PREVIEW QUESTION BANK

Module Name : DAIRY TECHNOLOGY-ENG
Exam Date : 14-Jul-2023 Batch : 10:00-12:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	3601	Which type of ghee has more number of larger grains under given granulation conditions? 1. Cow milk ghee 2. Buffalo milk ghee 3. Mixed ghee 4. Recombined milk ghee A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	3602	Sterilisation temperature/time of milk is 1. 100 -108°C/8-10 min 2. 121°C/20-25 min 3. 110 - 118°C for 15-25 min 4. 120 - 130°C no hold A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	3603	Phosphatase test is negative in 1. Pasteurised milk 2. Chilled milk 3. Thermised milk 4. Irradiated milk A1 : 1 A2 : 2	4.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
4	3604	Moisture content of khoa varieties vary as follows in decreasing order 1. Danedar, Pindi, Dhap 2. Dhap, Danedar, Pindi 3. Dhap, Pindi, Danedar 4. Pindi, Danedar, Dhap A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
5	3605	Sweet sensing taste buds are mainly situated at 1. Tip of tongue 2. Back of tongue 3. Sides of tongue 4. Middle of tongue A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
6	3606	In electrodialysis membranes, which type of current is used ? 1. DC 2. AC 3. Static charges 4. Sinusoidal A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
7	3607	Which among the following tastes has highest threshold value ? 1. Sweetness 2. Saltiness 3. Bitterness 4. Sourness A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
8	3608	Arrange the following milk processing operations in correct sequence. (A). Separation (B).Clarification (C).Standardisation (D).Homogenization (E) Pasteurisation Choose the **correct** answer from the options given below: 1. (A), (C), (B), (D), (E) 2. (C), (B), (A), (D), (E) 3. (B), (C), (A), (D), (E) 4. (B), (A), (C), (D), (E) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
9	3609		4.0	1.00

Given below are two statements:

Statement (I): Kalakand, milk cake and sorbhaja are heat desiccated products

Statement (II): Shrikhand, lassi and kalari are fermented products

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

10 3610 4.0 1.00

Match **List-I** with **List-II**

List-I	**List-II**
Term	**Condition**
(A).Ageusia	(I) Decreased sense of smell, or a decreased ability to detect odors through your nose.
(B).Hyposmia	(II) Inability to smell anything.
(C). Anosmia	(III) Loss of memories, including facts, information and experiences.
(D). Amnesia	(IV) A condition wherein the tongue loses its sense of detecting different tastes, such as sweet, sour, bitter and salty

Choose the **correct** answer from the options given below:

1. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
2. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

11 3611 4.0 1.00

		Given below are the statements describing Mysost cheese (A). Mysost is the ovine whey cheese mainly prepared from whey, currently produced in Norway (B). Light to dark brown in colour which depends on amount of cream added to it and level of sugar caramelization (C). By decreasing the boiling time, or cooking the product to thicker and more sliceable consistency, this can be made more spreadable (D). The Mysost cheeses can keep their quality upto 6 months at 5°C Choose the ***correct*** statement/s from the given options 1. (A), (B) and (C) only. 2. (A), (B) and (D) only. 3. (A), (B), (C) and (D). 4. (B), (C) and (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
12	3612	Given 1200 kg of cream testing 55% fat. How much butter with 85% fat will be produced from it? 1. 750 kg 2. 776.5 kg 3. 700 kg 4. 685 kg A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
13	3613		4.0	1.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).
Assertion (A) : Edible lactose is normally dried to 0.5% and pharmaceutical lactose to 0.1% moisture content. The drying process is done to a product temperature of 93°C

Reason (R) : If the lactose solution is dried rapidly, crystals do not have an opportunity to form, and the result is the non crystalline glass, which contains the equilibrium mixture of the alpha- and beta-lactose.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

14	3614		4.0	1.00

Analysis of ghee

Take 1-2 g of molten sample and dissolve in 2-3 ml of hexane. Add 1 ml of each 25% HCl and 5% sodium nitrile solution to hexane dissolved sample, shaking well and adding 1 ml of 10% sodium hydroxide solution and check the colour.

The test described above may give following result/s:

Statement (I): Appearance of pink/red colour indicate presence of Rice bran oil.

