

<b>Name:</b>	 <b>UPES</b> <small>UNIVERSITY OF TOMORROW</small>
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**Supplementary Examination, December, 2022**

**Course: Milk process Technology**  
**Program: B.Tech Food Technology**  
**Course Code: HSFT3002**

**Semester: V**  
**Time : 03 hrs.**  
**Max. Marks: 100**

**Instructions: All Questions are compulsory**

**SECTION A**

S. No.	MCQs or Fill in the blanks (1.5 marks each)	30 Marks	CO
1	Rank of India in Buffalo milk production a) 1 <sup>st</sup> Rank b) 2 <sup>nd</sup> Rank c) 3 <sup>rd</sup> Rank d) 4 <sup>th</sup> Rank	1.5 marks	CO1
2	Which country has highest cow 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	Name the carbohydrate present in milk a) Sucrose b) Lactose c) Maltose d) Fructose	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	1.5 marks	CO4

	<ul style="list-style-type: none"> <li>c) Iron</li> <li>d) All of the above</li> </ul>		
8	<p>What is the basis of money payment?</p> <ul style="list-style-type: none"> <li>a) Vitamin Content</li> <li>b) Mineral content</li> <li>c) Carbohydrate content</li> <li>d) Fat content</li> </ul>	1.5 marks	<b>CO1</b>
9	<p>Which one is a platform test</p> <ul style="list-style-type: none"> <li>a) Garber Test</li> <li>b) Kjeldal Test</li> <li>c) Alcohol Test</li> <li>d) Fehling Test</li> </ul>	1.5 marks	<b>CO4</b>
10	<p>Grade C milk is used for production of</p> <ul style="list-style-type: none"> <li>a) Curd</li> <li>b) Cheese</li> <li>c) Paneer</li> <li>d) Yoghurt</li> </ul>	1.5 marks	<b>CO1</b>
11	<p>LTLT means</p> <ul style="list-style-type: none"> <li>a) Long Temperature low time</li> <li>b) Low temperature long time</li> <li>c) Low temperature Low time</li> <li>d) None of the above</li> </ul>	1.5 marks	<b>CO1</b>
12	<p>What is temperature and duration of HTST</p> <ul style="list-style-type: none"> <li>a) 72 °C for 15 minutes</li> <li>b) 63 °C for 15 minutes</li> <li>c) 72 °C for 30 minutes</li> <li>d) 72 °C for 15 seconds</li> </ul>	1.5 marks	<b>CO5</b>
13	<p>What is the fat and SNF percentage of toned milk</p> <ul style="list-style-type: none"> <li>a) 3 and 8.5%</li> <li>b) 4.5 and 8.5%</li> <li>c) 1.5 and 9%</li> <li>d) 3 and 9%</li> </ul>	1.5 marks	<b>CO5</b>
14	<p>What is the minimum SNF for cow milk in India</p> <ul style="list-style-type: none"> <li>a) 9%</li> <li>b) 8%</li> <li>c) 7.3%</li> <li>d) 8.3%</li> </ul>	1.5 marks	<b>CO1</b>
15	<p>What is CIL?</p> <ul style="list-style-type: none"> <li>a) Clean in place</li> <li>b) Clean in point</li> <li>c) Clear in process</li> <li>d) Clear in point</li> </ul>	1.5 marks	<b>CO5</b>
16	<p>Pressure used in Double stage homogenization</p> <ul style="list-style-type: none"> <li>a) 1500 + 500 psi pressure</li> <li>b) 2000 + 500 psi pressure</li> </ul>	1.5 marks	<b>CO5</b>

	c) 2500 + 500 psi pressure d) 1000 + 500 psi pressure		
17	Indicator microorganism of pasteurization a) <i>Coxiella burnetii</i> b) <i>Lactobacillus bulgaricus</i> c) <i>Bacillus cirrus</i> d) <i>E. coli</i>	1.5 marks	CO1
18	Yoghurt flavoring compound is a) Acetaldehyde b) Formaldehyde c) Diacetyl d) Propaldehyde	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 a) Chemical nature b) Strength of milk components c) Density difference d) Melting point Difference	1.5 marks	CO5

**SECTION B 20 marks 4 questions 5 marks each**

Q	Short Answer Type Question (5 marks each)	<b>20 Marks</b>	<b>CO</b>
1	Why milk is known as complete food? What is the nutritive value & importance of milk?	<b>5</b>	<b>CO3</b>
2	Describe briefly about the physical properties of milk?	<b>5</b>	<b>CO4</b>
3	What is homogenization? Importance, principle of homogenization?	<b>5</b>	<b>CO1</b>
4	What are dahi and yoghurt? Differentiate between dahi and yoghurt?	<b>5</b>	<b>CO2</b>

**SECTION C 30 marks**

Q	<b>Two case studies 15 marks each subsection</b>	<b>30 Marks</b>	<b>CO</b>
1	a) What is spray drying? Energy consumption and role of cyclone separator? (8 marks) b) What is ice-cream? FSSAI specifications for ice-cream and preparation procedure? (7 marks)	<b>15</b>	<b>CO3</b>
2	a) What is cleaning and sanitization? Different Cleaning and Sanitization agents used in milk industry? (8 marks) b) What is CIP? Importance and procedure of CIP? (7 marks)	<b>15</b>	<b>CO2</b>

**SECTION- D 20 marks**

Q	Long Answer type Questions (10 marks each)	<b>20 Marks</b>	<b>CO</b>
1	What is cheese? Differentiate between paneer and cheese? Describe cheddar cheese preparation?	<b>10</b>	<b>CO5</b>
2	What is the importance and advantages of milk powders? Write down the FSSAI specifications for milk powders?	<b>10</b>	<b>CO4</b>