## Name:

## **Enrolment No:**



## UPES

## **End Semester Examination, December 2024**

Course: Food Processing Technology Program: B.Sc. Food, Nutrition and Dietetics Course Code: HSND3005

Duration: 3 Hours Max. Marks: 100

Semester: V

Instructions: All Questions are compulsors						
Instructions: All Questions are compulsory SECTION A						
S. Short answer questions/ MCQ/T&F						
No.	(20Qx1.5M= 30 Marks)	Marks	CO			
Q1	What is supercritical fluid extraction (SFE)?	1.5	CO5			
Q2	Differentiate between the freezing and refrigeration.	1.5	CO1			
Q3	Define sieving.	1.5	CO5			
Q4	What is constant pressure filtration?	1.5	COS			
Q5	Define foam mat drying.	1.5	CO2			
Q6	Differentiate between distillation and evaporation.	1.5	CO5			
Q7	What is surcharge angle in belt conveyor?	1.5	CO5			
Q8	Evaporation, desiccation and dehydration all mean the same thing.  a) True  b) False	1.5	CO2			
Q9	Which of the following functions of food packaging does Temperature-Time Indicator (TTI) covers?  a) Communication b) Convenience c) Containment d) Protection	1.5	CO4			
Q10	water is easiest to remove and evaporate from food.  a) Free water  b) Imbibed water  c) Colloidal gel water  d) None of the above	1.5	CO2			
Q11	What is one disadvantage of freeze-drying compared to freezing?  a) Shortes shelf life b) High cost and energy consumption c) Low nutritional retention d) Limited preservation of texture	1.5	CO2			
Q12	Which type of conveyor belt is commonly used for carrying bulk materials in a horizontal direction?  a) Flat belt b) Modular belt	1.5	COS			

	c) Sidewall belt						
	d) Pipe conveyor belt						
Q13	In vacuum distillation, substances boil at						
Q15	a) Exact temperature						
	b) Temperature slightly above boiling point	1.5	CO5				
	c) Temperature slightly below boiling point	1.5					
	d) High pressure						
Q14	Solvent extraction is a analytical technique.						
	a) Separating						
	b) Qualitative	1.5	CO5				
	c) Quantitative						
	d) Identification						
Q15	Which factor is crucial for preventing material spillage on a conveyor belt?						
	a) Belt color						
	b) Belt tension	1.5	CO5				
	c) Belt flexibility						
	d) Belt speed						
Q16	What is the working principle of microwave?	1.5	CO3				
Q17	What are the two methods used for the calculation of moisture content?	1.5	CO2				
Q18	What do you mean by sedimentation?	1.5	CO5				
Q19	is the working principle of freeze drying.	1.5	CO2				
Q20	Conveyors are	1.5	CO5				
	SECTION B						
	(4Qx5M=20 Marks)						
1	Describe the different compositional and non-compositional factors that affect the rate of freezing.	5	CO1				
2	Explain the different requirements of refrigerated storage.	5	CO1				
3	Discuss the steam, batch and continuous distillation.	5	CO5				
4	Write a short note on screw and pneumatic conveyors.	5	CO5				
	SECTION C		'				
	(2Qx15M=30 Marks)						
1	a) Define water activity? Explain different types of dryers used in the food industry. (10	15	CO2				
	marks) b) Discuss the various changes during drying of food products. (5 marks)	15	CO2				
2	a) Define food packaging? Discuss the various factors determining the packaging						
	requirements of frozen foods. (7 marks)	1.5	COA				
	b) What are compressors? Explain the working of refrigeration system along with diagram.	15	CO4				
	(8 marks)						
	SECTION- D						
	(2Qx10M=20 Marks)						

1	What is super cooling? Discuss the various freezing methods used in food industry.	10	CO1
2	What is irradiation? Outline the main features of an irradiation plant's layout and discuss its applications in the food industry.	10	СОЗ