

CUET PG 2024 Food Science and Technology Question Paper with Solutions

Time Allowed :1 Hour 45 Mins	Maximum Marks :300	Total Questions :75
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 105 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the Food Science and Technology paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

1. The packaging involves the complete sealing against the ingress of gases and vapour.

- (a) Hermetic
- (b) Primary
- (c) Controlled
- (d) Modified

Correct Answer: (a) Hermetic.

Solution:

Hermetic packaging refers to complete sealing against gases and vapours to maintain the quality of the product inside.

Quick Tip

Hermetic sealing is crucial for preserving the freshness and shelf life of packaged food products.

2. The temperature difference between inside and outside should not exceed..... to prevent the thermal shock in glass (package) manufacturing.

- (a) 100°C
- (b) 20°C
- (c) 44°C
- (d) 85°C

Correct Answer: (c) 44°C.

Solution:

To avoid thermal shock during glass package manufacturing, it is important to maintain a temperature difference of less than 44°C to prevent cracking or breaking of the glass.

Quick Tip
A sudden temperature change can cause glass to crack or break, which is why controlling the temperature difference is critical.

3. Which type of can is used for high acid foods?

- (a) L type
- (b) MS type
- (c) MR type
- (d) MC type

Correct Answer: (a) L type.

Solution:

L type cans are specifically used for high acid foods as they provide better protection against corrosion from acidic contents.

Quick Tip
High acid foods like tomatoes and citrus fruits require specialized cans to prevent corrosion, and L type cans are designed for this purpose.

4. The principal ingredient for curing of meat is

- (a) Potassium chloride
- (b) Sodium chloride
- (c) Calcium chloride
- (d) Magnesium chloride

Correct Answer: (b) Sodium chloride.

Solution:

Sodium chloride (common salt) is the main ingredient used for curing meat to preserve it and enhance flavor.

Quick Tip

Sodium chloride is the most common curing agent due to its effectiveness in preserving meat and preventing bacterial growth.

5. The oxidised form of Oxymyoglobin is

- (a) Myoglobin
- (b) Metmyoglobin
- (c) Cholemyoglobin
- (d) Ferrylmyoglobin

Correct Answer: (b) Metmyoglobin.

Solution:

Metmyoglobin is the oxidized form of oxymyoglobin, where the iron in the heme group is oxidized to a ferric state.

Quick Tip

Metmyoglobin is not able to bind oxygen, which affects the color and quality of meat during storage.

6. Match List I with List II

LIST I	LIST II
A. Cattle	I. Veal
B. Calves	II. Beef
C. Hogs	III. Game meat
D. Wild Animals	IV. Bacon

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (b) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (c) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (d) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

Correct Answer: (c) (A)-(II), (B)-(I), (C)-(IV), (D)-(III).

Solution:

- A. Cattle corresponds to Beef (II), - B. Calves corresponds to Veal (I), - C. Hogs corresponds to Bacon (IV), - D. Wild Animals corresponds to Game meat (III).

Quick Tip

Meat types are derived from specific animals and are commonly used to classify the source of various meats.

7. Egg yolk contains the following protein fractions-

- (A) Phosvitin
- (B) Livetin
- (C) Low density lipoprotein
- (D) Ovomucin

Choose the correct answer from the options given below:

- (a) (A), (B) and (C) only.
- (b) (A), (B) and (D) only.
- (c) (A), (B), (C) and (D).
- (d) (B), (C) and (D) only.

Correct Answer: (a) (A), (B) and (C) only.

Solution:

Egg yolk contains all these protein fractions, including phosvitin, livetin, and low-density lipoprotein. Ovomucin is not part of this list.

Quick Tip

Phosvitin, livetin, and low-density lipoprotein are the primary proteins found in egg yolk, while ovomucin is typically found in egg white.

8. The egg yolk is anchored in the center by

- (a) Vitelline membrane
- (b) Shell membrane
- (c) Chalaza
- (d) Albuminous sac

Correct Answer: (c) Chalaza.

Solution:

The chalaza is a structure in the egg yolk that anchors the yolk in place, ensuring it remains centered in the egg.

Quick Tip

The chalaza is essential for maintaining the structural integrity of the egg during incubation.

9. The correct order of production of egg powder is-

- (A) Pasteurization
- (B) Fermentation
- (C) Drying
- (D) Cooling

Choose the correct answer from the options given below:

- (a) (A), (B), (C), (D)
- (b) (B), (A), (C), (D)
- (c) (B), (C), (A), (D)
- (d) (D), (C), (A), (B)

Correct Answer: (a) (A), (B), (C), (D).

Solution:

The proper sequence for egg powder production is: pasteurization, fermentation, drying, and cooling.

Quick Tip
The production of egg powder follows a controlled sequence to ensure the quality and safety of the product.

10. The browning in egg powder can be prevented by

- (a) Glucose oxidase
- (b) Addition of gum acacia
- (c) Denaturing the proteins
- (d) Addition of acid

Correct Answer: (a) Glucose oxidase.

