

**KARNATAKA VETERINARY, ANIMAL AND FISHERIES SCIENCES
UNIVERSITY, BIDAR**
Post Graduate Entrance Examinations : 2021-22
M Tech (Dairy Sci) : Group C

HALL TICKET NO:

Date: 10th May 2022

Max Marks : 100

Duration : 2 Hrs.

Choose the correct answer from the four options given under each question and fill the relevant circle with black ball point pen in the OMR Sheet.

Note: 1) Do not use pencil for marking on the OMR Sheet.

2) Marking on the OMR sheet for more than one option for a question will be rendered invalid.

1. Increase in viscosity of the milk, the rate of rise of fat globule will
 - A. Increase
 - B. Decrease
 - C. Doesn't affect
 - D. Neutral
2. The CIP circuit for cleaning of heating equipments consists of
 - A. Hot water -Alkali – Rinse
 - B. Hot water - Alkali - Rinse - Acid – Rinse
 - C. Rinse - Alkali - Acid – Rinse
 - D. Hot water - Acid – Rinse- Alkali - Rinse
3. In Form-Fill-Seal(FFS) machine the filled pouches are isolated by
 - A. Horizontal seal
 - B. Cutter jaw
 - C. Cutter blades
 - D. Vertical seal
4. The order of adding sample and reagents for fat estimation by Gerber method is
 - A. Gerber acid -Milk-Amyl alcohol
 - B. Gerber acid-Amyl alcohol-Milk
 - C. Amyl alcohol-Gerber acid- Milk
 - D. Milk – Gerber acid-Amyl alcohol

5. The solids-not-fat in milk is estimated by using
 - A. Stoke's formula
 - B. Watson formula
 - C. Duckworth formula
 - D. Richmond formula
6. The fat percent in unsweetened condensed skim milk is
 - A. Not less than 5
 - B. Not more than 8
 - C. Not less than 9
 - D. Not more than 0.5
7. The cane sugar content in sweetened condensed skim milk is
 - A. Not less than 40
 - B. Not more than 26
 - C. Not less than 15
 - D. Not more than 40
8. The constituent plays important role in successful control of texture of sweetened condensed milk is
 - A. Minerals
 - B. Milk fat
 - C. Milk sugar
 - D. Milk proteins
9. During manufacture of SCM, the standardization of milk was done with respect to
 - A. Fat: Casein
 - B. Citrate: Phosphate
 - C. Fat: SNF
 - D. Casein: Fat
10. The place where the heat exchange will be takes place during the concentration of milk in single effect evaporator is
 - A. Vacuum pump
 - B. Evaporator
 - C. Calendria
 - D. Condenser

11. The hard variety of cheese is
- A. Mozzarella
 - B. Parmesan
 - C. Swiss
 - D. Cottage
12. Rennet cleaves the peptide bond between amino acid
- A. 1 and 105
 - B. 105 and 107
 - C. 105 and 106
 - D. 106 and 169
13. The chemical added to the cheese milk (20g/100L) for some cheeses especially Gouda and Edam is
- A. Nitrate
 - B. CaCl_2
 - C. NaCl
 - D. CaCO_3
14. Chymosin activity is reported to be optimum at pH of
- A. 5.0 - 5.4
 - B. 4.0 - 4.6
 - C. 6.0 - 6.6
 - D. 3.0 - 4.6
15. Standardization of cheese is normally done to a casein/fat ratio of
- A. 0.70 : 1.00
 - B. 1.00 : 0.50
 - C. 0.50 : 1.00
 - D. 1.00 : 1.50
16. Heat coagulation of milk is observed during Khoa making at
- A. Initial stage
 - B. Middle stage
 - C. Final stage
 - D. All stages

17. Action of lipolytic organisms in dahi is responsible for
- A. Acidic flavour
 - B. Stale flavour
 - C. Rancid flavour
 - D. Bland flavour
18. Makkans western counter part is also known as
- A. Butter
 - B. Butter oil
 - C. Cream
 - D. Ghee
19. The process normally employed for fruits and vegetables to inactivate natural enzymes is
- A. Pasteurization
 - B. Blanching
 - C. Thermisation
 - D. Freezing
20. The process of canning is also known as
- A. Crystallization
 - B. Blanching
 - C. Appertization
 - D. Cooling
21. Find out the correct sequence of cheese making from the following
- A. Acidification-cooking-cutting-renneting
 - B. Acidification -cutting-renneting-cooking
 - C. Acidification-renneting -cutting -cooking
 - D. Cutting -Acidification -renneting-cooking
22. When freezing point was reached, liquid water changes to
- A. Solid
 - B. Gas
 - C. Ice crystals
 - D. No change

