1. The milk and milk product residues deposited on the surface of the soil is called as

(A) Dairy soil
(B) Hard milk
(C) Milk deposit
(D) Milk residue
(E) Answer not known

2. At what concentration chlorine sanitizing solution is used in the dairy industry?

(A) 500 – 600 ppm
(B) 100 – 200 ppm
(C) 200 – 500 ppm
(D) 500 – 800 ppm
(E) Answer not known

3. The very commonly used agent for the removal of milk stone deposited on the metal surface is

(A) Dilute caustic soda
(B) Sodium bicarbonate
(C) Trisodium phosphate
(D) Dilute phosphoric acid
(E) Answer not known

4. Name the agent which precipitates calcium and magnesium ions present in water.

(A) Sodium benzoate
(B) Sodium oleate
(C) Sodium hydroxide
(D) Sodium chloride
(E) Answer not known

5. The cleaning phase in dairy industry is separated in to ———— phases.

(A) 4 (B) 5

(C) 6 (D) 2

(E) Answer not known

6. Which one of the following mechanical cleaning method is employed for cleaning vertical surfaces?

(A) High pressure-Low volume sprays

(B) Air blowers

(C) Foam cleaning

(D) Dry ice blasting

(E) Answer not known

7. The generated optimum pressure of water sprays for cleaning or sanitization

(A) 300 to 1000 psi (B) 1500 to 1900 psi

(C) 1400 to 2100 psi (D) 1600 to 1800 psi

(E) Answer not known

8. During the process of dairy cleaning, what is the concentration of Trisodium phosphate used

(A) 2 – 3% (B) 1.5 – 3.5%

(C) 0.5 – 1.5% (D) 4 – 4.5 %

(E) Answer not known

9. For sanitizing tinned milk cans ———— sanitizers should be avoided.

(A) Soaps
(B) Teepol
(C) Chlorine
(D) Sodium carbonates
(E) Answer not known

10. 'Water hardness' is measured in parts per million of

(A) Calcium chloride
(B) Calcium chlorite
(C) Calcium carbonate
(D) Calcium bicarbonate
(E) Answer not known

11. Which of the following statements are correct about iodine based sanitizers?

(i) most active agent
(ii) have a broad spectrum of activity
(iii) more stable
(iv) easily soluble in water

(A) (i), (ii) and (iii) are correct
(B) (i), (iii) and (iv) are correct
(C) (i) and (ii) are correct
(D) (iii) and (iv) are correct
(E) Answer not known

12. The permanent hardness is due to the presence of ALL of the following EXCEPT.

(A) Calcium sulphate
(B) Calcium chloride
(C) Calcium bicarbonate
(D) Magnesium chloride
(E) Answer not known

13. The range of 5-Day BOD values for waster from Dairy plant is

(A) 420 – 1200
(B) 500 – 2000
(C) 180 – 4000
(D) 300 – 7500
(E) Answer not known

14. Dairy soils are composed of ————————% protein content.

(A) 4.5 – 44%
(B) 18 – 55%
(C) 12.1 – 48%
(D) 8.3 – 47%
(E) Answer not known

15. ———————— is an Acid Detergent.

(A) Sodium metasilicate
(B) Uric acid
(C) Phosphoric acid
(D) Sodium hyoxide
(E) Answer not known

16. The cationic detergent used as an effective dairy sanitizer is

(A) Quaternary ammonium compounds
(B) Nitric acid
(C) Pyrophosphate
(D) Caustic soda
(E) Answer not known

17. Which of the following factors promote biofilm formation?

(i) Low fluid flow rate over biofilm

(ii) High fluid flow rate over biofilm

(iii) Increased surface hydrophobicity

(iv) Decreased surface hydrophobicity

(A) (i) and (iii) (B) (ii) and (iv)

(C) (i) and (iv) (D) (ii) and (iv)

(E) Answer not known

18. The composition of dairy soils depends on

(i) Characteristics of the product processed

(ii) Processing temperature

(iii) The age of the soil

(iv) Condition of water hardness

(A) (i), (ii) and (iii) are correct

(B) (i), (iii) and (iv) are correct

(C) (i), (ii) and (iv) are correct

(D) (i), (ii), (iii) and (iv) are correct

(E) Answer not known

19. The bulk of most dairy detergents contains

(A) Alkalis (B) Acids

(C) Enzymes (D) Surfactants

(E) Answer not known

20. Assertion [A] : Lipases, as enzymes based detergents have remarkably reduced hydrolytic activity on fat at low temperatures.

Reason [R] : Target sites on fat are solid at low temperatures.

(A) [A] , [R] are true; [R] is the correct explanation of [A]

(B) Both [A] and [R] are true; and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true.

(D) Both [A] and [R] are true but [R] is not the correct explanation of [A]

(E) Answer not known

21. Fatty acid seperated by a process of steam distillation is

(A) Butyric (B) Stearic

(C) Myristic (D) Palmitic

(E) Answer not known

22. ———————— methods of fatty acid separation is based on relative distribution of two phases.