Solution:

The addition of glucose oxidase helps in preventing browning by reducing the levels of glucose, which is responsible for the browning reaction in egg powder.

Quick Tip
Enzymes like glucose oxidase can be used to prevent non-enzymatic browning in food products like egg powder.

11. The naturally occurring toxicant in potatoes is

- (a) solanine
- (b) prussic acid

- (c) haemagglutinins
- (d) gossypol

Correct Answer: (a) solanine.

Solution:

Solanine is a naturally occurring toxicant in potatoes, especially in green parts or sprouts, which can cause poisoning when consumed in large quantities.

Quick Tip

Avoid consuming green or sprouted potatoes, as they contain solanine, which is toxic.

12. Weight gain in rats upon the consumption of one gram of protein is known

- (a) Biological value
- (b) Protein Efficiency Ratio
- (c) Net Protein Utilization
- (d) Net Protein Value

Correct Answer: (b) Protein Efficiency Ratio.

Solution:

The Protein Efficiency Ratio (PER) measures the weight gain of rats per gram of protein consumed, used to assess protein quality.

Quick Tip

The Protein Efficiency Ratio (PER) is a standard method to evaluate protein quality by observing weight gain in rats.

13. Butter contains __ % of lactose.

- (a) 1
- (b) 2
- (c) 0.5
- (d) 10

Correct Answer: (c) 0.5.

Solution:

Butter contains a small amount of lactose, typically around 0.5

Quick Tip

Butter has a very low lactose content, making it easier to digest for some lactose-intolerant individuals.

14. Match List I with List II

LIST I	LIST II
A. Fluid bread shortenings	I. 70
B. Frying shortenings	II. 20
C. Puff paste fats	III. 30
D. Confectionery fats	IV. 50

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (b) (A)-(II), (B)-(III), (C)-(IV), (D)-(I).

Solution:

The match is based on the percentage of solids in the various types of shortenings used in baking and confectionery.

Quick Tip

Different types of shortenings have varying levels of solids depending on their intended use in different food preparations.

15. Sucrose polyesters act as

- (a) stabilizers
- (b) antioxidants
- (c) flavours
- (d) engineered fats

Correct Answer: (d) engineered fats.

Solution:

Sucrose polyesters are a type of engineered fat that are used as fat replacers in food products to reduce calorie content.

Quick Tip

Engineered fats like sucrose polyesters are designed to mimic the texture and mouthfeel of fats while reducing their calorie content.

16. Match List I with List II

LIST I	LIST II
A. Planetary Mixer	I. Baking
B. Oven	II. Dough development
C. Proofer	III. Muffin
D. Griddle cup	IV. Fermentation

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

Correct Answer: (d) (A)-(II), (B)-(I), (C)-(IV), (D)-(III).

Solution:

Each piece of equipment serves a specific function in baking and dough preparation processes, from mixing to proofing and final baking.

Quick Tip

The correct use of each kitchen equipment in the baking process ensures consistent and high-quality results.

17. Sequence for the preparation of sugar from sugarcane juice involves the following unit operations:

- (A). Crystallization
- (B). Centrifugation and filtration
- (C). Decolourization
- (D). Evaporation

Choose the correct answer from the options given below:

- (a) (B), (C), (D), (A)
- (b) (A), (B), (C), (D)
- (c) (B), (A), (D), (C)
- (d) (C), (B), (D), (A)

Correct Answer: (a) (B), (C), (D), (A).

Solution:

The sequence for sugar preparation typically involves centrifugation and filtration, followed by decolourization, evaporation, and finally crystallization.

Quick Tip

Understanding the correct sequence of operations in food processing ensures optimal product quality and consistency.

18. Which of the following is used as an enriching agent in wheat flour?

- (a) 0.2% lysine
- (b) 0.2% tryptophan
- (c) 2% lysine
- (d) 2% tryptophan

Correct Answer: (a) 0.2% lysine.

Solution:

Lysine is commonly added to wheat flour as an enriching agent to improve its amino acid profile, as wheat flour is typically deficient in lysine.

Quick Tip
Lysine supplementation is particularly important in enhancing the nutritional value of wheat-based foods.

19. Glycerol mono stearate serves as a/ an in cakes.

- (a) emulsifier
- (b) colourant
- (c) flavouring agent
- (d) antioxidant

Correct Answer: (a) emulsifier.

Solution:

Glycerol mono stearate is used as an emulsifier in cakes, helping to mix ingredients like oil and water that would normally separate.

Quick Tip
Emulsifiers like glycerol mono stearate help improve texture and shelf-life in baked goods by stabilizing mixtures.

20. The boiling point of 50% sucrose solution is

- (a) 90
- (b) 102
- (c) 110
- (d) 120

Correct Answer: (b) 102.

Solution:

The boiling point of a 50% sucrose solution is approximately 102°C, due to the elevation in boiling point caused by the dissolved sugar.