Statement (II): Appearance of orange-red colour indicate presence of Rice bran oil.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15	3615		4.0	1.00

The following statements describe the quality parameters pertaining to ghee residue

(A). The polyunsaturated fatty acid content of ghee residue is 4.4% higher than those in ghee.

(B). The lipids of ghee residue have higher Reichert and Polenske value, than that of ghee.

(C). Ghee residue is rich source of phospholipids, most phospholipids remains in residue due to its nature.

(D). The content of phospholipids is dependent upon the method of preparation.

Choose the ***correct*** answer from the given options:

1. (A), (B) and (D) only.
2. (A), (C) and (D) only.
3. (B), (C) and (D) only.
4. (A), (B), (C) and (D).

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 3616 4.0 1.00

Match **List-I** with **List-II**

List-I	**List-II**
Name of Enzyme	**Source of Enzyme**
(A). Hannilase	(I). *Endothia parasitica*
(B). Meito	(II). *Bacillus subtilis*
(C). Suparen	(III). *Mucor pusillus*
(D). Mikrozyme	(IV).*Mucor miehei*

Choose the **correct** answer from the options given below:

1. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
3. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
4. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17 3617 4.0 1.00

		Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Cardboard type flavour deffect can be observed in butter oil due to formation of volatile compound (E)-/(Z)-2-Nonenal. Reason (R) : The possible mechanism of formation of cardboard type flavour deffect is release of residue from packaging material In light of the above statements, choose the *correct* answer from the options given below. 1. Both (A) and (R) are true and (R) is the correct explanation of (A). 2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A). 3. (A) is true but (R) is false. 4. (A) is false but (R) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
18	3618	The following statements describe the preparation of butter powder (A). High grade casein is dispersed in skim milk at suitable temperature. (B). Sodium hydroxide, glycerol mono stearate and permitted antioxidant is mixed thoroughly, heated and spray dried and cooled. (C). Sodium aluminium silicate (80%) and calcium phosphate (20%) is added as fee flowing agent. (D). Cream is separated to 62% fat and homogenized in presence of sodium citrate. Choose the **correct** sequence of the options given for preparation of butter powder. 1. (B), (A), (C), (D). 2. (C), (B), (D), (A). 3. (D), (A), (B), (C). 4. (D), (A), (C), (B). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
19	3619		4.0	1.00

Lactose hydrolysis is a promising process with several advantages. Choose the ***correct*** answer from the options given regarding Valio system of lactose hydrolysis:

(A).Valio Hydrolysis Process consist of hydrolysing lactose in whey using enzyme from *Aspergillus niger*

(B). The system operates at a pH of about 7, and a temperature of 40°C.

(C). It cannot be used for the treatment of products of neutral pH such as milk or sweet whey (without pH adjustment)

(D).The concentrated hydrolysed product can be used in fruit yoghurts, ice cream, whey drinks and confectionery.

1. (A), (B) and (D) only.
2. (A), (C) and (D) only.
3. (B), (C), and (D) only.
4. (A), (B), (C) and (D).

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

20	3620	Salt-in-moisture (S/M), plays a number of roles in cheeses. Read the below given statements pertaining to S/M (A). It completes drainage of cheese and modifies hydration of proteins (B). It imparts taste and enhances flavour and increases water activity (C). It influences rennet activity and supress growth of underirable bacteria (D). It controls the metabolism of residual lactose, pH of fresh cheese and influences the rate of maturation and cheese quality Choose the ***incorrect*** answer/s from the given options: 1. (A) & (B) only. 2. (B) only. 3. (D) only. 4. (B) & (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

21	3621		4.0	1.00

Leibergmann-Burchard (LB) reagent prepared by mixing 1.0 ml of concentrated sulphuric acid in chilled 20.0 ml acetic anhydride and keeping the solution at zero degree for 27 minutes and to be freshly prepared and used. LB reagent is used to analysis which of the following component in ghee?

1. Peroxide value
2. Reichert-Meissl value
3. Total Cholesterol content
4. Antioxidant value

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

22 3622 4.0 1.00

Match **List-I** with **List-II**

List-I	**List-II**
Butter defect	**Cause**
(A). Crumbly	(I).Under working
(B). Greasy	(II). Presence of hard fat
(C). Leaky	(III). Incorrect salting
(D). Gritty	(IV). Over working

Choose the **correct** answer from the options given below:

1. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
2. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
3. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
4. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 3623 4.0 1.00

Given below are statements describing properties of *Penicillium roqueforti.*

Statement (I): *Penicillium roqueforti* is the secondary flora, which grows interior of blue vein cheeses.

