


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, December 2022			
Course: Food Processing Technology		Semester: V	
Program: B.Sc.-FN&D- V		Duration: 3 Hours	
Course Code: HSND 3005		Max. Marks: 100	
Instructions:			
S. No.	Section A	Marks	COs
	Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)		
Q1	Statement 1: Freezing with nitrogen or carbon dioxide gas is rapid freezing. Statement 2: Super cooling is a property of food products. a) True, False b) True, True c) False, False d) False, True	1.5	CO1
Q2	Statement 1: When food items are frozen, there is a drop in temperature followed by a further drop when they freeze. Statement 2: Fish should be rapidly frozen, not slowly frozen. a) True, False b) True, True c) False, False d) False, True	1.5	CO1
Q3	Freon group of refrigerants are (A) Inflammable (B) Toxic (C) Non-inflammable and toxic (D) Nontoxic and non-inflammable	1.5	CO1
Q4	When the crystallization process takes place for a long time, the size of the crystals is _____ a) Small b) Large c) No crystals formed d) None of the mentioned	1.5	CO1
Q5	Ice crystals in frozen meat should be formed by rapid crystallization.	1.5	CO1

	a) True b) False		
Q6	Which of the following dryer is used to produce powder from the solution? a) Spray dryer b) Cabinet tray dryer c) Pneumatic dryer d) Fluidized bed dryer	1.5	CO2
Q7	What is full form of LSU dryer? a) Louisiana State University dryer b) Low simple universal dryer c) Low and slow unit dryer d) Level steady unit dryer	1.5	CO2
Q8	Evaporation, desiccation and dehydration all mean the same thing. a) True b) False	1.5	CO2
Q9	Which of the following is an advantage/use of dried food items? a) Lesser cost and minimum labor required b) Limited processing equipment and minimum food storage requirements c) Reduction in distribution costs d) All of the mentioned	1.5	CO2
Q10	Which of the following dryer is the convectional drying equipment with enclosed insulated chambers? a) Fluidized bed dryer b) Drum dryer c) Cabinet tray dryer d) Pneumatic dryer	1.5	CO2
Q11	Viruses can be eliminated by irradiation. a) True b) False	1.5	CO3
Q12	How can someone identify the packaged food is irradiated? a) Agmark b) ISI mark c) Radura mark d) FPO mark	1.5	CO3
Q13	Recently, cancer causing effects, nutritional destructions of food and biological effects of exposure of microwave heating has come into light.	1.5	CO3

	<ul style="list-style-type: none"> a) True b) False 		
Q14	<p>Statement 1: Microwave heating helps save electricity. Statement 2: The quality of product in microwave heating is good hence rejections are lesser.</p> <ul style="list-style-type: none"> a) True, False b) True, True c) False, False d) False, True 	1.5	CO3
Q15	<p>Statement 1: In microwave heating, heat is not applied to the food item. Statement 2: Radiation doesn't gives even drying whereas microwave heating does.</p> <ul style="list-style-type: none"> a) True, False b) True, True c) False, False d) False, True 	1.5	CO3
Q16	<p>Which of the following application is a belt conveyor used for?</p> <ul style="list-style-type: none"> a) Material transportation over long distances b) Material transportation within premises c) Material transportation for processing d) All of the mentioned 	1.5	CO5
Q17	<p>Pneumatic conveying is done under which of the mentioned conditions?</p> <ul style="list-style-type: none"> a) High pressure b) Vacuum c) Fluidization d) Any of the mentioned 	1.5	CO5
Q18	<p>What is the flow rate of materials in a bucket conveyor dependent on?</p> <ul style="list-style-type: none"> a) Shape of the buckets b) Spacing of the buckets c) Speed of the conveyor d) All of the mentioned 	1.5	CO5
Q19	<p>Statement 1: Secondary packaging is outside the primary packaging, so as to group the primarily packed objects. Statement 2: Packaging can be arbitrarily classified into Primary, Secondary and Tertiary Packaging.</p> <ul style="list-style-type: none"> a) True, False b) True, True 	1.5	CO4

	c) False, False d) False, True		
Q20	Why is irradiation important in garlic and onion? (a). To prevent rotting. (b). To prevent germination. (c). To prevent post harvest diseases. (d). To prevent post harvest insects.	1.5	CO3
Section B (4Qx5M=20 Marks)			
Q 1	What do you understand by food packaging? Classify food packaging and describe its importance.	5	CO4
Q 2	List down the different criterion for classification of dryers.	5	CO2
Q 3	Explain the refrigeration cycle. Differentiate between sensible and latent heat.	5	CO1
Q 4	What do you understand by cooling load? List down the major contributors for cooling/refrigeration load.	5	CO1
Section C (2Qx15M=30 Marks)			
Q 1	Hannah heats refrigerated rice which has been devoid of moisture and become dry. She heats it in a microwave. It gets unevenly heated. What should she do? Choose the correct option: a) Water should be added for even heating b) She should heat it using equipment that offers conduction or convection c) None of the mentioned d) All of the mentioned Describe the principle and working of microwave processing in detail.	15	CO3
Q 2	Sunil owns a fruit and vegetable processing unit, and it produces fruit chips as its final product. Also, he wants to add a processing line for milk powder. Answer the following questions: a) Describe principle and working of 2 dryers he may be using for production of fruit chips b) Suggest and describe in detail the most suitable dryer for milk powder processing line.	15	CO2
Section D (2Qx10M=20 Marks)			
Q 1	What is sieving? Differentiate between stationery and vibratory sieving.	10	CO5

Q 2	Describe the working principle of belt conveyer and bucket elevator with its advantages and disadvantages	10	CO5
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