(A) Distillation (B) Chromatography

(C) Crystallography (D) Hydrogenation

(E) Answer not known

23. The most common type of rancidity encountered in the interrelation of fats is

(A) Hydrolytic (B) Oxidative

(C) Ketonic (D) Enzymatic

(E) Answer not known

24. The refractive index of milk fat is determined by

(A) Brix refractometer
(B) Abbe refractometer
(C) Rayleigh refractometer
(D) Gem refractometer
(E) Answer not known

25. Longer chain fatty acids have boiling points greater than ———————— °C.

(A) 300
(B) 320
(C) 340
(D) 350
(E) Answer not known

26. ———————— lipid is insoluble in acetone.

(A) Sphingomyelins
(B) Cerebrosides
(C) Phosphatides
(D) Sterols
(E) Answer not known

27. Name the unsaturated fatty acid present in milk fat play a important role in oxidative deterioration.

(A) Oleic acid
(B) Stearic acid
(C) Palmitic acid
(D) Acetic acid
(E) Answer not known

28. The milk fat is peculiar and it contains compound glycerides partly build up of

(A) Fatty acids of low molecular weight

(B) Fatty acids of high molecular weight

(C) Equal proportion of low and high molecular weight fatty acids

(D) Either low or high molecular weight fatty acids

(E) Answer not known

29. Which one of the following cows gives maximum yield of milk?

(A) Jersey

(B) Holstein

(C) Sahiwal

(D) Red Sindhi

(E) Answer not known

30. Fat clustering in milk is occurred during homogenization at the pressure level of

(A) > ~ 20 MPa

(B) > ~ 100 MPa

(C) >~ 50 MPa

(D) >~ 40 MPa

(E) Answer not known

31. The fat soluable vitamins are constituents of the ———————— of milk fat.

(A) Saponifiable matter

(B) Unsaponifiable matter

(C) Squalene

(D) Esters

(E) Answer not known

32. The energy source if lipids is ———————— kcal/g.

(A) 6 (B) 7

(C) 8 (D) 9

(E) Answer not known

33. Name the phases of Lipid oxidation

(A) Initiation and termination

(B) Initiation, propagation elimination

(C) Initiation, propagation and termination

(D) Initiation and propagation

(E) Answer not known

34. Heat treatment on minerals in milk leads to

(A) Loss of cheese making characteristics

(B) Bubble formation

(C) Foul smell

(D) Chumps formation

(E) Answer not known

35. What is the suitable substrate for Xanthomonas campestris to produce Xanthan gum?

(A) Sucrose (B) Lactose

(C) Galactose (D) Glycerol

(E) Answer not known

36. AGMARK standards for free fatty acids (% oteic acid) for special grade Agmark Red labels and general grade Agmark green labels respectively are

(A) 1.4 and 2.5
(B) 1.8 and 2.8
(C) 2.0 and 3.0
(D) 1.0 and 2.0
(E) Answer not known

37. The salt balance in milk is defined by the following equation

(A) $Ca^{+2} + Mg^{-2} / citrate^{-3} + PO_4^{-3}$
(B) $Ca^{+2} + Mg^{+2} / citrate^{+3} + PO_4^{+3}$
(C) $Mg^{+2} + Ca^{+2} / citrate^{+3} + PO_4^{-3}$
(D) $PO_4^{+3} + Ca^{+2} / citrate^{+3} + Mg^{+2}$
(E) Answer not known

38. The caseins are phosphoproteins which are containing the following composition

(A) 0.85% phosphorus and 0.8% sulphur
(B) 0.9% phosphorus and 0.1% sulphur
(C) 0.5% phosphorus and 0.5% sulphur
(D) 0.4% phosphorus and 0.2% sulphur
(E) Answer not known

39. The refractive index of fats and oils is measured by

(A) Lyophilizer
(B) Polarimeter
(C) Infra red spectrophotometer
(D) Butyro refractometer
(E) Answer not known

40. The number of atoms of copper per molecule binded with cerulosplasmin is

(A) Six
(B) Five
(C) Eight
(D) Seven
(E) Answer not known

41. The lactoferrin concentration level in Bovine milk ———————— g/l.

(A) 0.2
(B) 0.4
(C) 0.1
(D) 0.3
(E) Answer not known

42. ———————— is a phenomenon that involves transformation of a well-defined, folded structure of a protein, formed under physiological conditions, to an unfolded state under non-physiological conditions.

(A) Glycosylation
(B) Phosphorylation
(C) Hydrolysis
(D) Denaturation
(E) Answer not known

43. The order of denaturation of whey proteins are

(A) Immunoglobulin, Blood serum-albumin, β–lactoglobulin
(B) Blood serum albumin, Immunoglobulin, β–lactoglobulin
(C) β–lactoglobulin, Blood serum albumin, Immunoglobulin
(D) Immunoglobulin, β–lactoglobulin, Blood serum albumin
(E) Answer not known

44. All amino acids have L-configuration except

(A) Proline
(B) Histidine
(C) Glycine
(D) Cysteine
(E) Answer not known

45. The number of genetic variants of B casein known is

(A) 4
(B) 5
(C) 7
(D) 10
(E) Answer not known

46. The initial stages of acid-induced aggregation of casein micelles can be accommodated by

(A) Micellar destabilization
(B) Adhesive sphere model
(C) Micellar Interactions
(D) Ethanol stability
(E) Answer not known