Statement (II): It is lipolytic in nature and produce methyl ketone from fatty acid breakdown which serves as major flavouring component.

Statement (III): It is not able to grow at low temperature and high salt levels.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Statement (I), Statement (II) and Statement (III) are correct.
2. Both Statement (I) and Statement (II) are incorrect but Statement (III) is correct.
3. Statement (I) is correct but Statement (II) & Statement (III) are incorrect.
4. Statement (I) and Statement (II) are correct but Statement (III) is incorrect.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24	3624		4.0	1.00

The symbiotic relationship between *S. thermophilus* and *L. bulgaricus* in the yoghurt starter culture has been observed due to following reasons

(A). Glycine and histine are produced by *L. bulgaricus* which stimulate the growth of *S. thermophilus*

(B). Pyruvic acid produced by *L. bulgaricus* stimulate growth of *S. thermophilus*

(C). *S. thermophilus* produces formic acid which stimulates the growth of *L. bulgaricus.*

(D). Carbon dioxide produced by *S. thermophilus* creates anaerobic conditions for growth of *L. bulgaricus.*

Choose the ***correct*** answer/ answers from the options given below:

1. (A), (B) and (D) only.
2. (A), (C) and (D) only.
3. (A), (B), (C) and (D) only.
4. (B), (C) and (D) only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25	3625		4.0	1.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Ghee is easily digestable and may be considered good for gut health

Reason (R) : Ghee is relatively high in short chain fatty acids which may promote lactobacillus spp. in intestine.

In light of the statements given below regarding ghee, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26	3626		4.0	1.00

Each series given below is having cheeses of similar attributes,

Series (I): Roquefort, Stilton, Gorgonzola, blue

Series (II): Limburger, Munster, tilsit, brick

Series (III): Mysost, Gjestost, Grubransdalsost, Brunost

Series (IV): Edam, Gouda, Cheshire, Emmental

In light of the above, choose the *most appropriate* answer in terms of odd series from the options given below.

1. Statement (I) is odd series.
2. Statement (II) is odd series.
3. Statement (III) is odd series
4. Statement (IV) is odd series

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

27	3627		4.0	1.00

		The following statements are describing the quality attributes of buttermilk (A). The principal fatty acids of buttermilk is palmitic acid (B). Phospholipids of buttermilk have short chain fatty acids (C). Phospholipids of buttermilk has lecithin, cephalin, shhingomyelin with small portion cerebrosides (D). The fatty acids of phospholipids contains 40% saturated fatty acids and rest is unsaturatted fatty acids Choose the ***correct*** answer from the options given that describes the correct quality attributes. 1. (A), (B) & (C) only. 2. (A), (C) & (D) only. 3. (A), (B), (D) only . 4. (A), (B), (C) and (D). A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
28	3628	In a butter sample analysis, the following observations have been made. Normality of silvernitrate solution: 0.1 Volume of silver nitrate used for sample titration: 25 ml Volume of silver nitrate used for blank titration: 5 ml Weight of sample: 5 g Whst is the salt content of the butter sample? 1. 3.1% 2. 2.5% 3. 1.7% 4. 2.3% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
29	3629		4.0	1.00

		Wig's method is used to estimate which of the following parameter in ghee sample? 1. Reichert-Meissl Number 2. Polenske Number 3. Iodine Number 4. Saponification Number A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
30	3630	The following observation has been obtained in the analysis of a given milk sample: Milk sample taken: 10 mL Burette reading after 1st titration: 2.3 Burette reading after 2nd titration: 0.65 Milk butyrometer reading: 3.6 What is the C/F ratio of the given milk sample? 1. 0.63 2. 0.56 3. 0.60 4. 0.58 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
31	3631	Which of the following is a high protein milk powder having both the proteins of milk in near native state? 1. Ricotta powder 2. Calcium co-precipitate 3. Demineralized whey powder 4. Milk protein concentrate A1 : 1 A2 : 2 A3 : 3	4.0	1.00