Quick Tip

Solutions like sucrose in water elevate the boiling point, a phenomenon known as boiling point elevation.

21. Filo pastry is prepared by following sequence-

- (A). Baking
- (B). Selection and weighing of ingredients
- (C). Chilling
- (D). Mixing

Choose the correct answer from the options given below:

- (a) (B). (C). (D). (A)
- (b) (B). (A). (C). (D)
- (c) (B). (A). (D). (C)
- (d) (C). (B). (D). (A)

Correct Answer: (a) (B). (C). (D). (A).

Solution:

The correct sequence for the preparation of filo pastry involves weighing and selecting ingredients first, chilling the dough, mixing, and then baking.

Quick Tip

The steps for making filo pastry emphasize ingredient preparation, dough handling, and careful baking.

22. High sugar wafers contain more than % sugar.

- (a) 10
- (b) 15
- (c) 20
- (d) 25

Correct Answer: (a) 10.

Solution:

High sugar wafers typically contain more than 10

Quick Tip

Wafers with higher sugar content help maintain crispness and sweetness.

23. Mold growth in muffins is controlled by the addition of

- (a) calcium propionate
- (b) sodium hydroxide
- (c) baking soda
- (d) baking powder

Correct Answer: (a) calcium propionate.

Solution:

Calcium propionate is commonly used as a preservative to control mold growth in baked goods like muffins.

Quick Tip

Calcium propionate inhibits mold growth while maintaining the quality of the product.

24. Match List I with List II

LIST I	LIST II
A. Sweetner	I. Starch
B. Gelling agent	II. Stevia
C. Aerating agent	III. Egg
D. Antioxidant	IV. BHA

Choose the correct answer from the options given below:

- (a) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (a) (A)-(II), (B)-(I), (C)-(III), (D)-(IV).

Solution:

- Sweetener: Stevia
- Gelling agent: Starch
- Aerating agent: Egg
- Antioxidant: BHA

Quick Tip

Matching ingredients with their roles is important for understanding food formulations and preparations.

25. *Test* is used to check the fermentation of cocoa beans.

- (a) Cut
- (b) Flavour
- (c) Sugar
- (d) Colour

Correct Answer: (a) Cut.

Solution:

The cut test is a method used to assess the extent of fermentation in cocoa beans by examining their interior.

Quick Tip

Fermentation is a critical step in cocoa processing to develop flavor and reduce bitterness.

26. Process flow for the manufacturing of the caramel involves the following sequence-

- (A). Emulsification
- (B). Mixing
- (C). Deposition
- (D). Caramelization

Choose the correct answer from the options given below:

- (a) (B)-(A)-(D)-(C)
- (b) (A)-(B)-(C)-(D)
- (c) (B)-(A)-(C)-(D)
- (d) (C)-(B)-(D)-(A)

Correct Answer: (a) (B)-(A)-(D)-(C).

Solution:

The proper sequence for caramel manufacturing involves mixing the ingredients, emulsifying them, depositing the product, and finally caramelizing it.

Quick Tip

The steps involved in caramel production include precise control of temperatures and ingredients for a smooth texture.

27. Blended chocolate should contain not less than cocoa solids.

- (a) 3%
- (b) 9%
- (c) 15%
- (d) 18%

Correct Answer: (b) 3%.

Solution:

Blended chocolate, as defined by food standards, must contain a minimum of 3% cocoa solids to be classified as chocolate.

Quick Tip

The percentage of cocoa solids in chocolate affects its flavor and classification.

28. Deposit cookies contain % of unbleached soft wheat flour.

- (a) 8 to 9
- (b) 15 to 20
- (c) 21 to 25
- (d) 5

Correct Answer: (a) 8 to 9.

Solution:

Deposit cookies are made with 8 to 9

Quick Tip

The percentage of unbleached flour affects the texture and handling properties of cookies.

29. Match List I with List II

LIST I	LIST II
LIST I	LIST II
A. 80	I. Medium strong
B. 80-120	II. Weak
C. 120-200	III. Very strong
D. >200	IV. Strong

Choose the correct answer from the options given below:

- (a) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (a) (A)-(II), (B)-(I), (C)-(IV), (D)-(III).

Solution:

The strength of dough, measured using an extensograph, corresponds to the following ranges:

- A: 80 corresponds to weak dough
- B: 80-120 corresponds to medium strong dough

- C: 120-200 corresponds to strong dough
- D: >200 corresponds to very strong dough

Quick Tip

An extensograph helps evaluate dough strength, which is critical in bread making and pastry production.

30. Typical farinograph of wheat flour follows the sequence of-

- (A). Arrival time
- (B). Peak time
- (C). Mixing tolerance index
- (D). Departure time

Choose the correct answer from the options given below:

- (a) (A)-(B)-(C)-(D)
- (b) (A)-(B)-(D)-(C)
- (c) (B)-(A)-(D)-(C)
- (d) (C)-(B)-(D)-(A)

Correct Answer: (a) (A)-(B)-(C)-(D).

