

COMBINED TECHNICAL SERVICES EXAMINATION
(DIPLOMA / ITI LEVEL)
COMPUTER BASED TEST
DATE OF EXAM: 13.11.2024 AN
PAPER – II – TRADE – LAB TECHNICIAN
(DIPLOMA STANDARD) (CODE: 450)

1. _____ quantity of milk used for methylene blue reduction test.
(A) 15 ml (B) 10 ml
(C) 5 ml (D) 1 ml
(E) Answer not known

2. The procedure used in direct epifluorescent filter technique is
(A) Membrane filtration
(B) Staining
(C) Membrane filtration and staining
(D) Sequencing and staining
(E) Answer not known

3. Select the limitation of methylene blue reduction test among the following
(A) Some organisms fail to grow on nutrient agar
(B) Single colony cannot be seen in nutrient agar
(C) Test becomes accurate when reduction time is increased
(D) Rate of decolourization of stain is same for all organisms
(E) Answer not known

4. The class four milk of methylene blue reduction test is inferred as
(A) Good milk (B) Poor milk
(C) Fair milk (D) Excellent milk
(E) Answer not known

5. The acceptable limit of coliforms for pasteurized milk is
- ✓(A) <1 (B) <10
(C) <100 (D) <500
(E) Answer not known
6. The acceptance limit of faecal type of coliforms in butter is
- (A) 1 in 1 g (B) 5 g⁻¹
✓(C) Absent in 1 g (D) 100 g⁻¹
(E) Answer not known
7. The dilution of milk used in spread plate method is
- (A) 1 : 2 (B) 1 : 5
(C) 1 : 8 ✓(D) 1 : 10
(E) Answer not known
8. The _____ test is used to identify the redox potential of milk.
- ✓(A) Reductase (B) Coagulase
(C) Catalase (D) Phosphatase
(E) Answer not known
9. A bitter taste in the cream after spoiling is connected with
- ✓(A) Proteolysis of *Rhodotorula mucilaginosa*
(B) Proteolysis of *Candida albicans*
(C) Proteolysis of *Lactococcus lactis*
(D) Proteolysis of *Bifidobacterium* sps.
(E) Answer not known

10. During staining, the internal and external structure of bacteria is preserved by
- (A) Heat fixation (B) Washing
(C) Wax sectioning (D) Labelling
(E) Answer not known
11. Microorganisms often can be stained using a single dye very satisfactorily by
- (A) Gram's staining (B) Acid fast and staining
(C) Spore staining (D) Simple staining
(E) Answer not known
12. _____ is used as a counter stain in Gram's staining.
- (A) Crystal violet (B) Gram's Iodine
(C) Silver nitrate (D) Safranin
(E) Answer not known
13. Select from below the spore forming bacteria
- (A) E-coli (B) S. typhi
 (C) B. cereus (D) V. cholerae
(E) Answer not known
14. _____ is the function of a bacterial flagella.
- (A) Conjugation (B) Locomotron
(C) Energy producers (D) Transport channel
(E) Answer not known

15. *Bifidobacterium* Sps. are
- (A) Gram positive anaerobic rods
 - (B) Gram positive anaerobic cocci
 - (C) Gram positive aerobic rods
 - (D) Gram positive aerobic cocci
 - (E) Answer not known
16. The most common microorganism responsible for spoilage of cottage cheese is
- (A) *Pseudomonas* sps.
 - (B) *Candida* sps.
 - (C) *Salmonella* sps.
 - (D) *Bacillus* sps.
 - (E) Answer not known
17. *Mycobacterium tuberculosis* is a (an)
- (A) Spore forming bacilli
 - (B) Acid fast bacilli
 - (C) Toxin forming bacilli
 - (D) Capsulated bacilli
 - (E) Answer not known
18. _____ organism is used for aroma and acid productions in dairy industry.
- (A) *Lactobacillus acidophilus*
 - (C) *Lactococcus lactis*
 - (B) *Bifidobacterium* sps
 - (D) *Lactobacillus bulgaricus*
 - (E) Answer not known

19. Select the following criteria that is not used in the classification of bacteria
- (A) Shape (B) Size
(C) Arrangements (D) Cellular organelles
(E) Answer not known
20. An example for a gram positive bacteria is
- (A) *S. pyogenes* (B) *E. coli*
(C) *V. cholerae* (D) *Neisseria Sps.*
(E) Answer not known
21. _____ gives a fruity flavour to the milk.
- (A) *Pseudomonas aeruginosa* (B) *Pseudomonas putida*
 (C) *Pseudomonas fragi* (D) *Pseudomonas synxantha*
(E) Answer not known
22. The sterilization method that is widely used for sterilizing an inoculation loop is
- (A) Flaming (B) Autoclave
(C) Incineration (D) Hot air oven
(E) Answer not known
23. The unit that is used to measure sedimentation velocity in a centrifuge is
- (A) nm (B) m
(C) 4g (D) s
(E) Answer not known

