


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, December, 2024			
Course: Milk process Technology		Semester: V	
Program: B.Tech Food Technology		Time : 03 hrs.	
Course Code: HSFT3010		Max. Marks: 100	
Instructions: All Questions are compulsory			
SECTION A			
S. No.	Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	30 Marks	CO
1	What is the milk production in India in 2023-24? a) 210 million tons b) 180 million tons c) 238.58 million tons d) 300 million tons	1.5 marks	CO1
2	Fat percentage in butter: - a) 40% b) 60% c) 80% d) 65%	1.5 marks	CO1
3	Acceptable acidity range of milk: - a) 0.8 to 0.9% b) 0.24 to 0.26% c) 0.14 to 0.16% a) 0.34 to 0.36%	1.5 marks	CO4
4	How much overrun is permitted in ice-cream? a) 55% b) 45% c) 47.5% d) 60%	1.5 marks	CO1
5	Cheese used for preparation of pizza: - a) Cheddar cheese b) Cottage cheese c) Feta cheese d) Mozzarella cheese	1.5 marks	CO5
6	Clot on boiling is a: - a) Chemical Test b) Plateform Test c) Gravimetical Test a) Reduction Test	1.5 marks	CO1
7	Time temperature combination of UHT treatment: - a) 110 °C for 10 min. b) 120 °C for 1 min. c) 130 °C for 1 min a) 135 °C for 3 sec.	1.5 marks	CO4
8	Grade A milk is used for production of: - a) Ghee b) Cheese c) Paneer	1.5 marks	CO1

	a) Butter		
9	HTST means: - a) High Temperature slow time b) High temperature Short time c) High temperature Sharp time a) None of the above	1.5 marks	CO4
10	What is the temperature and duration of flash pasteurization? a) 72 °C for 15 minutes b) 85 °C for 15 seconds c) 63 °C for 30 minutes d) 72 °C for 15 seconds	1.5 marks	CO1
11	Indicator enzyme of pasteurization is: - a) <i>Acidic amylase</i> b) <i>pepsin</i> c) <i>Alkaline lipase</i> d) <i>Alkaline phosphate</i>	1.5 marks	CO1
12	Dahi flavor is: - a) Formaldehyde b) Diacetyl c) Propaldehyde d) Diketose	1.5 marks	CO5
13	Cheddar cheese originated from: - a) France b) England c) Germany a) Italy	1.5 marks	CO5
14	Which component is specifically present in milk: - a) Casein b) Calcium c) Fat d) Glucose	1.5 marks	CO1
15	Fat percentage of margarine: - a) 70% b) 80% c) 60% a) 50%	1.5 marks	CO5
16	What is the incubation temperature of yoghurt? a) 30 °C b) 35 °C c) 40 °C a) 42 °C	1.5 marks	CO5
17	What is the fat percentage in double toned milk? a) 3% b) 4.5%	1.5 marks	CO1

	c) Less than 0.5% d) 1.5%		
18	Pressure used in double stage homogenization b) 1500 + 500 psi pressure c) 2000 +1000 psi pressure d) 2000 + 500 psi pressure d) 1000 + 500 psi pressure	1.5 marks	CO5
19	Limit of salt addition in butter a) 1% b) 2% c) 3% a) 4%	1.5 marks	CO1
20	What is A1 milk? a) Milk obtained from buffalo b) Milk obtained from Indian cows c) Milk obtained from foreign cows d) Milk obtained from goats	1.5 marks	CO5
SECTION B (4Qx5M=20 Marks)			
Q	Short Answer Type Question (5 marks each)	20 Marks	CO
1	What is density and is it important in milk? Values of pH and acidity of milk and its importance in milk?	5	CO3
2	Briefly describe what is specific gravity and thermal conductivity of milk? Importance of thermal properties in milk processing?	5	CO4
3	What do you mean by milk sterilization? Briefly describe the procedure of sterilization and draw flow diagram?	5	CO1
4	Briefly describe kefir, kumiss and acidophilus milk?	5	CO2
SECTION C (2Qx15M=30 Marks)			
Q	Two case studies 15 marks each subsection	30 Marks	CO
1	a) What is milk? Give FSSAI specifications for different types of liquid milk? (8 marks) a) What is milk reception? Describe procedure and platform tests? (7 marks)	15	CO3
2	a) What is evaporated milk and its FSSAI specifications? Describe falling film and rising film evaporators? (8 marks) a) Methods & principles of cream separation? Different types of cream with minimum amount of fat content? Differentiate between butter and ghee) (7 marks)	15	CO2
SECTION- D (2Qx10M=20 Marks)			
Q	Long Answer type Questions (10 marks each)	20 Marks	CO
1	What is cream? Principle of cream separation? Different types of cream and their use? Procedure of ghee preparation? (1+3+3+3 marks)	10	CO5
2	Write down the complete procedure of cleaning and disinfection of dairy plants? What is milk stone? (8+2 marks)	10	CO4