47. Whole isoelectric casein contains approximately ———— phosphorus.

(A) 0.8%
(B) 0.5%
(C) 0.6%
(D) 0.7%
(E) Answer not known

48. The distribution of milk protein in α_{S1} casein is

(A) 3 – 4 g/l
(B) 12 – 15 g/l
(C) 20 – 24 g/l
(D) 28 – 30 g/l
(E) Answer not known

49. Alcohol –Alizarin Test for milk is related to determine

(A) Density and concentration
(B) Gravity and Density
(C) Concentration and pH
(D) Heat stability and pH
(E) Answer not known

50. Which of the following statements are correct about casein?

(i) in pure form, it has white amorphous body
(ii) practically insoluble in water
(iii) completely soluble even in dilute caustic alkaline solution
(iv) in soluble in strong acids

(A) (i), (ii) and (iii) are correct
(B) (ii), (iii) and (iv) are correct
(C) (i), (iii) and (iv) are correct
(D) (i), (ii) and (iv) are correct
(E) Answer not known

51. Indicated level of dephosphorylation for whole casein is

(A) 64.2%
(B) 85.9%
(C) 81.4%
(D) 71.6%
(E) Answer not known

52. The electric charge of casein is less negative in _____ method.

(A) Reticulation of transglutaminase
(B) Addition of calcium chelatant
(C) Succinylation
(D) Addition of divalent cations
(E) Answer not known

53. The zeta potential of casein becomes more negative due to reduced interactions between phosphoseryl residues and

(A) Magnesium
(B) Calcium
(C) Potassium
(D) Phosphate
(E) Answer not known

54. The most effective method for fractionating the casein is

(A) Thin layer chromatography
(B) Ion-Exchange chromatography
(C) Reversed phase HDLC
(D) Paper chromatography
(E) Answer not known

55. The molecular mass of bovine serum allumin is _____ KDa.

(A) ~50
(B) ~72
(C) ~56
(D) ~66
(E) Answer not known

56. Bovine β-lactoglobulin dimer has a molecular weight of

(A) 35,000
(B) 28,000
(C) 30,000
(D) 36,000
(E) Answer not known

57. The tertiary structure of bovine serum albumin reveals _____ equal sized globular domains.

(A) Four
(B) Three
(C) Five
(D) Two
(E) Answer not known

58. The isoelectric point of Lactoferrin is pH

(A) 4.8
(B) 3.5
(C) 6.2
(D) 8.2
(E) Answer not known

59. Destruction of which enzyme is used as an index of super-HTST pasteurization?

(A) Catalase
(B) Lipase
(C) Lactase
(D) Lactoperoxidase
(E) Answer not known

60. The mixture of K-CN and β-LG were pressure treated at _____, the β-LG pressure reduced to K-CN to subsequent hydrolysis by Chymosin

(A) 300 μPa
(B) 400 μPa
(C) 500 μPa
(D) 600 μPa
(E) Answer not known

61. Chymosin hydrolyzes _____ bond to produce Para-K-casein.

(A) Phe – Met
(B) Ly – Tup
(C) Hist –Lysi
(D) Arg – Tup
(E) Answer not known

62. The average size of fat globules in milk is approximately

(A) 0 – 1 (micron)
(B) 2 – 5 microns
(C) 6 – 8 microns
(D) 9 – 10 microns
(E) Answer not known

63. Lactulose is metabolised by lactic acid bacteria namely

(A) Lactobacillus sp.
(B) Bifidobacterium sp.
(C) Lactococcus sp.
(D) Streptococcus sp.
(E) Answer not known

64. _____ parts of the lactose per 100 parts of water in sweetened condensed milk.

(A) 20.0
(B) 10.0
(C) 0.5
(D) 15.0
(E) Answer not known

65. The milk sugar 'lactose' is hydrolyzed by

(A) Invertase
(B) Rennet
(C) Diastase
(D) Lactase
(E) Answer not known

66. Oxidation of lactose with concentrated nitric acid leads to

(A) Number of short chain acids (B) Mucic acid
(C) Lactobionic acid (D) Lactositol
(E) Answer not known

67. Starch's method of mucoid protein analysis yields the major color constituents which is

(A) Hygroscopic powder of greyish white
(B) Hygroscopic powder of red colour
(C) Hygroscopic powder of yellow
(D) Hygroscopic powder of white
(E) Answer not known

68. Which among the following is the most significant of Mutarotation.

(A) Insolubility (B) Hygroscopicity
(C) Sourness (D) Viscosity
(E) Answer not known

69. Principal carbohydrate in milk is

(A) Maltose (B) Lactose
(C) Sucrose (D) Fructose
(E) Answer not known

70. When α–lactose is added in excess to water at 20 °C, ———— per 100g water dissolve immediately

(A) 69 (B) 59
(C) 89 (D) 79
(E) Answer not known

71. ———— is the chemical decomposition of condensed substances that occurs spontaneously at high temperatures

(A) Fragmentation (B) Pyrolysis
(C) Dehydration (D) Degradation
(E) Answer not known