23. During homogenization disintegration of original fat globule is achieved by
- A. Cavitation
 - B. Turbulance
 - C. Impinging
 - D. Cavitation and impinging
24. In Modified Atmospheric Packaging of food products, the shelf life increases from
- A. 10 – 100 %
 - B. 40 – 250 %
 - C. 50 – 500 %
 - D. 2 – 200 %
25. The highest per cent of protein is found in
- A. Whey powder
 - B. WPC
 - C. WPI
 - D. Wholemilk powedr
26. . Pasteurization efficiency of milk can be measured by employing the substrate
- A. Sodium carbonate
 - B. p-Nitrophenyl disodium orthophosphate
 - C. Sodium hydroxide
 - D. Sodium bicarbonate.
27. Mastitic milk contain higher levels of
- A. Magnesium
 - B. Iron
 - C. Chloride
 - D. Zinc
28. Homogenization of raw milk triggers
- A. Lipolysis
 - B. Glycolysis
 - C. Proteolysis
 - D. Fermentation

29. Salting Out” Process in milk is done to precipitate
- A. Fat
 - B. Protein
 - C. Minerals
 - D. Lactose
30. Amino acid used as an indicator to assess cheese ripening is
- A. Glutamic Acid
 - B. Leucine
 - C. Tyrosine
 - D. Proline
31. Colostrum is rich in
- A. Lactose
 - B. Vitamin C
 - C. Immunoglobulins
 - D. Phosphorous
32. Caramelization is due to heat decomposition of
- A. Minerals
 - B. Protein
 - C. Fat
 - D. Lactose
33. Natural anti-oxidant present in milk is
- A. Calcium
 - B. Sodium
 - C. α - tocopherol
 - D. Calciferol
34. Typical flavor of yoghurt is mainly due to
- A. Acetone
 - B. Acetaldehyde
 - C. Alcohol
 - D. Butanol

35. Decreased Solubility of milk powder is attributed thermal damage
- A. Protein
 - B. Minerals
 - C. Fat
 - D. Lactose
36. Whey is rich in
- A. Casein
 - B. Fat
 - C. Lactose
 - D. Iron
37. Fat content of plastic cream is
- A. Less than 22%
 - B. Exactly 28%
 - C. More than 65%
 - D. Nearly 35%
38. Density (g/ml) of Gerber Sulphuric Acid used for fat test in milk is
- A. 1.82 / 20°C
 - B. 2.82 / 20 °C
 - C. 0.82 / 20 °C
 - D. 3.82 / 20 °C
39. Enzyme employed during cheese making process is
- A. Renin
 - B. Trypsin
 - C. Rennet
 - D. Pepsin
40. Measurement of sugar content in sweetened condensed milk is done by employing
- A. Sodium hydroxide
 - B. Calcium Oxalate
 - C. Potassium Chromate
 - D. Resorcinol

41. Fatty acids accounted for Reichert Meissl (RM) value are
- A. Stearic and Butyric
 - B. Lauric and palmitic
 - C. Butyric and Caproic
 - D. Myristic and Capric
42. Major amount of unsaturated fatty acid in milk fat is
- A. Linoleic acid
 - B. Linolenic acid
 - C. Steric acid
 - D. Oleic acid
43. Increased acidity in milk, transfers this element to soluble state
- A. Sodium
 - B. Potassium
 - C. Calcium
 - D. Copper
44. Density (g/ ml) of amyl alcohol used for fat test is
- A. 4.822 / 20°C
 - B. 2.822 / 20°C
 - C. 0.803 / 20°C
 - D. 3.822 / 20°C
45. Casein is in association with these minerals
- A. Calcium & Potassium
 - B. Phosphorous & Silver
 - C. Calcium & Phosphorous
 - D. Sodium & Potassium
46. Green Label Ghee normally contains free fatty acids at levels not more than
- A. 2.5 % FFA
 - B. 1.5% FFA
 - C. 0.5 % FFA
 - D. 0.75% FFA

