blank: ……. is a naturally occurring chemical compound found in the spice turmeric, responsible for the vibrant yellow color of turmeric.	1.5	CO-4
Q13	Fill in the blank: ……. is an enzyme that breaks fats (lipids) into smaller molecules, including fatty acids and glycerol.	1.5	CO-4

Q14	Identify the food which is not a source of vitamin B12 in the diet. A. Eggs B. Fish and Shellfish C. Meat and meat products D. Fruits and vegetables	1.5	CO-4
Q15	Name the two proteolytic enzymes found in fruits.	1.5	CO-4
Q16	Which compound is primarily responsible for the strong aroma and flavor of cloves? A. Eugenol B. Curcumin C. Capsaicin D. Vanillin	1.5	CO-4
Q17	Polyphenols and tannins are responsible for the astringent taste of some vegetables (A-True, B-False).	1.5	CO-4
Q18	The following process stabilizes newly formed milk fat globules during milk homogenization. A. Fat globule breakdown B. Adsorption of proteins or lipoproteins C. Loss of original membrane D. All	1.5	CO-4
Q19	At what point does oil start to decompose during cooking? A. Boiling point B. Melting point C. Smoke point D. Flash point	1.5	CO-5
Q20	Which process involves the conversion of sugars into alcohol and carbon dioxide by yeast? A. Fermentation B. Pasteurization C. Emulsification D. Hydrolysis	1.5	CO-5
Section B (4Qx5M=20 Marks)			
Q1	What are the various anatomical elements that constitute the structure of an egg?	5	CO-1
Q2	Describe the various processes involved in milk processing.	5	CO-3
Q3	Explain how the enzymatic breakdown of protopectin during ripening influences the texture of fruits.	5	CO-4
Q4	Explain how eggs are utilized in cookery.	5	CO-5

Section C (2Qx15M=30 Marks)			
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 is rigor mortis? Explain how it influences the tenderization of meat. Describe the various methods used for the tenderization of meat.	15	CO-3
Section D (2Qx10M=20 Marks)			
Q1	Describe the classifications, composition, nutritional value, and health benefits of fish.	10	CO-1
Q2	Explain the mechanism of renin enzyme-mediated coagulation of milk and describe the factors affecting the coagulation of milk.	10	CO-5