24. _____ is used to produce colour at the end of ELISA.
- (A) Chromogen substrate (B) Horeradish peroxidase
(C) Sulphuric acid (D) Hydrogen peroxide
(E) Answer not known
25. The PCR technique is used to detect
- (A) Antigen (B) Antibody
 (C) Nucleic acids (D) Protein
(E) Answer not known
26. _____ is a most common disinfectant used in the dairy industry.
- (A) Chlorine (B) Bromide
(C) Ethanol (D) Isopropanol
(E) Answer not known
27. _____ are used to sterilize biological safety cabinets.
- (A) Infra red rays (B) Gamma rays
(C) X-rays (D) UV-rays
(E) Answer not known
28. The organism that is used as a sterilization control agent in autoclaving is
- (A) Clostridium tetani (B) Pseudomonas aeruginosa
 (C) Bacillus stearothermophilus (D) Bacillus subtilis
(E) Answer not known

29. _____ is important to examine the object in an electron microscope.
- (A) Air (B) Vacuum
(C) Water (D) Gas
(E) Answer not known
30. _____ organism survive in the holder method of pasteurization.
- (A) E.Coli (B) S. aureus
 (C) C. burnetti (D) S. typhi
(E) Answer not known
31. The best sterilization method that is used for destroying contaminated cloths and pathological materials is
- (A) Hot air oven usage (B) Autoclaving
 (C) Incineration (D) Radiation treatment
(E) Answer not known
32. _____ is defined as the process by which an article, surface or medium will be free from microorganisms.
- (A) Disinfection (B) Sterilization
(C) Radiation (D) Filtration
(E) Answer not known

33. The typhoid bacilli that are exposed to sun will be killed in _____ hours.
- (A) 0.5 hr (B) 1 hr
✓(C) 2 hr (D) 3 hr
(E) Answer not known
34. Conversion of liquid milk to viscous material by contaminating bacteria is termed as
- (A) Fermentation ✓(B) Ropy fermentation
(C) Proteolysis (D) Lipolysis
(E) Answer not known
35. _____ is the contaminating bacteria that initiates lipolysis in milk.
- (A) *B. subtilis* ✓(B) *P. fluorescens*
(C) *E. aerogenes* (D) *C. butyricum*
(E) Answer not known
36. An example for a thermophilic bacteria in the dairy industry is
- (A) *Pseudomonas* sps
(B) *Acinetobacter* sps
(C) *Achromobacter* sps
✓(D) *Bacillus stearothermophilus*
(E) Answer not known

37. _____ is example for an enriched medium.
- (A) Blood Agar (B) MacConkey Agar
(C) Nutrient Agar (D) XLD Agar
(E) Answer not known
38. The spores of _____ organisms are resistant to heat in milk.
- (A) Gram Positive cocci (B) Gram Negative cocci
 (C) Gram Positive bacilli (D) Gram Negative bacilli
(E) Answer not known
39. _____ is the contaminating bacteria in the dairy industry that initiates proteolysis in milk.
- (A) L. Caesi (B) C. butyricum
(C) S. cremoris (D) B. subtilis
(E) Answer not known
40. _____ is the major acid forming bacteria in the dairy industry.
- (A) Streptococcus sps (B) Clostridium sps
(C) Bacillus sps (D) Lactobacillus sps
(E) Answer not known
41. What should you do in case of a fire in the laboratory?
- (A) Panic (B) Ignore the fire
 (C) Use the fire extinguisher (D) Run away
(E) Answer not known

42. Which one of the following is not a chemical burn?
- (A) Acid burn (B) Alkali burn
✓(C) Radiation burn (D) Bromine burn
(E) Answer not known
43. You have read about the hazards of the chemicals you will be using in a particular lab and found out that they are mild health hazards. You should avoid skin contact and vapour inhalation. In lab, you should
- (A) Wear shorts and sandals
(B) Wear skirts and sandals
✓(C) Wear gloves, long pants, closed toe shoes
(D) Wear sandals
(E) Answer not known
44. The ABC of Life support are
- ✓(A) Airway, Breathing, Circulation
(B) Airway, Bridge, Canal
(C) Action, Breathing, Circulation
(D) None of the above
(E) Answer not known
45. The desire to maintain a safe laboratory environment for all begins with
- ✓(A) Prevention (B) Microbiology
(C) Ubiquity (D) Accidents
(E) Answer not known