47. Fat in milk is measured gravimetrically by employing
- A. Gerber's method
 - B. Burchard's method
 - C. Rose Gottlieb method
 - D. Babcock method
48. Milk starts becoming COB positive usually at an acidity level of
- A. 0.15% Lactic Acid
 - B. 0.12% Lactic Acid
 - C. 0.18% Lactic Acid
 - D. 0.14% LA
49. Human milk lacks this protein
- A. Minerals
 - B. Fat
 - C. β -Lactoglobulin
 - D. β -Carotene
50. At an isoelectric point (P^I), the protein possesses
- A. More negative charges
 - B. Less Positive charges
 - C. More positive charges
 - D. Equal positive and negative charges
51. Bacterial capsule staining technique requires the use of stain
- A. Crystal violet
 - B. Nigrosin
 - C. Malachite green
 - D. Methylene blue
52. Motility of bacteria can be demonstrated by the method
- A. Acid fast staining
 - B. Simple staining
 - C. Hanging drop method
 - D. Gram's staining

53. Sterilization of only pipettes can be done at temperature and time of
- A. 121 °C/15 min.
 - B. 160 °C/1 ½ H.
 - C. 115 °C/30 min.
 - D. 180 °C/ 1 H.
54. The indicator bacteria considered for pasteurization of milk is.
- A. *Mycobacterium tuberculosis*
 - B. *Coxiella burnetii*
 - C. *Bacillus subtilis*
 - D. *Geobacillus stearothermophilus*
55. Dye reduction test for raw milk requires water bath set to
- A. 32° C
 - B. 35°C
 - C. 37°C
 - D. 40°C
56. The selective medium used for the enumeration of staphylococci in raw milk
- A. Plate count agar
 - B. Nutrient agar
 - C. Mannitol salt agar
 - D. Violet red bile agar
57. The causative agent of milk borne disease undulant fever
- A. *Shigella dysenteriae*
 - B. *Brucella abortus*
 - C. *Staphylococcus aureus*
 - D. *Salmonella typhi*
58. White side test for mastitic milk detects the presence of
- A. *Streptococcus uberis*
 - B. Chloride content
 - C. Leucocytes
 - D. *Streptococcus pyogenes*

59. The volume of milk sample taken for Direct microscopic count method
- A. 1 ml.
 - B. 0.1ml
 - C. 0.01ml
 - D. 0.001ml
60. In order to accept sweetened condensed milk as satisfactory as per FSSR, it should contain total bacterial count with in
- A. 500/g
 - B. 1000/ml
 - C. 1500/g
 - D. 2000/ml
61. According to FSSR, acceptable salmonella in pasteurized butter should be
- A. Absent/g
 - B. Absent/0.1 g
 - C. Absent/ml
 - D. Absent/25 g
62. The culture used as an indicator for the detection of antibiotic residues in milk
- A. *Lactobacillus acidophilus*
 - B. *Bifidobacterium bifidum*
 - C. *Streptococcus thermophilus*
 - D. *Lactobacillus delbruckeii ssp. bulgaricus*
63. In lactic acid bacteria, lactose is transported as lactose – 6 - P through transport system
- A. PEP-PTS
 - B. Symport system
 - C. Passive diffusion
 - D. Facilitated diffusion
64. *Aspergillus flavus* produces a mycotoxin called
- A. Ochratoxin
 - B. Aflatoxin
 - C. Penicillinoic acid
 - D. T2 toxin

65. Best method of genetic recombination in bacteria is
- A. Transformation
 - B. Transduction
 - C. Protoplast fusion
 - D. Electroporation
66. A chemical, which is a detergent as well as a sanitizer
- A. Quaternary ammonium compound
 - B. Chlorine
 - C. Sodium lauryl sulphate
 - D. Teepol
67. Nonionizing radiation that is used to sterilize the packaging materials in dairies
- A. Microwave radiation
 - B. Infra red radiation
 - C. Ultra violet radiation
 - D. Gamma radiation
68. Botulinum toxin produced by *Clostridium botulinum* is categorized as
- A. Haemolysin
 - B. Enterotoxin
 - C. Coagulase
 - D. Neurotoxin
69. In order to assess the hygienic quality of silo, the method used is
- A. Swab method
 - B. Rinse method
 - C. Adhesive agar method
 - D. Vacuum method
70. Food Safety management certification is
- A. ISO 9001:2018
 - B. ISO 14001: 2015
 - C. ISO 22000:2018
 - D. ISO 50001:2011