72. Lactose is a ———— carbon sugar

(A) 12 (B) 10
(C) 14 (D) 16
(E) Answer not known

73. Hydrolysis of lactose ———— its sweetening power.

(A) Increases (B) Decreases
(C) Does not affect (D) Changes
(E) Answer not known

74. ———— is an ideal indicator of heat damage in the initial stages of maillard reaction

(A) Lactulose Lysine (B) Pyridesine
(C) Fructose Lysine (D) Furosine
(E) Answer not known

75. Does lactose exhibit mutarotation?

(A) Yes
(B) No
(C) Under certain conditions
(D) Never
(E) Answer not known

76. In water at 25 °C, the final solubility of lactose is approximately

A) 30%
(B) 18%
(C) 25%
(D) 40%
(E) Answer not known

77. At room temperature ———————— form of lactose is more soluble.

(A) α – hydrate
(B) β – hydrate
(C) α – anhydrous
(D) β – anhydrous
(E) Answer not known

78. Lactose is

(A) Polyhydroxy aldehyde
(B) Polyhydroxy ketone
(C) Galactoside
(D) Carboxylic acid
(E) Answer not known

79. Lactose is a

(A) Monosaccharide
(B) Disaccharide
(C) Polysaccharide
(D) Oligosaccharide
(E) Answer not known

80. Lactose exhibits the properties of

(A) Weak acid
(B) Weak base
(C) Strong acid
(D) Strong base
(E) Answer not known

81. The rotational equilibrium constant of lactose is ————————

(A) 1.65
(B) 0.165
(C) 16.5
(D) 165
(E) Answer not known

82. Above 93.5°C, crystallization or drying of lactose solution yields.

(A) α-Lactose
(B) β-anhydride
(C) monohydrate
(D) α-anhydride
(E) Answer not known

83. Hypocholesterolemic peptides are usually derived from tryptic-hydrolysate of

(A) α-Lactoalbumin
(B) β-lactoglobulin
(C) blood serum albumin
(D) K-casein
(E) Answer not known

84. ————————peptide derived from K-casein that exhibit platelet aggregation.

(A) Casomorphin
(B) Casokinin
(C) Isracidin
(D) Casoplatelin
(E) Answer not known

85. Phosphopeptides have ———————— properties.

(A) Mineral binding
(B) Antithrombotic
(C) Opioid antagonist
(D) Immunomodulatry
(E) Answer not known

86. The bioactive peptide for K-CN protein precursor is known, for being an opiod antagonist is

(A) Casoxin
(B) Casocidin
(C) Casokinin
(D) Isracidin
(E) Answer not known

87. The Vitamin-A activity of colostrum is ———————— times higher than that of mature milk.

(A) 30
(B) 40
(C) 50
(D) 60
(E) Answer not known

88. The milk protein recently used as neutraceuticals for specific physiological and nutritional functions is

(A) Lactoalbumin
(B) Lactoglobulin
(C) Lactotransferrin
(D) α-lactoalbumin
(E) Answer not known

89. Caseins are phosphoproteins containing on average of ———————— phosphorus.

(A) 0.03%
(B) 0.54%
(C) 0.85%
(D) 0.67%
(E) Answer not known

90. FSSAI restricted the amount of fortification that can be added to ———— per cent of the average daily dietary in take.

(A) 5 – 10
(B) 11 – 14
(C) 15 – 20
(D) 31 – 50
(E) Answer not known

91. Omega 3 fatty acids play a important role in

(A) Stroke
(B) Diabetes
(C) Skin diseases
(D) Hypertriglyceridemia
(E) Answer not known

92. The country that fortifies liquid milk and infant formulae with Vitamin-D is ————

(A) United Kingdom
(B) Russia
(C) United States
(D) New Zealand
(E) Answer not known

93. The active cholesterol esterase is present in ————

(A) Endoplasmic reticulum
(B) Mammary tissues
(C) Mammary cells
(D) Liver
(E) Answer not known

94. The cholesterol content present in mozzarella cheese is ————mg/100gm.

(A) 155
(B) 600
(C) 65
(D) 13
(E) Answer not known

95. Which one of the component is deficient in milk?

(A) Calcium
(B) Iron
(C) Vitamin D
(D) Vitamin A
(E) Answer not known

96. The concentration of conjugated linoleic acid (mg kg^{-1}) in fat of cheddar cheese is ————————

(A) 134.7
(B) 1250.7
(C) 1355.7
(D) 2000.7
(E) Answer not known

97. Ruminant milk fats contain a high level of ———————— acid.

(A) Folic acid
(B) Butanoic acid
(C) Citric acid
(D) Malic acid
(E) Answer not known

98. The fat content of human milk is ———————— %

(A) 1.9%
(B) 3.8%
(C) 8.3%
(D) 9.1%
(E) Answer not known

99. CLA is an intermediate of biohydrogenation linoleic acid to

(A) Lauric acid
(B) Stearic acid
(C) Butyric
(D) Palmitic
(E) Answer not known

100. Milk lipid globules originate as small lipid droplets in

(A) Cytoplasm
(B) Mitochondria
(C) Nucleus
(D) Endoplasmic reticulum
(E) Answer not known

101. Which one of the ISO model is for Quality Management system?

(A) ISO 9001
(B) ISO 9002
(C) ISO 9003
(D) ISO 9004
(E) Answer not known

102. The Dairy plant processing upto ———————— L per day of milk need to be registered with State Government Directorate of Animal husbandry.