Solution:

The correct sequence for the farinograph curve is as follows:

1. Arrival time (A) - the initial stage of mixing
2. Peak time (B) - when the dough reaches maximum consistency
3. Mixing tolerance index (C) - an indication of dough stability
4. Departure time (D) - when the dough begins to lose its strength

Quick Tip

The farinograph helps assess dough strength and stability, essential for determining flour quality.

31. In Farinograph analysis, the reference value for resistance is:

- (a) 400 BU
- (b) 500 BU
- (c) 600 BU
- (d) 700 BU

Correct Answer: (b) 500 BU.

Solution:

In Farinograph analysis, the reference value for resistance is 500 BU, which represents the dough's resistance to mixing and its development.

Quick Tip

The resistance value indicates how dough will behave during mixing and affects its handling characteristics.

32. Final viscosity of starch paste increases with an increase in:

- (a) Amylose content
- (b) Amylopectin content
- (c) Amylase content
- (d) Pectin content

Correct Answer: (a) Amylose content.

Solution:

Amylose content increases the final viscosity of starch paste, as amylose contributes to gel formation and higher viscosity due to its linear structure.

Quick Tip

Amylose is responsible for the firm texture of gels, which results in increased viscosity.

33. Gumminess is expressed as:

- (a) Hardness x Cohesiveness
- (b) Hardness x Springiness
- (c) Springiness x Cohesiveness
- (d) Hardness x Resilience

Correct Answer: (a) Hardness x Cohesiveness.

Solution:

Gumminess is a texture attribute in food products and is calculated as the product of hardness and cohesiveness.

Quick Tip

Gumminess is an important texture factor in evaluating foods that require chewing, such as bread and cakes.

34. Pectic enzymes include the following groups:

- (A) Pectin esterase
- (B) Polygalacturonase
- (C) Pectin lyase
- (D) Lactase

Choose the correct answer from the options given below:

- (a) (A), (B) and (D) only.
- (b) (A), (B) and (C) only.
- (c) (A), (B), (C) and (D).
- (d) (B), (C) and (D) only.

Correct Answer: (b) (A), (B) and (C) only.

Solution:

Pectic enzymes involved in the breakdown of pectin include pectin esterase, polygalacturonase, and pectin lyase, which are essential in fruit ripening.

Quick Tip
Pectic enzymes help in modifying the structure of pectin, which is important in fruit processing.

35. Phenomenon in which a substance occurs in different crystalline forms is known as:

- (a) Polymorphism
- (b) Esterification
- (c) Fractionization
- (d) Metamorphism

Correct Answer: (a) Polymorphism.

Solution:

Polymorphism is the ability of a substance to crystallize into different forms with varying physical properties, commonly observed in pharmaceuticals.

Quick Tip
Polymorphism can affect the solubility, stability, and bioavailability of compounds in various industries.

36. Change in lipid leading to an undesirable flavour and odour is known as:

- (a) Rancidity
- (b) Enzymatic degradation
- (c) Gelatinization
- (d) Lipid degradation

Correct Answer: (a) Rancidity.

Solution:

Rancidity refers to the undesirable changes in the flavour and odour of lipids, usually caused

by oxidation or microbial action.

Quick Tip

Rancidity is a major concern in the shelf life and quality of oils and fats.

37. Which of the following vitamins are fat soluble?

- (A) A
- (B) B
- (C) D
- (D) E

Choose the correct answer from the options given below:

- (a) (B) only.
- (b) (A), (B) and (C) only.
- (c) (A), (C) and (D) only.
- (d) (B) and (D) only.

Correct Answer: (c) (A), (C) and (D) only.

Solution:

Vitamins A, D, and E are fat-soluble vitamins, meaning they are absorbed and stored in the body's fat tissues.

Quick Tip

Fat-soluble vitamins are important for various bodily functions including immune support, bone health, and vision.

38. __ is the rigidity in plant cells resulting from being filled with water.

- (a) Cell Turgor
- (b) Vacuole
- (c) Denatured cell
- (d) Cell turbidity

Correct Answer: (a) Cell Turgor.

Solution:

Cell turgor is the pressure exerted by the cell membrane against the cell wall when the vacuole is filled with water. This rigidity helps maintain the structural integrity of plant cells.

Quick Tip

Turgor pressure is crucial for maintaining the shape and structural stability of plant cells.

39. Carotenoids are soluble in:

- (a) Water
- (b) Fat
- (c) Water and fat
- (d) Alcohol

Correct Answer: (b) Fat.

Solution:

Carotenoids are fat-soluble compounds, meaning they dissolve in fats and oils but not in water.

Quick Tip

Carotenoids are important for their antioxidant properties and are found in foods such as carrots and leafy greens.

40. Tannins in their natural form are mostly:

- (A) yellow in color
- (B) orange in color
- (C) colorless
- (D) blue in color

Choose the correct answer from the options given below:

- (a) (A) and (B) only.
- (b) (A) only.
- (c) (C) only.
- (d) (B), (A) and (D) only.