71. Name the rapid direct method of enumerating the bacteria present in milk
- A. Dye reduction test
 - B. Direct microscopic count
 - C. Plate count method
 - D. Impedance test.
72. In order to grade as very good quality raw milk, the methylene blue reduction time should be
- A. 5 hours and above
 - B. 3 and 4 hours
 - C. 1 and 2 hours
 - D. $\frac{1}{2}$ an hour and below
73. The role of chelating agent in a built detergent is
- A. Softening of water
 - B. Removal of milk soil
 - C. Dissolving of milk soil
 - D. Sanitization
74. The biopreservative used to prevent microbial defect in khoa is
- A. Sodium propionate
 - B. Potassium benzoate
 - C. Nisin
 - D. Sucrose
75. The starter cultures used in the preparation of Swiss type of cheese
- A. DL starters
 - B. Only *Leuconostoc* sp.
 - C. Only *Lactococcus lactis* ssp. *lactis*
 - D. *S.thermophilus* + *Propionibacterium freudenrichii* ssp. *Shermani*
76. Shape of tanks most commonly used in dairy industry
- A. Rectangle
 - B. Square
 - C. Cylindrical
 - D. Hexagonal

77. Milk cold room is maintained at
- 20°C
 - 10°C
 - 10°C
 - 1°C
78. The most commonly used acid cleaning agent for cleaning of dairy equipment's
- HNO₃
 - H₂SO₄
 - HCl
 - All the above
79. The homogenizer valve is made of
- SS 316
 - Hardened MS
 - Stellite
 - Acrylic
80. The pricing of SS is mainly based on content of
- Chromium
 - Nickel
 - Carbon
 - Ferrous
81. The schedule pipes are also nominated as
- NB pipes
 - OD pipes
 - ID pipes
 - SS pipes
82. The standard size of maximum length of stainless steel pipe available in the market
- 8 m
 - 12 m
 - 6 m
 - 3 m
83. Name the type of corrosion takes place when carbon content is higher in SS
- Pitting corrosion
 - Intergranular corrosion
 - Galvanic corrosion
 - Stress corrosion

84. The time temp combination followed for UHT processing of milk
- a. 155°C/1-2 S
 - b. 125°C/1-2 S
 - c. 105°C/1-2 S
 - d. 135°C/1-2 S
85. Total process time followed for pasteurization of milk
- a. 6 h
 - b. 5 h
 - c. 3 h
 - d. 8 h
86. Type of pumps used for milk transport in dairy industry
- a. Centrifugal
 - b. Gear
 - c. Lobe
 - d. Screw
87. The centre of gravity of partially filled tanks is always
- a. Equal to that of full tank
 - b. Lower to that of full tank
 - c. Higher to that of full tank
 - d. Not related to full tank
88. The ratio of Chromium: Nickel content in stainless steel commonly used in food industry
- a. 18:4
 - b. 12:8
 - c. 12:4
 - d. 18:8
89. Flow Diversion Valve is positioned in HTST pasteurizer
- a. After homogenizer
 - b. Before heating
 - c. After heating
 - d. After holding

90. Filling liquid in the suction side of pump up to impeller before starting centrifugal pump is known as
- Desludging
 - Degassing
 - Priming
 - Filling
91. Vibration in steam pipeline due to movement of condensate with steam is called
- Liquid hammering
 - Condensate pumping
 - Water moving
 - None of the above
92. Heating every particle of milk in order to destroy all microorganisms present in it, the process is termed as
- Pasteurization
 - Sterilization
 - Thermization
 - All the above
93. Deposition of milk minerals on the inner surface of Plate Heat Exchanger is known as ____
- Scaling
 - Fouling
 - Retentate
 - Deposition
94. The spacing between the plates in milk pasteurizer
- 1.25 to 7.75 μm
 - 10.50 to 15.25 μm
 - 21.25 to 30.50 μm
 - 50 to 100 μm
95. Homogenization of milk is done to reduce fat globules size below the size of
- 0.2 μm
 - 2 μm
 - 22 μm
 - 32 μm

96. The milk tanks are generally insulated with
- Glass wool
 - PUF
 - Magnesia
 - Cork
97. The amount of refrigeration load required to cool 100 LPH milk in HTST system is
- 800 kcal/h
 - 1000 kcal/h
 - 600 kcal/h
 - 1200 kcal/h
98. The material superior to AISI 316 SS than AISI 304 SS in corrosion resistance is
- Chromium
 - Nickel
 - Molybdenum
 - Carbon
99. In milk storage tank, the rpm of the agitator is usually
- 22
 - 32
 - 52
 - 72
100. The velocity of milk in homogenizer is
- 20-25 m/s
 - 50-100 m/s
 - 100-250 m/s
 - 500-750 m/s