		A4 : 4		
Objective Question				
32	3632	Which of the following is a correct abbreviation for CCP? 1. Codex Committee for process 2. Criteria Committee for products 3. Critical control points 4. Complete composite product A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
33	3633	How many basic principles are employed in the development of HACCP plans that meet the stated goal? 1. One 2. Three 3. Five 4. Seven A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
34	3634	Which of the following is a correct abbreviation for PLC? 1. Product loss control 2. Process logistic component 3. Programmable logic controller 4. Project line consistency A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

35	3635	Pulse electric field treatment is mostly suitable for: 1. Solid food materials 2. Liquid food material with low dielectric strength 3. Liquid food material with high dielectric strength 4. Food paste A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

36	3636	In a two-stage drying system, the moisture content of powder leaving the spray dryer (first stage) is: 1. 2-3% higher than the final moisture content desired 2. 6-7% higher than the final moisture content desired 3. 9-10% higher than the final moisture content desired 4. Exactly the same moisture as desired in final product A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

37	3637	The difference observed in ice-cream manufactured by low temperature extrusion (LTE) processing compared to that manufactured in continuous ice cream freezer is which of the following? 1. Much smaller size air bubbles 2. Larger Ice crystal size 3. Lower percentage of water frozen 4. Higher drawing temperature A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

38	3638	Which of the following is not a natural inherent protective factor present in raw cow milk? 1. Lactoferrin 2. Haemagglutinin 3. IgG 4. Lysozyme A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
39	3639	Increasing the MSNF content of ice cream does not affect the following property: 1. Lowering of freezing point 2. Increased viscosity 3. Increased total solids 4. Enhance the flavouring used A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
40	3640	Lactose/sucrose crystallization is not a problem in which of the following frozen product? 1. Sherbets 2. Ices 3. Chocolate ice cream 4. Soft serve ice cream A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
41	3641		4.0	1.00

		Which of the following food additive is referred to as a 'galactomannan'? 1. Locust bean gum 2. Pectin 3. Pullulan 4. Curdlan A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
42	3642	Which of the following food additive used in ice cream functions not only as 'stabilizer' but functions best as an 'emulsifier' too? 1. Gum acacia 2. Furcellaran 3. Pectin 4. Gelatin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
43	3643	Which of the following ice cream stabilizer has the least solubility in water? 1. Guar gum 2. Sodium alginate 3. Microcrystalline cellulose 4. Carboxymethyl cellulose A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
44	3644		4.0	1.00

		For long transportation of ice cream, which of the following will be most suited? 1. Use of ice and salt mixture 2. Use of liquid nitrogen 3. Use of dry ice 4. Use of glycol chiller A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
45	3645	Use of butter milk powder as part replacement of normal solids (i.e. SMP) can help in decreasing the usage rate of which of the following in ice cream? 1. Emulsifier 2. Sweetener 3. Stabilizer 4. Whole milk powder A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
46	3646	The desired minimum sugar ratio to be maintained in preparation of sweetened condensed milk is: 1. 8.5 2. 42.5 3. 62.5 4. 68.5 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
47	3647		4.0	1.00

		The overrun in ice cream is indicated by: 1. Ammeter reading in the freezer 2. Whipping time in freezer 3. Weight/litre of ice cream mix 4. Weight/litre of ice cream A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
48	3648	Flowability of milk powder can be represented by which of the following powder attributes? 1. Dispersibility 2. Sinkability 3. Angle of repose 4. Hunter ratio A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
49	3649	Sweetened condensed milk contaminated with rennin like enzyme producing bacterial strain may cause: 1. Bloating 2. Mould buttons 3. Bacterial thickening 4. Sugar separation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
50	3650		4.0	1.00

		Contamination of condensed milk with yeast, *Torulalactis condensi* may cause: 1. Bloating 2. Bacterial thickening 3. Mould buttons 4. Souring A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
51	3651	Which of the following methods of sealing is a non-contact process that applies an electromagnetic field to heat seal a container with a screw cap which has a heat sealable foil inner seal? 1. Dielectric sealing 2. Ultrasound sealing 3. Impulse sealing 4. Induction heat sealing A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
52	3652	Which of the following plastic packaging materials of about 10 microns is commonly used for individually wrapping "citrus fruits" by blowing hot air for a tight contact seal, which reduces blemishes, delays physiological senescence, and restricts the spreading of microbial spoilage infected by contact surface? 1. HDPE 2. Nylon 3. PVC 4. LDPE A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
53	3653		4.0	1.00

Which of the following combined treatments of aseptic packaging systems is most suitable for sterilizing packaging materials and other food contact materials?