Correct Answer: (c) (C) only.

Solution:

Tannins in their natural form are mostly colorless. They are polyphenolic compounds found in various plants and contribute to the bitterness in foods and beverages like tea and wine.

Quick Tip

Tannins have astringent properties and are often used for their preservative effects and flavoring.

41. Brix to acid ratio is commonly used to measure fruits and fruit juices.

- (A) taste
- (B) tartness
- (C) acidity
- (D) sourness

Choose the correct answer from the options given below:

- (a) (C) only.
- (b) (A), (B) and (D) only.
- (c) (A) and (B) only.
- (d) (B), (C) and (D) only.

Correct Answer: (c) (A) and (B) only.

Solution:

The Brix to acid ratio is a measure used to assess the sweetness (taste) and tartness (acidity) of fruits and fruit juices. It helps in determining the balance between the sugar and acid content, which is critical for flavor.

Quick Tip
This ratio is important for assessing the sensory qualities and maturity of fruits used for juicing.

42. Non-nutritive sweetener used in soft drinks is

- (A) Acesulfame K
- (B) Saccharin
- (C) Cane Sugar
- (D) Galactose

Choose the correct answer from the options given below:

- (a) (A) and (B) only.
- (b) (A), (B) and (C) only.
- (c) (A), (B), (C) and (D).
- (d) (D) only.

Correct Answer: (a) (A) and (B) only.

Solution:

Acesulfame K and Saccharin are both non-nutritive sweeteners commonly used in soft drinks. Cane sugar and galactose are nutritive sweeteners.

Quick Tip
Non-nutritive sweeteners are used to provide sweetness without adding calories.

43. Hops are responsible for the in the beer.

- (a) sourness
- (b) bitterness
- (c) sweetness
- (d) sparkling

Correct Answer: (b) bitterness.

Solution:

Hops are used in beer brewing primarily for their bittering properties, which balance the sweetness from malt and contribute to the beer's flavor.

Quick Tip

Hops also have preservative and aromatic properties, enhancing the flavor of the beer.

44. Protein content of all-purpose flour is %

- (a) 7 to 9
- (b) 9.5 to 11.5
- (c) 8.5 to 9
- (d) 12

Correct Answer: (b) 9.5 to 11.5.

Solution:

All-purpose flour typically has a protein content of 9.5% to 11.5%, making it suitable for a variety of baked goods.

Quick Tip

The protein content in flour affects the texture and structure of baked goods, such as bread and pastries.

45. Straight flour is

- (A) Patent flour
- (B) Clear flour
- (C) Mixture of all flours
- (D) Pastry flour

Choose the correct answer from the options given below:

- (a) (A), (B) and (C) only.
- (b) (C) only.
- (c) (D) and (A) only.
- (d) (A) only.

Correct Answer: (b) (C) only.

Solution:

Straight flour refers to flour that is made by milling the entire wheat kernel, and it is often known as patent flour.

Quick Tip
Patent flour is often used for bread making and other baked goods that require a strong structure.

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46. Structural integrity of the starch polymeric chains of wheat flour is measured by

- (a) Falling Number
- (b) Farinograph
- (c) Extensograph
- (d) Alveograph

Correct Answer: (a) Falling Number.

Solution:

The Falling Number test is used to measure the activity of alpha-amylase enzymes in wheat flour, which can indicate the quality and structural integrity of starch polymers. This is an important test in assessing the flour's suitability for bread-making.

Quick Tip
The Falling Number test is a critical indicator in assessing the flour's quality for baking.

The Falling Number test is a critical indicator in assessing the flour's quality for baking.
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47. Types of proteins present in cereals are-

- (A) Albumin
- (B) Globulins
- (C) Prolamines
- (D) Glutelins

Choose the correct answer from the options given below:

- (a) (A), (B) and (D) only.
- (b) (A), (B) and (C) only.
- (c) (A), (B), (C) and (D).
- (d) (B), (C) and (D) only.

Correct Answer: (c) (A), (B), (C) and (D).

Solution:

Cereals contain all of these protein types, which are essential for the nutrition and functional properties of the grains.

Quick Tip

The combination of these proteins influences the baking qualities and nutritional value of cereal products.

48. The group of vitamins present in all cereal grains are

- (a) Vitamin B
- (b) Vitamin C
- (c) Vitamin A
- (d) Vitamin E

Correct Answer: (a) Vitamin B.

Solution:

Cereal grains are rich in B-vitamins, which are essential for energy metabolism and overall health.

Quick Tip

The B-vitamins found in cereal grains include thiamine, riboflavin, niacin, and folic acid, among others.

49. Arrange the general processing steps of pulses

- (A) Soaking and Germination
- (B) Cooking
- (C) Decortication
- (D) Fermentation

Choose the correct answer from the options given below:

- (a) (A), (B), (C), (D)
- (b) (A), (D), (C), (B)
- (c) (A), (C), (B), (D)
- (d) (C), (B), (D), (A)

Correct Answer: (c) (A), (C), (B), (D).