(A) 60,000
(B) 50,000
(C) 75,000
(D) 90,000
(E) Answer not known

103. Total Quality Management benefit consumer in terms of

(A) Reduction in cost
(B) Better availability
(C) Empowerment
(D) Defects are reduce
(E) Answer not known

104. The principle 4 for the implementation of HACCP is

(A) Describe product
(B) Identify intended user
(C) Establish monitoring procedures
(D) Determine critical control points
(E) Answer not known

105. GMP stands for

(A) Good Marketing Practices
(B) Good Management Practices
(C) Good Manufacturing Practices
(D) Good Modernization Practices
(E) Answer not known

106. HACCP is based on ———————— number of principles.

(A) 7 (B) 6
(C) 8 (D) 5
(E) Answer not known

107. The indicator organisms for milk pasteurisation under GLP is

(A) Coxiella Burnetti (B) E.Coli
(C) Bacillus Cereus (D) Aeromonas sp.
(E) Answer not known

108. A set of device used for the immediate reduction of raw milk temperature is

(A) conduction heat exchanger
(B) shell and tube heat exchanger
(C) double pipe heat exchanger
(D) plate heat exchanger
(E) Answer not known

109. The major cause of the salty flavor in milk is due to

(A) Sunlight
(B) Bacteria
(C) Mastitis
(D) Salt intake
(E) Answer not known

110. Under the FSS rules (2011), toned milk should contain a minimum of ———————— fat and ———————— SNF.

(A) 3.8%, 9.2%
(B) 4.5%, 10%
(C) 3%, 8.5%
(D) 1.5%, 7%
(E) Answer not known

111. The standardized milk should contain ————————% of milk fat.

(A) 2.5%
(B) 4.5%
(C) 1.5%
(D) 6%
(E) Answer not known

112. As per FSSAI the minimum level of milk solid is 28%, which is present in

(A) Sweetened condensed milk
(B) Sweetened condensed high fat milk
(C) Sweetened condensed skimmed milk
(D) Sweetened condensed partly skimmed milk
(E) Answer not known

113. The furosin level in high temperature short time milk is ———————— mg/100 g milk.

(A) ≤ 20 mg
(B) ≤ 30 mg
(C) ≤ 40 mg
(D) ≤ 50 mg
(E) Answer not known

114. The maximum moisture content in cream powder is

(A) 2%
(B) 3%
(C) 10%
(D) 5%
(E) Answer not known

115. How many countries has accepted the ISO internationally, as the national standard as of 2022

(A) 167
(B) 50
(C) 45
(D) 70
(E) Answer not known

116. Match the following

(a)	BIS	1.	1946
(b)	FSSAI	2.	1906
(c)	ISO	3.	1986
(d)	FDA	4.	2006

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	3	4	1	2
(C)	1	2	4	3
(D)	2	3	4	1

(E) Answer not known

117. ISO belongs to the following category

(A) Government Body
(B) Non Government Body
(C) State Government Body
(D) Urban Government Body
(E) Answer not known

118. Export quality control and inspection Act works under the department of

(A) Commerce
(B) History
(C) Economics
(D) Food technology
(E) Answer not known

119. Food safety as suitable to human consumption is ensures by

(A) HACCP
(B) FAO
(C) FSSAI
(D) PFA
(E) Answer not known

120. International occurring federalism was establishes in the year

(A) 1904
(B) 1913
(C) 1993
(D) 1903
(E) Answer not known

121. From which word does the word "Agmark" derived?

(A) Agricultural Maintenance
(B) Anti Marketing
(C) Agricultural Making
(D) Agricultural Marketing
(E) Answer not known

122. ———————— is an analytical tool to seperate charged particles or molecules in the electric field.

(A) Electrophoresis

(B) Ion exchange chromatography

(C) Affinity chromatography

(D) Iso-electric focussing

(E) Answer not known

123. ———————— is more useful in detecting the presence of mineral oils in ghee.

(A) Saponification number

(B) Iodine number

(C) RM number

(D) Polenske number

(E) Answer not known

124. The prescribed temperature for using BIS lactometer in determining solid not fat content is

(A) 30°C

(B) 35°C

(C) 25°C

(D) 27°C

(E) Answer not known

125. The multiplication factor used to detect total nitrogen in milk is

(A) 6.38

(B) 6.78

(C) 5.38

(D) 6.28

(E) Answer not known

126. An enzyme which is used to determine the pasteurised milk quality is

(A) Lactase
(B) Lipase
(C) Alkaline phosphatase
(D) Acetyle choline esterase
(E) Answer not known

127. A solution which contains the maximum amount of solute can be dissolved in a given amount of solvent at a particular temperature is called a

(A) Standard solution
(B) Saturated solution
(C) Normal solution
(D) Molar solution
(E) Answer not known

128. The maximum pressure level in High Pressures Liquid Chromatography (HPLC) is approximately.

(A) 15 Psi – 20 Psi
(B) 8,000 Psi – 10,000 Psi
(C) 100 – 250 Psi
(D) 200 – 500 Psi
(E) Answer not known