46. After completing an experiment, all chemical wastes should be
- (A) Left at your lab station for the next class
 - (B) Disposed according to the instructions
 - (C) Dumped in the sink
 - (D) Taken into home
 - (E) Answer not known
47. The two factors determining "food security" in India are :
- (A) Green revolution and reduced wastage of food
 - (B) Production of sufficient food and nutritional value of food
 - (C) Sustainable agriculture and minimal use of agrochemicals
 - (D) Availability and accessibility
 - (E) Answer not known
48. Which of the following is a terrestrial disaster?
- (A) Landslide
 - (B) Cyclone
 - (C) Hailstorm
 - (D) None of the above
 - (E) Answer not known
49. In which year did a thousand people die in the earthquake that struck Gujarat?
- (A) 2000
 - (B) 2001
 - (C) 2002
 - (D) 2004
 - (E) Answer not known

50. Which of the following chemical is stored in kerosene?

- (A) Diethyl ether
- (B) Benzene
- (C) Acetone
- (D) Potassium
- (E) Answer not known

51. The floating of sludge is called as

- (A) Bulking
- (B) Mulcing
- (C) Sulking
- (D) Trebling
- (E) Answer not known

52. The post exposure prophylaxis for Hepatitis B is not recommended if

- (A) The exposed person is completely vaccinated and antibody titer is ≥ 10 m/u/mL
- (B) The exposed person is incompletely vaccinated and antibody titer is ≤ 10 m/u/mL
- (C) The exposed person is completely vaccinated and antibody titer is ≥ 1 m/u/mL
- (D) The exposed person is completely vaccinated and antibody titer is ≥ 5 m/u/mL
- (E) Answer not known

53. The first aid management of occupational exposure includes all of the following except
- (A) Irrigate the splash injury site vigorously with water
 - (B) Spit out fluid gone into mouth and rinse mouth several times
 - (C) Do not use antiseptics and detergents over the exposed area
 - (D) In eye splash, remove contact lenses immediately and wash with water
 - (E) Answer not known
54. The concentration of hypochlorite to be used for spill management is
- (A) 0.005% for small spills
 - (B) 0.01% for small spills
 - (C) 0.5% for large spills
 - (D) 0.1% for large spills
 - (E) Answer not known
55. In waste management, _____ is a shallow lake usually located near a river or a sea.
- (A) Lagoon
 - (B) Trickling filter
 - (C) Both (A) and (B)
 - (D) None of the above
 - (E) Answer not known
56. For the cultivation of mycelial forms and other fungal forms, _____ are used.
- (A) Organic wastes
 - (B) Inorganic wastes
 - (C) Protein supplements
 - (D) Enrichment powders
 - (E) Answer not known

57. The recent biomedical waste management rules of India were framed in
- (A) 2008 (B) 2011
✓(C) 2016 (D) 2014
(E) Answer not known
58. The depth of the pit dug for deep burial method should be about
- (A) 5 meters (B) 20 meters
(C) 2 feet ✓(D) 2 meters
(E) Answer not known
59. A puncture-proof container is necessary for
- (A) Animal waste
✓(B) Human anatomical waste
(C) Waste sharps
(D) Cytotoxic drugs
(E) Answer not known
60. Assertion [A] : Sharps are subjected to mechanical shredding.
Reason [R] : Shredders are connected to sealed incinerators.
- ✓(A) Both [A] and [R] are true and [R] is the correct explanation of [A]
(B) [A] is true [R] is false
(C) Both [A] and [R] are true but [R] is not the correct explanation of [A]
(D) Both [A] and [R] are false
(E) Answer not known

61. Multiplication of bacteria in milk

- (A) Leads to fall in pH
- (B) Does not alter pH
- (C) Increase the pH
- (D) Initially increase the pH and then decrease
- (E) Answer not known

62. One of the following easiest and earliest methods of preventing milk from spoiling

- (A) Homogenising
- (B) Boiling
- (C) Cooling
- (D) Pasteurization
- (E) Answer not known

63. The main constituent of milk lipids contains the following

- (A) Sterols
- (B) Triacylglycerol
- (C) Phospholipids
- (D) Esters
- (E) Answer not known

64. Most important chemical test on receipt of milk is one of the following

- (A) Total water content
- (B) Developed acidity
- (C) Developed sugar content
- (D) Viscosity
- (E) Answer not known

65. The odour of the milk is one of the following property

- (A) Chemical property
- (B) Microbiological property
- (C) Physical property
- (D) Organoleptic property
- (E) Answer not known