Solution:

The typical sequence in pulse processing is: 1. Soaking and germination (A), 2. Decortication (C), 3. Cooking (B), 4. Fermentation (D).

Quick Tip

Pulse processing helps to enhance digestibility, remove anti-nutritional factors, and improve nutritional quality.

50. Inflammation of udder of bovine cattle is known as

- (a) Foot and Mouth Disease
- (b) Lumpy Cow Disease
- (c) Mastitis
- (d) Mad Cow Disease

Correct Answer: (c) Mastitis.

Solution:

Mastitis is the inflammation of the udder caused by infection, usually bacterial, leading to decreased milk production and quality.

Quick Tip

Mastitis can be managed with antibiotics and proper hygiene to prevent infection in dairy cattle.

51. Match List I with List II

LIST I	LIST II
A. Fat globule membrane	I. Lactoperoxidase
B. Antimicrobial system	II. Lipase
C. Pasteurization	III. Lactase
D. Milk sugar	IV. Alkaline Phosphatase

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (c) (A)-(II), (B)-(I), (C)-(IV), (D)-(III).

Solution:

The correct enzyme associations are: - Fat globule membrane with lipase - Antimicrobial system with lactoperoxidase - Pasteurization with alkaline phosphatase - Milk sugar with lactase

Quick Tip

These enzymes play important roles in food safety and preservation processes.

52. Align the key steps involved in the manufacture of the condensed milk -

- (A) Preheating and addition of sugar
- (B) Standardization
- (C) Packaging and storage

(D) Condensation followed by crystallization

Choose the correct answer from the options given below:

- (a) (A), (C), (B), (D)
- (b) (A), (B), (C), (D)
- (c) (B), (A), (D), (C)
- (d) (C), (B), (D), (A)

Correct Answer: (c) (B), (A), (D), (C).

Solution:

The correct order of operations in condensed milk production is: - Standardization (B),
- Preheating and addition of sugar (A),
- Condensation followed by crystallization (D),
- Packaging and storage (C).

Quick Tip

These steps ensure proper texture, flavor, and safety for the final product.

53. is the most potent carcinogen in many species including birds, fish, and rodents.

- (a) Patulin
- (b) Ochratoxin
- (c) Aflatoxin B1
- (d) Zearalenone

Correct Answer: (c) Aflatoxin B1.

Solution:

Aflatoxin B1 is a potent carcinogen found in various agricultural products like peanuts and corn and is highly toxic to both humans and animals.

Quick Tip

Aflatoxins are among the most studied mycotoxins due to their carcinogenic potential.

54. Match List I with List II

LIST I	LIST II
Mutagenic	I. DNA
Teratogenic	II. Kidney
Nephrotoxic	III. Skin
Neurotoxic	IV. CNS

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV).

Solution:

Mutagenic affects DNA, Teratogenic affects the kidney, Nephrotoxic affects skin, and Neurotoxic affects the CNS.

Quick Tip
Toxins affect various organs and functions of the body, and knowing their effects is crucial for health safety.

55. The has become the reference for International Food Safety Requirements.

- (a) ICMSF
- (b) FAO
- (c) WHO
- (d) CAC

Correct Answer: (d) CAC.

Solution:

The Codex Alimentarius Commission (CAC) sets the international standards for food safety, making it the key reference body for food safety requirements worldwide.

Quick Tip
CAC helps ensure food safety standards are harmonized across borders, facilitating trade and consumer health.

56. test is used for haemolysis testing of *Listeria monocytogenes*.

- (a) CAMP
- (b) CAP
- (c) MAP
- (d) AMES

Correct Answer: (a) CAMP.

Solution:

The CAMP test is used to detect *Listeria monocytogenes* by observing its ability to produce hemolysis in the presence of *Staphylococcus aureus*.

Quick Tip

CAMP test is a diagnostic test to confirm the presence of *Listeria monocytogenes* in clinical samples.

57. VACCP system stands for

- (a) Virtual Critical Control Point
- (b) Validation Critical Control Point
- (c) Vulnerability Critical Control Point
- (d) Verification Critical Control Point

Correct Answer: (c) Vulnerability Critical Control Point.

Solution:

The VACCP system focuses on identifying and mitigating vulnerabilities in the food supply chain, ensuring that critical points are controlled to prevent food fraud.

Quick Tip

VACCP helps prevent food fraud by addressing vulnerabilities in the food production and distribution systems.

58. is defined as an act or threat of deliberate contamination of food for human consumption with the intention of causing injury or death to civilian population and/or disrupting social, economic or political stability.

- (a) Food risk
- (b) Bioterrorism
- (c) Food fraud
- (d) Food terrorism

Correct Answer: (d) Food terrorism.

Solution:

Food terrorism refers to the intentional contamination of food products with the aim of causing harm to public health and disrupting social stability.