1. Dipping in peracetic acid solution and hot air drying
2. Dipping in H_2O_2 solution and hot air drying
3. Irradiation and hot air drying
4. Dipping in H_2O_2 solution and saturated steam

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

54 3654 4.0 1.00

Which of the following gases used in modified atmosphere packaging is an inert filler gas being more soluble and denser than nitrogen and is able to remove O_2 from the reactive sites more efficiently?

1. Carbon dioxide
2. Argon
3. Carbon monoxide
4. Ozone

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

55 3655 4.0 1.00

Match **List-I** with **List-II**

List-I	**List-II**
(Active Packaging System)	**(Chemical Component)**
(A). CO_2 absorber under high humidity	(I). $FeCO_3$
(B). CO_2 absorber under normal condition	(II). Na_2CO_3
(C). CO_2 emitter	(III). $KMnO_4$
(D). C_2H_4 absorber	(IV). $Ca(OH)_2$

Choose the **correct** answer from the options given below:

1. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
3. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
56	3656	Read the below-given statements pertaining to modified atmosphere packaging. (A). The solubility of CO_2 in aqueous foods decreases with moisture increase and temperature decrease. (B). Displacement of oxygen by N_2 acts to block out the oxidative chemical and physiological reactions, preserving the food quality. (C). Combined high O_2 (80-90%) and CO_2 (10-20%) have been suggested to provide adequate suppression of microbial growth. (D). Concentrations of CO_2 in excess of 5% (v/v) inhibit the growth of most food spoilage bacteria especially psychrotrophic species such as *Pseudomonas* spp. Choose the ***correct*** answer from the options given below: 1. (A), (B) and (D) only. 2. (B) and (D) only. 3. (A) and (C) only 4. (B), (C) and (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
57	3657	Pasteurized milk at filling is generally saturated with about _____ ppm of oxygen, but if no additional oxygen can gain access, its content falls and the rate of adverse reactions slows or stops. 1. 2 2. 4 3. 6 4. 8 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				

58 | 3658 | 4.0 | 1.00

Match **List-I** with **List-II**

List-I	**List-II**
(Package Form)	**(Package Production Technique)**
(A). Milk bottle	(I). Extrusion
(B). Milk pouches crate	(II). Thermoforming
(C). Yoghurt cup	(III). Extrusion blow moulding
(D). Milk pouch film	(IV). Injection moulding

Choose the **correct** answer from the options given below:

1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
3. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
4. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

59 | 3659 | 4.0 | 1.00

Given below are the plastic packaging materials used in the food industry.
(A). Polyethylene naphthalate

(B). Ethylene Vinyl Alcohol

(C). Nylon MXD6

(D). Ethylene Vinyl Acetate

Choose the ***correct*** plastic material that is/are used as oxygen barrier materials from the options given below:

1. (A), and (D) only.
2. (B) only.
3. (C) only.
4. (A), (B), and (C) only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

60 | 3660 | 4.0 | 1.00

		Which of the following form of intelligent packaging is an advanced form of data carrier used for automatic product identification and traceability? 1. Nano-biosensor 2. Quick response (QR) Code 3. Radio Frequency Identification 4. Time-Temperature Indicator A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
61	3661	Which of the following is used as test organism to determine the sterilising effect of in-container sterilisation? 1. *Mycobacterium tuberculosis* 2. *E. coli* 3. *Staphylococcus aureus* 4. *Clostridium botulinum* A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
62	3662	The expression "commercial sterility" is frequently used with the following dairy products: 1. Fermented dairy products 2. Heat acid coagulated products 3. UHT products 4. Desiccated dairy products A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
63	3663		4.0	1.00

