Name: Enrolment No:	UPES UNIVERSITY OF TOMORROW

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	Rank of India in cow milk production a) 1st Rank b) 2nd Rank c) 3rd Rank d) 4th Rank	1.5 marks	CO1
2	Which country has the highest buffalo milk production? a) India b) Pakistan c) America d) Denmark	1.5 marks	CO1
3	What is the pH of milk? a) 7.6 b) 6.6 c) 6.0 d) 5.6	1.5 marks	CO4
4	What is the unit of acidity in milk? a) Acetic acid b) Lactic acid c) Leptic acid d) Lauric acid	1.5 marks	CO1
5	Lactose is made up of: - a) Glucose+ Fructose b) Galactose+ Fructose c) Glucose+ Galactose d) Fructose+Maltose	1.5 marks	CO5
6	Biological value of whey protein is: - a) Equal to egg b) Less than egg c) More than egg d) None of the above	1.5 marks	CO1
7	Milk is a good source of: - a) Cyanocobalamin b) Vitamin C c) Iron d) All of the above	1.5 marks	CO4

8	What is the basis of money payment? a) Vitamin Content b) Mineral content c) Carbohydrate content d) Fat content	1.5 marks	**CO1**
9	Which one is a platform test? a) Garber Test b) Kjeldal Test c) Alcohol Test d) Fehling Test	1.5 marks	**CO4**
10	Grade C milk is used for production of: - a) Curd b) Cheese c) Paneer d) Yoghurt	1.5 marks	**CO1**
11	HTST means: - a) High Temperature Short Time b) Happy temperature short time c) Harsh temperature safety time d) None of the above	1.5 marks	**CO1**
12	What is temperature and duration of LTLT? a) 72 °C for 15 minutes b) 63 °C for 30 minutes c) 72 °C for 30 minutes d) 72 °C for 15 seconds	1.5 marks	**CO5**
13	What is the fat and SNF percentage of whole milk? a) 6 and 9% b) 4.5 and 8.5% c) 1.5 and 9% d) 3 and 9%	1.5 marks	**CO5**
14	Write two differences between dahi and yoghurt.	1.5 marks	**CO1**
15	What is CIL? a) Clean in place b) Clean in point c) Clear in process d) Clear in point	1.5 marks	**CO5**
16	Pressure used in single stage homogenization: - a) 1500 psi pressure b) 2000 psi pressure c) 2500 psi pressure d) 1000 psi pressure	1.5 marks	**CO5**
17	Indicator microorganism of sterilization: - a) *Coxiella burnetiid* b) *Lactobacillus bulgaricus*	1.5 marks	**CO1**

	c) *Clostridium botulinum* d) *E. coli*		
18	Yoghurt incubation temperature is: - a) 43 °C b) 38 °C c) 35 °C d) 30 °C	1.5 marks	**CO5**
19	Name the alcoholic fermented milk products: - a) Kefir b) Acidophilus milk c) Kumiss d) Both a and c	1.5 marks	**CO1**
20	Principle of cream separator is: - a) Chemical nature b) Strength of milk components c) Density difference d) Melting point Difference	1.5 marks	**CO5**
	SECTION B (4Qx5M=20 Marks)		
Q	Short Answer Type Question (5 marks each)	**20 Marks**	**CO**
1	Why is milk known as complete food? What is the nutritive value & importance of milk?	**5**	**CO3**
2	Describe briefly about the physical properties of milk?	**5**	**CO4**
3	What is homogenization? Discuss the theory and type of homogenization?(1+2+2 mark)	**5**	**CO1**
4	What is Acidophilus milk? Describe the processing of acidophilus milk? (1+4 marks)	**5**	**CO2**
	SECTION C (2Qx15M=30 Marks)		
Q	**Two case studies 15 marks each subsection**	**30 Marks**	**CO**
1	a) What is spray drying? Energy consumption and role of cyclone separator? (2+3+3 marks) b) What is butter? FSSAI specifications for butter and preparation procedure? (1+2+4 marks)	**15**	**CO3**
2	a) What is cleaning and sanitization? Different Cleaning and Sanitization agents used in milk industry? (2+6 marks) b) What is CIP? Importance and procedure of CIP? (1+2+4 marks)	**15**	**CO2**
	SECTION- D (2Qx10M=20 Marks)		
Q	Long Answer type Questions (10 marks each)	**20 Marks**	**CO**
1	What is cheese? Differentiate between paneer and cheese? Describe cottage cheese preparation? (2+4+4 marks)	**10**	**CO5**
2	What is the advantages of milk powders? Write down the FSSAI specifications for milk powders? Write different types of milk powder? (3+4+3 marks)	**10**	**CO4**