Quick Tip

Food terrorism is a significant concern in food safety and requires preventive measures to ensure public health.

59. Procedures that address operational conditions providing the foundation for the HACCP system are known as:

- (a) PRPs
- (b) SSOPs
- (c) SOPs
- (d) CoP

Correct Answer: (a) PRPs.

Solution:

PRPs (Prerequisite Programs) are essential procedures that form the foundation for the HACCP system, addressing general operational conditions that affect food safety.

Quick Tip

PRPs ensure that the basic hygiene and safety conditions are met before applying HACCP principles.

60. The food that is customarily consumed without cooking by the customer is known as:

- (a) Balance food
- (b) Ready-To-Eat food
- (c) Ready-To-Serve food
- (d) Ready-To-Cook food

Correct Answer: (b) Ready-To-Eat food.

Solution:

Ready-To-Eat foods are those that do not require any further preparation or cooking before consumption, ensuring convenience for the consumer.

Quick Tip

Ready-to-eat foods are typically pre-cooked, packaged, and designed for immediate consumption.

61. The temperature, time, and pressure combination of autoclaving at laboratory scale is

- (a) 101°C, 15 to 20 minutes and 15 psi
- (b) 121°C, 15 to 20 minutes and 15 psi
- (c) 121°C, 5 to 10 minutes and 10 psi
- (d) 120°C, 15 to 20 minutes and 12 psi

Correct Answer: (b) 121°C, 15 to 20 minutes and 15 psi.

Solution:

The common autoclaving conditions used for laboratory-scale sterilization typically involve a

temperature of 121°C, with a pressure of 15 psi, and a time duration of 15 to 20 minutes.

Quick Tip

Autoclaving is an effective method for sterilizing laboratory materials by applying heat and pressure.

62. Match List I with List II

LIST I	LIST II
A. 0.86	I. <i>S. aureus</i>
B. 0.94	II. No microbial growth
C. 0.68	III. <i>C. botulinum</i>
D. Less than 0.60	IV. Limit for fungi

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV).

Solution:

Water activity values influence the types of microorganisms that can grow. A value of 0.86 is conducive for *S. aureus*, while a value of less than 0.60 prevents microbial growth and limits fungal growth.

Quick Tip

Water activity plays a critical role in controlling microbial growth and preserving food safety.

63. is a cheap and energy efficient method of preservation of perishable raw materials.

- (a) Fermentation
- (b) Decomposition
- (c) Putrefaction
- (d) Proteolysis

Correct Answer: (a) Fermentation.

Solution:

Fermentation is an effective and energy-efficient method to preserve perishable materials while enhancing flavor and nutritional value.

Quick Tip

Fermentation extends the shelf life of foods by creating an environment that inhibits spoilage microorganisms.

64. are antimicrobial polypeptides or proteins which are heat stable at acidic pH.

- (a) Proteases
- (b) Antibiotics
- (c) Bacteriocins
- (d) Synbiotics

Correct Answer: (c) Bacteriocins.

Solution:

Bacteriocins are heat-stable antimicrobial proteins produced by bacteria, effective against other microorganisms.

Quick Tip

Bacteriocins are used in food preservation and to protect against pathogenic microorganisms.

65. Match List I with List II

LIST I	LIST II
A. Bifidobacterium longum	I. Acidocin
B. Lactococcus lactis subsp. lactis	II. Lacticin
C. Lactobacillus acidophilus	III. Lantibiotics
D. Lactobacillus lactis	IV. Nisin

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II).

Solution:

The matching of LAB strains to their respective bacteriocins is as follows: - Bifidobacterium longum produces Lantibiotics (III), - Lactococcus lactis produces Nisin (IV), - Lactobacillus acidophilus produces Acidocin (I), - Lactobacillus lactis produces Lacticin (II).

Quick Tip

Lactic acid bacteria (LAB) produce bacteriocins that are important for food safety and fermentation processes.

66. Fermentation of vegetables and fruits is performed to

- (A) Preserve for a long time period
- (B) Develop characteristic sensory properties
- (C) Reduce digestibility
- (D) Enhance dietary value

Choose the correct answer from the options given below:

- (a) (A), (B) and (D) only.
- (b) (A), (B) and (C) only.
- (c) (A), (B), (C) and (D).
- (d) (B), (C) and (D) only.

Correct Answer: (a) (A), (B) and (D) only.

Solution:

Fermentation of vegetables and fruits helps in preservation, enhances flavor, and boosts nutritional value.

Quick Tip

Fermentation is a natural method to preserve food while enhancing its sensory and dietary properties.

67. Method involves the complete removal of the air from the package followed by sealing of package.

- (a) Vacuum Packaging
- (b) CAP
- (c) MAP
- (d) Active Packaging

Correct Answer: (a) Vacuum Packaging.

Solution:

Vacuum packaging is a method used to remove air from the package to extend shelf life by inhibiting the growth of aerobic bacteria and mold.