		Which of the following is not a method to avoid formation of vortex? 1. Tilted impeller shaft 2. Agitator mounted on side (eccentrically) of tank 3. Use of baffles 4. Using paring disc A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
64	3664	A simple method to estimate boiling-point elevation in evaporator is the use of which of the following rules? 1. Fick's rule 2. Duhring's rule 3. Simpson's rule 4. Robert's rule A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
65	3665	Orange juice is the feed introduced at a rate of 0.50 kg/s to a single effect evaporator. The concentration of the dilute juice is 10% total solids. The juice is concentrated to 40 % total solids. Calculate the product mass flow rate. 1. 0.125 kg/s 2. 0.135 kg/s 3. 0.145 kg/s 4. 0.155 kg/s A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
66	3666		4.0	1.00

		Which of the following is used to reclaim milk particles from the vapour current in a vacuum pan, to prevent excessive loss of valuable milk solids? 1. Cold separator 2. Air separator 3. Bi-directional separator 4. Entrainment separator A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
67	3667	Scraper blade used to scrape dried film from the roller dryer drum is known as: 1. More's blade 2. Doctor's blade 3. Film's blade 4. Tangent's blade A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
68	3668	Identify the type of flow in the following statement: The liquid is atomized near the top of the drying chamber and falls downward. While the air is introduced near the bottom of the drying chamber and moves upward. 1. Counter current flow 2. Co-current flow 3. Mixed current flow 4. Cross current flow A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
69	3669		4.0	1.00

		In spray drying process, during which of the following periods, much of the drying occurs? 1. Constant rate period 2. First falling rate period 3. Second falling rate period 4. Third falling rate period A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
70	3670	Bag filters used in spray dryer have powder separation efficiency of : 1. 69 to 69.5 % 2. 79 to 79.5 % 3. 89 to 89.5 % 4. 99 to 99.5 % A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
71	3671	In case of good quality bricks, absorption of water should be more than _____of its weight after immersion in water for 16 hours. 1. 10 % 2. 20 % 3. 30 % 4. 40 % A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
72	3672		4.0	1.00

		Which of the following defect is observed during painting due to application of relatively fast drying coat over one which is too soft? 1. Alligatoring 2. Blistering 3. Cracking 4. Wrinkling A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
73	3673	Which of the following statement is not true: 1. The space requirement for bulk milk storage cannot be estimated based on the type of storage vessels used. 2. According to size and shape of the plot, the most befitting type of layout is selected. 3. Less space will create congested atmosphere and may cause accident at work in hurry. 4. The total area required a dairy plant must include building area, parking, movement of vehicles, roads and ETP. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
74	3674	Arrange the following statement in the correct order to solve a problem using programming. i. Problem solving phase ii. Problem iii. Solution as a computer program iv. Solution in algorithm form v. Implementation phase 1. i > ii > iii> iv > v 2. ii> iii > iv> i > v 3. ii> i > iv> v > iii 4. i> iii > iv> ii > v A1 : 1 A2 : 2 A3 : 3	4.0	1.00

		A4 : 4		
Objective Question				
75	3675	In database management, real world situation in form of entities and association between entities can be visualized using which of the following? 1. CR diagram 2. DR diagram 3. ER diagram 4. FR diagram A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
76	3676	For laminar fluid flow in pipes, the Reynolds number must be 1. < 2000 2. > 4000 3. 4000 to 6000 4. 2000 to 4000 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
77	3677	Incompressible flow is that type of flow in which _____ is constant for the fluid flow. 1. Surface tension 2. Density 3. Temperature 4. Thermal conductivity A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
78	3678	Which of the following is not a classification of venturimeters? 1. Horizontal venturimeters 2. Vertical venturimeters 3. Right angle venturimeters 4. Inclined venturimeters A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
79	3679	Hydraulic press is based on which of the following? 1. Bernoulli's principle 2. Archimedes principle 3. Continuity principle 4. Pascal law A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
80	3680	Which of the following is an example of Non Positive-Displacement Pump? 1. Centrifugal pump 2. Piston pump 3. Gear pump 4. Screw pump A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
81	3681		4.0	1.00

		Volute is the part of which of the following types of pumps? 1. Centrifugal pump 2. Piston pump 3. Gear pump 4. Screw pump A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
82	3682	If net positive suction head (NPSH) = _____ the liquid can vaporize causing pump cavitation and failure of components. 1. 0 2. 1 3. 2 4. 3 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
83	3683	Which of the following is dimensionless? 1. Volume 2. Density 3. Specific gravity 4. Surface tension A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
84	3684		4.0	1.00

