

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Second Semester)

Branch - FOOD TECHNOLOGY MANAGEMENT

**DAIRY PROCESS ENGINEERING & PRODUCT PROCESS
TECHNOLOGY**

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The National Dairy Development Board (NDDB) and Bureau of Indian Standards (BIS) together developed a dedicated a. Dairy cow logo b. Dairy Mark logo c. Dairy weblink d. Dairy platform	K1	CO1
	2	 can be characterized as a Newtonian fluid for practical purposes. a. Whipped cream b. Drinkable yoghurt c. Skimmed milk d. All of the above	K2	CO1
2	3	Recall the FSSAI standards for percentage of fat and SNF in recombined milk is a.3.5 and 9.0 b.3.0 and 9.0 c.3.0 and 8.5 d.3.5 and 8.5	K1	CO2
	4	The viscosity of evaporated whole milk will depend on the a. Degree of forewarming b. Homogenization conditions c.Type of stabilizers used d.All of the above	K2	CO2
3	5	Identify the process in butter making responsible for the phase reversal of the emulsion. a. Hardening b. Churning c.Working d.Salting	K1	CO3
	6	What is the heating temperature used in the industrial production of butteroil? a.95 to 98 ⁰ C b. 72 to 75 ⁰ C c. 63 to 65 ⁰ C d. 40 to 48 ⁰ C	K2	CO3
4	7	Name the Traditional milk-based sweet that has a very short shelf life, is kept at room temperature and is to be consumed on the same day as per FSSAI guidance. a. Kalakand b. Milk Burfi, c. Rabri Rasmalai d.Khoa	K1	CO4
	8	Identify the partially heat-desiccated cereal-based dairy product. a. Pindi b. Peda c. Gulab jamun d. Kheer	K2	CO4

Cont...

5	9	Recall the enzyme used to coagulate milk a. Peroxidase b. Rennet. c. Lipase d. Catalase	K1	CO5
	10	Which of the below given product is an acid coagulated indigenous dairy product? a. Kalakand b. Basundi c. Chhana d. Dhap	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Compare and contrast the quality standards for i) raw and packaged milk ii) standardized and toned milk.	K3	CO1
		(OR)		
	11.b.	Outline the protocol for clot on boiling and dye reduction test.		
2	12.a.	Identify the methods of determining lethality based on the thermal processing of milk.	K3	CO2
		(OR)		
	12.b.	Construct the flow diagram for spray dried milk powder and write short notes on the drying process employed in the processing of this product.		
3	13.a.	Analyse the quality and grades of cream.	K4	CO3
		(OR)		
	13.b.	Infer the stepwise procedure for production of butter.		
4	14.a.	Classify the types of khoa and give the FSSAI standards for these products.	K4	CO4
		(OR)		
	14.b.	List the various challenges in the traditional milk product sector and the measures taken to overcome these challenges.		
5	15.a.	Evaluate the various unit operations involved in manufacturing of Sandesh.	K5	CO5
		(OR)		
	15.b.	Conclude on the physiochemical changes that occur during the manufacture of paneer.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyse the effect of processing on the constituents of milk.	K4	CO1
2	17	Categorize the different types of pasteurization and explain the HTST techniques and its advantages in milk processing.	K4	CO2
3	18	Explain the ghee making process adopted in India, the AGMARK standards for ghee and the common adulterants in ghee.	K4	CO3
4	19	Select a value added khoa based confectionary product and write about the product description, method of manufacture and its unique selling properties.	K5	CO4
5	20	Interpret the microbial and enzymatic transformation of milk to cheese.	K5	CO5

Z-Z-Z END