129. In GLC, the moving phase is

(A) Liquid
(B) Gas
(C) Solid
(D) Both Gas and Liquid
(E) Answer not known

130. The nucleus of each elementary species is characterized by an

(A) Atomic number
(B) Mass number
(C) Net charge
(D) Saponification number
(E) Answer not known

131. In TLC, the thin layer is activated by heating in an oven between

(A) 100° – 250°C
(B) 200° – 250°C
(C) 400° – 600°C
(D) 700° – 800°C
(E) Answer not known

132. Which of the following statements is NOT TRUE with regard to hydrophobic interaction chromatography?

(A) The eluting conditions are relatively harsh
(B) Retention factor increases with salt concentration
(C) Sample pretreatment with salt is required
(D) Surface tension increases with increasing salt concentration
(E) Answer not known

133. Test used to detect formalin or formaldehyde in adulterated milk is

(A) Hehner test
(B) Lech test
(C) Sediment test
(D) (A) and (B)
(E) Answer not known

134. Estimation of lead in milk using atomic absorption spectrophotometer ———————— acid is used to dissolve ash.

(A) Nitric acid
(B) Sulphuric acid
(C) Hydrochloric acid
(D) Lactic acid
(E) Answer not known

135. ———————— is generally used by Public Health Departments to preserve the milk samples for chemical analysis purpose.

(A) Formalin
(B) Nessler's reagent
(C) Common salt
(D) Sodium carbonate
(E) Answer not known

136. Percentage of moisture of milk products can be calculated ———————— using moisture balance as

(A) Loss in weight
(B) Loss in weight $\times$ 100
(C) $\frac{\text{Weight of Sample} \times 100}{\text{Loss in Weight}}$
(D) $\frac{\text{Loss in Weight} \times 100}{\text{Weight of Sample}}$
(E) Answer not known

137. In biuret test, the presence of protein is indicated by ———————— colour.

(A) Deep red
(B) Brown
(C) Purple violet
(D) Black
(E) Answer not known

138. The milk lipase will be isolated from

(A) Heavy metals
(B) Clarifier sediment
(C) Ageing
(D) Sun light
(E) Answer not known

139. Indicator used to determine chlorides in milk is

(A) Potassium chloride
(B) Iron alum
(C) Phenolphthalein
(D) Methyl blue
(E) Answer not known

140. Lactose has the tendency to reduce copper sulphate into

(A) Cuprous oxide
(B) Cupric acid
(C) Cuprous sulphate
(D) Cuprous dioxide
(E) Answer not known

141. The enzyme present in milk has the capacity to hydrolyze phosphoric ester is/are

(A) Alkaline phosphatase
(B) Acid phosphatase
(C) Lipase
(D) (A) and (B)
(E) Answer not known

142. The intense protein breakdown during cheese ripening lose ———— and ————.

(A) NH_3, CO_2
(B) CO_2, O_2
(C) NH_3,H_2S
(D) H_2S, CO_2
(E) Answer not known

143. Name the last stage of cheese production

(A) Coagulation
(B) Ripening
(C) Cutting
(D) Moulding
(E) Answer not known

144. The percentage of stabilizers and emulsifiers to be added in the ice–creams should not exceed

(A) 1%
(B) 0.75%
(C) 1.5%
(D) 0.5%
(E) Answer not known

145. Increase in volume caused by whipping air in to ice–cream mix during freezing is called

(A) Homogenization
(B) Aging
(C) Over run
(D) Hardening
(E) Answer not known

146. ———— from psychrotrophic bacteria have been implicated in causing rancidity in cheese

(A) Lipoprotein lipase
(B) Lipase
(C) β-galactosidase
(D) Exopeptidase
(E) Answer not known

147. ———— enzymes convert large peptides to smaller peptides and amino acids that contribute to flavour of cheeses.

(A) Milk clotting
(B) Proteolytic
(C) Lipolytic
(D) Caseinolytic
(E) Answer not known

148. Mechanism of action of the emulsifiers is by

(A) Reducing the surface tension
(B) Displacing protein from far globule surface
(C) Gel formation
(D) Increasing viscosity
(E) Answer not known

149. The composition of protein in conventional buttermilk is

(A) 3.1–3.5 (B) 3.3–3.9

(C) 3.6–4.3 (D) 3.8–4.5

(E) Answer not known

150. The churning proceeds easily at a temperature of around

(A) 10 to 15°C (B) 15 to 20°C

(C) 30 to 35°C (D) 20 to 25°C

(E) Answer not known

151. Violent mixing of the cream removes sufficient portion of MFGM to render milk fat sticky is called

(A) Creaming (B) Churning

(C) Clarification (D) Emulsification

(E) Answer not known

152. The moisture content of the ghee should be

(A) Below 1% (B) Below 2%

(C) Below 0.5% (D) Below 1.5%

(E) Answer not known

153. Ghee can be stored up to ———————— months at 21°C.

(A) 6 (B) 9

(C) 12 (D) 15

(E) Answer not known

154. Recommended maximum level of BHT in butter oil is ———— mg/Kg.

(A) 125
(B) 100
(C) 75
(D) 50
(E) Answer not known

155. During judging and grading of butter oil (ghee), the maximum weightage (score) is given to

(A) Flavour
(B) Texture
(C) Colour
(D) Acidity
(E) Answer not known

156. The concentrated skim milk containing about 18% total solids coagulates roughly in ———— at 130°C

(A) 5 min
(B) 10 min
(C) 12 min
(D) 15 min
(E) Answer not known

157. The heat coagulation time of milk is inversely related to the concentration of

(A) Divalent cations
(B) Polyvalent anions
(C) Divalent anions
(D) Polyvalent cations
(E) Answer not known