		High pressure liquid refrigerant is reduced to the low pressure of the evaporator by passing it through which of the following pressure reducing devices? 1. Stagger device 2. Expansion device 3. Low stage device 4. Compression device A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
85	3685	Which part of the domestic refrigerator is the least cold one? 1. Top of refrigerator cabinet 2. Middle of refrigerator cabinet 3. Bottom of refrigerator cabinet 4. Tray meant for storing milk A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
86	3686	Which of the following is a unit of enthalpy? 1. kJ/kg 2. kcal 3. kWkgf 4. kPa A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
87	3687		4.0	1.00

		In which component of the refrigeration system is the refrigerant stored? 1. Compressor 2. Condenser 3. Evaporator 4. Receiver A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
88	3688	Ice cream freezers work on which of the following principles? 1. Vapour absorption refrigeration system 2. Vapour expansion refrigeration system 3. Vapour compression refrigeration system 4. Vapour evaporation refrigeration system A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
89	3689	Which of the following is not a type of expansion valve? 1. Low side float valve 2. Centrifugal expansion valve 3. Capillary tube 4. Thermostatic expansion valve A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
90	3690		4.0	1.00

		One ton of refrigeration (TR) can be expressed as : 1. 1 TR = 311 kJ/min = 5.5167 kW 2. 1 TR = 111 kJ/min = 4.5167 kW 3. 1 TR = 411 kJ/min = 2.5167 kW 4. 1 TR = 211 kJ/min = 3.5167 kW A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
91	3691	This property of the coil due to which it opposes any increase or decrease or current of flux through it, is known as 1. Self inductance 2. Mutual inductance 3. Dynamic inductance 4. Static inductance A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
92	3692	A conductor of length 1 metre moves at right angles to a uniform magnetic field of flux density 2 Wb/m^2 with a velocity of 40 metre/second. Calculate the induced e.m.f. when the conductor moves at an angle of 30º to the direction of the field. 1. 50 V 2. 30 V 3. 45 V 4. 15 V A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
93	3693		4.0	1.00

		Which of the following laws are based on stress analysis of plastic deformation within the elastic limit? 1. Kick's law 2. Rettinger's law 3. Bond's law 4. Planks's law A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
94	3694	The angle of inclination of discs stacked in cream separator to the horizontal base is: 1. 11° - 20° 2. 45° - 60° 3. 25° - 40° 4. 70° - 80° A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
95	3695	Mechanical separation is applicable to: 1. Heterogenous mixture 2. Homogenous mixture 3. Colloidal mixture 4. True solutions A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
96	3696		4.0	1.00

		The linear velocity 'V' of rotating body is given by: 1. $V = \frac{\omega}{r}$ 2. $V = \omega \times r$ 3. $V = \frac{r}{\omega}$ 4. $V = \sqrt{\omega \times r}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
97	3697	The co-efficient of friction (a) in terms of angle of friction (f) is given by: 1. $\phi = tan\mu$ 2. $\mu = sin\phi$ 3. $\mu = tan\phi$ 4. $u = \frac{1}{tan\phi}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
98	3698	The ratio between the tensions in the right side and slack side of a flat belt drive increases 1. in direct proportion to the angle of lap 2. proportional to the width of the belt. 3. exponentially as the angle of lap increases 4. in direct proportion to the coefficient of friction A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
99	3699		4.0	1.00

		Given below are two statements: Statement (I): The rate of heat transfer to the thermal centre of a container depends on the size of container, but not the shape Statement (II): The rate of heat transfer to the thermal centre of can is improved by agitating the container In light of the above statements,choose the *most appropriate* answer from the options given below. 1. Both Statement (I) and Statement (II) are true. 2. Both Statement (I) and Statement (II) are false. 3. Statement (I) is true but Statement (II) is false. 4. Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
100	3700	The "z" value of a micro-organism is 6°C and the temperature of processing is 105°C then the lethal rate of microorganism is 1. 21.5 2. 0.215 3. $2.15x10^{-3}$ 4. $2.15x10^{2}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
101	3701	Which of the following does not affect the length of the time required to sterilize a food? 1. D value 2. The physical state of food 3. Z value 4. Rate of heat transfer in food A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
102	3702	In a counter flow heat exchanger, cold fluid enters at 30°C and leaves at 50°C, whereas the hot fluid enters at 150°C and leaves at 130°C. What is the mean temperature difference? 1. 50°C 2. 120°C 3. 80°C 4. 100°C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
103	3703	Natural convection is associated with which of the following dimensionless numbers? 1. Prandtl number 2. Reynolds number 3. Grashof number 4. Nusselt number A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
104	3704	All Three modes of heat transfer occurs in which of the following? 1. Steam condenser 2. Boiler furnaces 3. Melting of ice 4. Electric heater A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
105	3705		4.0	1.00

