

2022

**Food Product Technology–III (Milk & Milk products)***Full Marks: 100*

Time: Three hours

*The figures in the margin indicate full marks for the questions.**Answer any five questions.*

1.	a)	Mention the minimum MF & SNF (%) values of standardized milk and double toned milk.	2 + 2= 4
	b)	Write short notes on milk sugar.	4
	c)	Briefly explain the minor constituents of milk.	12
2.	a)	Give details about the acidity and freezing point of milk	10
	b)	Write about the different cooling methods used for the safe storage of milk.	10
3.	a)	Give details about the following tests: (i). COB test (ii) Alcohol test (iii) Alcohol alizarin test	3+3+4= 10
	b)	Define the term pasteurization. Give brief notes on the working mechanism of batch pasteurizer with suitable diagram.	10
4.	a)	What is the definition of milk homogenization. Explain the process with suitable diagram.	10
	b)	Explain in detail about the STS process for the manufacturing of soy milk with proper flow chart.	10
5.	a)	Write the definition of sanitization and give some examples for sanitizers.	2+2=4
	b)	Give details about the mechanical washing of cans.	10
	c)	Write the CIP procedure for the cleaning and sanitization of HTST pasteurizers.	6
6	a)	Define the term- fermented milk. Give details on the production of acidophilus milk with suitable flow chart.	2+8=10
	b)	Give the flow chart for the following products: (any two) (i). Flavoured milk (ii). Cultured butter milk	5+5 = 10

		(iii). Reconstituted milk (iv). Toned milk	
7.	a)	Explain about the manufacturing process of ice cream with proper flow chart and mention the production problems/defects also.	10
	b)	Briefly explain the spray drying process for the production of whole milk powders (WMP) and skim milk powders (SMP) with suitable flow chart.	10

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