158. Dried milk is prepared from

(A) Butter
(B) Milk powder
(C) Whole milk
(D) Sour milk
(E) Answer not known

159. King's modern theory is followed for the production of

(A) Cream
(B) Butter
(C) Cheese
(D) Condensed milk
(E) Answer not known

160. Severe heat of cream improves oxidative stability of butter made from it due to

(A) Reduced concentration of pro–oxidant copper
(B) Reduced concentration of Iron
(C) Reduced concentration of calcium
(D) Disruption of fat globular membrane
(E) Answer not known

161. ———————— is the principal acid formed from lactose due to heating above 100°C.

(A) Lactic acid
(B) Formic acid
(C) Acetic acid
(D) Citric acid
(E) Answer not known

162. ———————— formed from hydroxy acids contributes to off-flavours in milk powder.

(A) Sulphur compounds
(B) Lactones
(C) Fur fural
(D) Ethyl butyrate
(E) Answer not known

163. Fat content of cow milk is

(A) 3.7% (B) 4.7%

(C) 3.5% (D) 5.5%

(E) Answer not known

164. The average density of cow milk in weight per volume is

(A) 1.035 to 1.037 (B) 1.030 to 1.032

(C) 1.028 to 1.030 (D) 1.025 to 1.040

(E) Answer not known

165. The freezing point and boiling point of milk is respectively of

(A) – 50°C and 100.5°C (B) –55°C and 100.2°C

(C) – 50°C and 100°C (D) – 55°C and 100.5°C

(E) Answer not known

166. Choose the correct statement from the following :

(A) The fat content of toned milk should be 8.5

(B) The fat content of toned milk should be 3

(C) The fat content of toned milk is greater than 3

(D) The fat content of toned milk is less than 3

(E) Answer not known

167. Lactose (α and β) concentration of cow's milk is

(A) 3.0 gm/100 ml (B) 6.0 gm/100 ml

(C) 7.5 gm/100 ml (D) 5.0 gm/100 ml

(E) Answer not known

168. When the milk is heated above 90°C following reaction will occur, choose the correct reaction?

(A) Lactoalbumin and lactoglobulin become precipitated

(B) Lactoalbumin and lactoglobulin become agglutinated

(C) Lactoalbumin and lactoglobulin become fractionated

(D) Lactoalbumin and lactoglobulin become extracted

(E) Answer not known

169. Which one of the following components is significantly contribute to the cooked flavour of heated milk?

(A) Lactose compounds

(B) Phosphate compounds

(C) Alkaline compounds

(D) Sulfhydryl compounds

(E) Answer not known

170. The average energy value of cow milk is

(A) 75C/100 g

(B) 85C/100 g

(C) 95C/100 g

(D) 65C/100 g

(E) Answer not known

171. Choose the correct statement from the following :

(A) Milk is the rich source of iron

(B) Milk is the rich source of niacin

(C) Milk is the rich source of riboflavin

(D) Milk is the rich source of vitamin A

(E) Answer not known

172. The percentage of total solids (TS) in milk is calculated by using this following formula

(A) %TS = 0.20 D + 1.20 F + 0.72

(B) %TS = 0.21 D + 1.21 F + 0.71

(C) %TS = 0.23 D + 1.23 F + 0.73

(D) %TS = 0.25 D + 1.22 F + 0.72

(E) Answer not known

173. Milk fat exists in the form of

(A) Fat globules (B) Fat cells

(C) Fat lobules (D) Fat villi

(E) Answer not known

174. The whey protein which has a role in lactose synthesis is

(A) β lactoalbumin (B) α lactoalbumin

(C) Bovine serum albumin (D) Lactoferrin

(E) Answer not known

175. Find the correct reaction of milk enzyme xanthine oxidase

(A) $RCHO + H_2O \rightarrow RCOOH + H_2$

(B) $RCHO + H_2O + O_2 \rightarrow RCOOH + H_2O_2$

(C) $CH_3CH_2OH + O_2 \rightarrow CH_3COOH + H_2O$

(D) $CH_3OH + O_2 \rightarrow HCOOH + H_2O$

(E) Answer not known

176. The basic enzyme kinetic which relates enzyme activity and substrate utilization $V = \frac{V_{ma} \times S}{KS + S}$. This equation is described by

(A) Michele's Menton kinetics
(B) Tessier equation
(C) Moser equation
(D) Contois equation
(E) Answer not known

177. The centrifugal separation of fat globule and water based on stoke's law which is described by

(A) $V = r^2 \frac{(ds - df)}{n} N^2 . R . K$
(B) $V = 3\pi d \mu v$
(C) $V = R\left(\frac{ds - df}{n}\right) N^2$
(D) $V = \left(\frac{ds - df}{n}\right) . N^2$
(E) Answer not known