		Calculate the temperature of milk coming out from a homogenizer if temperature at inlet is 64°C and inlet and outlet pressures are 205 bar and 5 bar respectively 1. 66°C 2. 69°C 3. 70°C 4. 72°C A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
106	3706	Calculate the regeneration efficiency if the milk is heated from an initial temperature of 4°C to 67°C in a regenerator and pasteurization was done at 74°C. 1. 80% 2. 75% 3. 90% 4. 85% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
107	3707	The hot side and cold side pressure in the regenerator of a pasteurizer is controlled by which of the following? 1. Homogenizer 2. Booster pump 3. Cream separator 4. Flow diversion valve A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
108	3708		4.0	1.00

		The Kelvin temperature of a system can be measured by: 1. Constant-volume gas thermometer 2. Thermocouple 3. Resistance thermometer 4. Thermister A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
109	3709	The process in which no heat is supplied or rejected and entropy is constant is known as: 1. Polytropic process 2. Isothermal process 3. Adiabatic process 4. Isentropic process A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
110	3710	The compression ratios of petrol engines lie in the range of 1. 3 to 6 2. 5 to 8 3. 15 to 20 4. 30 to 40 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
111	3711		4.0	1.00

		Compression ratio is defined as the ratio of: 1. $\frac{total\ volume}{swept\ volume}$ 2. $\frac{total\ volume}{clearance\ volume}$ 3. $\frac{swept\ volume}{total\ volume}$ 4. $\frac{clearance\ volume}{swept\ volume}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
112	3712	Two forces P and Q acting at q the resultant force R is given by 1. $R = \sqrt{P^2 + Q^2 + 2PQsin2\theta}$ 2. $R = \sqrt{P^2 + Q^2 + 2PQcos\theta}$ 3. $R = \sqrt{P^2 + Q^2 - 2PQsin2\theta}$ 4. $R = \sqrt{P^2 + Q^2 + 2PQcos2\theta}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
113	3713	The forces which do not meet at a point are called 1. Non-coplanar forces 2. Coplanar forces 3. Concurrent forces 4. Non-concurrent forces A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
114	3714		4.0	1.00

		$q = -kA\frac{\Delta T}{\Delta x}$ is called as 1. Plank's Equation 2. Stokes equation 3. Fourier's equation 4. Continuity equation A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
115	3715	The extended heat transfer surfaces provided in heat exchangers are called as: 1. Propellers 2. Blades 3. Fins 4. Ribbons A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
116	3716	Two plates placed at 160 mm apart are maintained at 1200°C and 80°C. The heat transfer between the two bodies occur mainly due to 1. Forced convection 2. Radiation 3. Conduction 4. Natural convection A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
117	3717		4.0	1.00

		Polar moment of inertia of a circle (I_0) is given by 1. $\frac{\pi}{64}d^4$ 2. $\frac{\pi}{32}d^4$ 3. $\frac{\pi}{16}d^4$ 4. $\frac{\pi}{32}d^3$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
118	3718	Two alternating quantities having same frequency but having different zero points are said to have 1. Current difference 2. Phase difference 3. Zero difference 4. Voltage difference A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
119	3719	A device fitted on the crown plate of fire box and used to prevent damage of heating surface in case of low water level is 1. Water level indicator 2. Safety valve 3. Fusible plug 4. Steam trap A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
120	3720		4.0	1.00

Turbulence in the flow of milk in between plates is mainly achieved by

1. Excessive flow rate
2. Corrugations in plate
3. Too narrow gap between plates
4. Increase in milk density

A1 : 1

A2 : 2

A3 : 3

A4 : 4