Quick Tip

Vacuum packaging preserves food by preventing oxidation and microbial growth, enhancing freshness.

68. Is a gas which is bacteriostatic at low concentration (8µg per ml) but bactericidal at high concentration (40µg per ml).

- (a) CO₂
- (b) CO
- (c) H₂O₂
- (d) N₂

Correct Answer: (c) H₂O₂.

Solution:

H₂O₂ (Hydrogen Peroxide) is known for its bacteriostatic properties at low concentrations and bactericidal properties at higher concentrations, making it effective in food preservation and sanitation.

Quick Tip

H₂O₂ is widely used as a disinfectant and in food processing for controlling microbial growth.

69. The steps involved in the Grape wine manufacturing process are

- (A) Fermentation
- (B) Malolactic fermentation
- (C) Preparation of juice
- (D) Packaging, storage and aging

Choose the correct answer from the options given below:

- (a) (C), (B), (A), (D)
- (b) (A), (B), (C), (D)
- (c) (B), (A), (D), (C)
- (d) (C), (A), (B), (D)

Correct Answer: (d) (C), (A), (B), (D).

Solution:

The correct sequence for grape wine manufacturing is: preparation of juice, fermentation, malolactic fermentation, and then packaging, storage, and aging.

Quick Tip

Each step in wine production is essential to developing the desired flavor, clarity, and aging potential of the wine.

70. The basic steps involved in the preparation of Kumiss are

- (A) Pasteurization followed by cooling
- (B) Homogenization of selected milk type
- (C) Agitation of coagulum, packing and storage
- (D) Addition of starter culture, incubation, then cooling

Choose the correct answer from the options given below:

- (a) (A), (C), (B), (D)
- (b) (A), (B), (C), (D)
- (c) (B), (A), (D), (C)
- (d) (C), (B), (D), (A)

Correct Answer: (c) (B), (A), (D), (C).

Solution:

Kumiss preparation involves homogenization of selected milk type, pasteurization, addition of starter culture, incubation, and then agitation of coagulum, packing, and storage.

Quick Tip

Kumiss is a fermented dairy drink that requires specific steps to ensure proper fermentation, texture, and taste.

71. The order of steps involved in the process of beer manufacture are

- (A) Malting
- (B) Addition of Hops and Boiling
- (C) Mashing and Wort Preparation
- (D) Fermentation

Choose the correct answer from the options given below:

- (a) (A), (B), (C), (D)
- (b) (A), (C), (B), (D)
- (c) (B), (A), (D), (C)
- (d) (C), (B), (D), (A)

Correct Answer: (b) (A), (C), (B), (D).

Solution:

The beer manufacturing process starts with malting, followed by mashing and wort preparation,

then addition of hops and boiling, and finally fermentation.

Quick Tip

The order of steps in beer production ensures the correct development of flavors and alcohol content.

72. Sauerkraut is a good source of

- (a) Vitamin A
- (b) Vitamin B
- (c) Vitamin C
- (d) Vitamin D

Correct Answer: (c) Vitamin C.

Solution:

Sauerkraut, being a fermented cabbage dish, is a good source of Vitamin C, which helps in boosting immunity.

Quick Tip

Fermented foods like sauerkraut are rich in Vitamin C and beneficial for gut health.

73. Classes of enzymes predominately used in food processing are

- (A) Hydrolyses
- (B) Isomerases
- (C) Lipases
- (D) Oxido-reductases

Choose the correct answer from the options given below:

- (a) (A), (B) and (D) only
- (b) (A), (B) and (C) only
- (c) (A), (B), (C) and (D)
- (d) (B), (C) and (D) only

Correct Answer: (a) (A), (B) and (D) only.

Solution:

The enzymes used in food processing include hydrolyses, isomerases, and oxido-reductases, which are crucial for breaking down, modifying, and oxidizing food components.

Quick Tip

Enzymes play a critical role in food processing, improving the texture, flavor, and nutritional quality of food.

74. Match List I with List II

LIST I	LIST II
Food Outlet	Sub Classification
Restaurants	I. School meal program
Food Store	II. Roadside eateries
Institutional feeding	III. Fast food chains
Leisure feeding	IV. Food retail shops

Choose the correct answer from the options given below:

- (a) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (b) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (c) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Correct Answer: (d) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Solution:

Restaurants are classified under fast food chains, food stores under food retail shops, institutional feeding under school meal programs, and leisure feeding under roadside eateries.

Quick Tip

Understanding food outlet classifications helps in identifying their primary role in food service and retail.

75. The two main criteria for evaluating the success of product launch are profits and

- (a) consumer reaction
- (b) decrease in market share
- (c) sales volume
- (d) tactics

Correct Answer: (c) sales volume.

Solution:

The success of a product launch is commonly evaluated based on sales volume and profits, as these factors reflect the product's market acceptance.

Quick Tip

Sales volume is a direct indicator of customer acceptance and product success in the market.