178. According to the Indian Standards [IS], the following characteristics are suitable for dried milk.

(A) 4% moisture and 96% total milk solids
(B) 7.3% moisture and 92.7% total milk solids
(C) 5% moisture and 95% total milk solids
(D) 2% moisture and 98% total milk solids
(E) Answer not known

179. The percentage solid non fat in milk is calculated from the following factors

(A) Density, Heat and Mass
(B) Mass, Heat and Heat of fusion
(C) Heat, Specific Heat and Heat of fusion
(D) Heat of fusion, Density and Mass
(E) Answer not known

180. During ashing of milk, ———————— are destroyed.

(A) Milk proteins
(B) Mineral constituents
(C) Inorganic compounds
(D) Organic compounds
(E) Answer not known

181. Some salts may be lost by _____ during ashing.

(A) Evaporation
(B) Volatilisation
(C) Condensation
(D) Sublimation
(E) Answer not known

182. _____ is a constituent of enzyme Xanthine oxidase.

(A) Zinc
(B) Copper
(C) Iron
(D) Nickel
(E) Answer not known

183. The level of calcium compound present in serum is _____ mg/100g

(A) 117
(B) 31
(C) 40
(D) 145
(E) Answer not known

184. Milk from jersey cow usually contains more amount of

(A) Sodium and chloride
(B) Calcium and chloride
(C) Calcium and Phosphorus
(D) Calcium and Sodium
(E) Answer not known

185. Trace metal present in highest concentration in Milk is

(A) Magnesium
(B) Zinc
(C) Copper
(D) Molybdenum
(E) Answer not known

186. Colloidal calcium phosphate generally referred to

(A) Colloidal in organic salts
(B) Colloidal organic salts
(C) Distribution of proteins in soluble and Colloidal phase
(D) Distribution of sugars in soluble and Colloidal phase
(E) Answer not known

187. At a pH 6.6 of milk, _____ and _____ are not found in any form with other constituents.

(A) Magnesium, Calcium
(B) Sodium, Potassium
(C) Phosphate, Citrate
(D) Sulphate, Bicarbonate
(E) Answer not known

188. _____ is not destroyed by heating milk upto boiling temperature or by autoclaving.

(A) Hydrogen ions
(B) Citrate
(C) Calcium
(D) Phosphate
(E) Answer not known

189. The salt balance in milk is defined by the following equation

(A) $\frac{Ca^{+2} + Mg^{+2}}{Citrate^{-3} + Po_4^{-3}}$

(B) $\frac{Cu^{+2} + Ca^{+2}}{Citrate^{-3} + Po_4^{-3}}$

(C) $\frac{Na^{+2} + Mg^{+2}}{Citrate^{-3} + Po_4^{-3}}$

(D) $\frac{Na^{+2} + Ca^{+2}}{Citrate^{-3} + Po_4^{-3}}$

(E) Answer not known

190. _____ content of fat in skim milk is higher than that of entire whole milk fat

(A) Opsin
(B) Carotenoid
(C) Rhodopsin
(D) Retinal
(E) Answer not known

191. In addition to heat treatment, bacterial activity and contamination with trace metals particularly _____ influence the E_h of milk.

(A) Iron
(B) Copper
(C) Zinc
(D) Lead
(E) Answer not known

192. The E_h of milk normally falls within the range of

(A) $+ 0.2$ to $+ 0.3V$
(B) $- 0.2$ to $- 0.3V$
(C) $+ 0.4$ to $+ 0.5V$
(D) $- 0.4$ to $- 0.5V$
(E) Answer not known

193. _____ without its prosthetic group, does not itself absorb visible light.

(A) Opsin
(B) Rhodopsin
(C) Scotopsin
(D) Retinal
(E) Answer not known

194. Vitamin C is present in milk in concentration of

(A) 200 mg/L
(B) 0.2 mg/L
(C) 20 mg/L
(D) 2000 mg/L
(E) Answer not known

195. _____ is essential for biosynthesis of nucleic acid and also for normal fat metabolism.

(A) Folic acid
(B) Panthothenic acid
(C) Riboflavin
(D) Thiamine
(E) Answer not known

196. Whole cow milk contains an average of _____ μg retinal per 100 g.

(A) 20
(B) 40
(C) 60
(D) 80
(E) Answer not known

197. _____ has been shown to be essential in the formation of RBC and haemoglobin.

(A) Vitamin B_1
(B) Vitamin B_2
(C) Vitamin B_6
(D) Vitamin B_{12}
(E) Answer not known

198. _____ acts as a coenzyme in pyruvate metabolism and carbohydrate metabolism.

(A) Vitamin B_{12} (B) Vitamin B_6

(C) Vitamin B_2 (D) Vitamin B_1

(E) Answer not known

199. When fresh milk is exposed to day light for 8 hrs, there is loss of _____ in Vitamin A content.

(A) 4% (B) 20%

(C) 0.2% (D) 2%

(E) Answer not known

200. _____ prevents nervous and digestive disorders, sore mouth and tongue.

(A) Cyanocobalamine (B) Niacin

(C) Folic acid (D) Pantothenic acid

(E) Answer not known