66. Addition of 2 drops of 2% freshly prepared aqueous solution of paraphenyl diamine hydrochloride to adulterated milk gives intense blue colour indicating the presence of
- (A) Hydrogen peroxide
 - (B) Boric acid
 - (C) Formalin
 - (D) Urea
 - (E) Answer not known
67. What is the pH of fresh cow milk at 28°C?
- (A) 6.5 – 7.5
 - (B) 6.5 – 6.7
 - (C) 4.5 – 5.5
 - (D) 6.0 – 7.0
 - (E) Answer not known
68. The chalky flavour defect in milk is due to _____ aggregation or loss of its solubility.
- (A) Lipid
 - (B) Carbohydrate
 - (C) Protein
 - (D) Minerals
 - (E) Answer not known
69. The intensity of the white colour of milk is directly proportional to the following
- (A) The amount of pigments in the milk
 - (B) Amount of lactic acid in the milk
 - (C) Size and number of particles in suspension
 - (D) Viscosity and density of suspension
 - (E) Answer not known

70. Which one of the following is an organoleptic properties?
- (A) Taste and aroma (B) Colour and flavour
(C) Appearance and odour ✓(D) All of the above
(E) Answer not known
71. During enzymatic method to study lactose in milk, β -galactose is oxidized further by _____ in the presence of _____.
- ✓(A) NAD to galactonic acid; β -galactose dehydrogenase
(B) NADH to galactonic acid; β -galactose dehydrogenase
(C) NADPH₂ to acetic acid; β -galactose dehydrogenase
(D) FAD to galactonic acid; β -galactose dehydrogenase
(E) Answer not known
72. Gerber test is used to determine
- (A) Protein percent in milk ✓(B) Fat percent in milk
(C) SNF percent in milk (D) Acidity of milk
(E) Answer not known
73. The _____ procedure involves determining the weight of fat in milk.
- ✓(A) Rose-Gottlieb (B) UV-visible method
(C) Crystallographic (D) Electrochemical
(E) Answer not known

74. The lactometer is read in increments of _____ units and values fall within the range of 24-37.

- (A) 0.2 or 0.5 (B) 0.1
(C) 0.3 (D) 0.01
(E) Answer not known

75. In automated method, the % total solids = a + % fat + ? + ?

- (A) % Protein + % Lactose (B) % Protein + % Calcium
(C) % Protein + % Vitamin A (D) % Protein + % Vitamin D
(E) Answer not known

76. In the enzymatic test used for determination of pasteurization efficiency in milk _____ enzyme is tested.

- (A) Lactase (B) Alkaline phosphatase
(C) α -amylase (D) Rennet
(E) Answer not known

77. Modification of lactose by heating of milk affects one of the following property

- (A) Alter pH and free calcium activity
(B) Alter the viscosity
 (C) Change in titratable acidity
(D) Alter the water content
(E) Answer not known

78. Which one of the following is used to calculate the percentage of total solids of milk?
- (A) % SNF + % Protein (B) % SNF + % Carbohydrate
✓(C) % SNF + % Fat (D) % SNF + % Minerals
(E) Answer not known
79. Roesse-Gottlieb extraction method is used to find out the following composition of milk
- ✓(A) Fat content (B) SNF content
(C) Total solid content (D) Lactic acid content
(E) Answer not known
80. Which one of the following is not a gravimetric extraction of milk fat analysis?
- ✓(A) Gerber method (B) Roesse-Gottlieb method
(C) Mojonnier method (D) Weibull-Berntrop method
(E) Answer not known
81. What is the value of absolute zero temperature in Fahrenheit?
- (A) -273.15°F (B) 0°F
✓(C) -459.67°F (D) 100°F
(E) Answer not known
82. The parts of calcium carbonate equivalent hardness per million parts of water is known as
- (A) Milligrams per litre (B) Milliequivalent per litre
✓(C) Parts per million (D) Degree French
(E) Answer not known

83. When 10 g of sucrose is dissolved in 90 g of water, then the mass percentage of solution is

- (A) 5 % (B) 10 %
(C) 90 % (D) 100 %
(E) Answer not known

84. How many millimeters are there in 35.52 m?

- (A) 3.552×10^2 mm (B) 3.552×10^4 mm
(C) 3.552×10^3 mm (D) 3.552 mm
(E) Answer not known

85. How many Joules is equal to one calorie?

- (A) 4.184 (B) 1000
(C) 2.39 (D) 273.15
(E) Answer not known

86. Calculate the volume of 12 M HCl needed to prepare 24 L of 0.5 M HCl solution.

- (A) 24 L (B) 12 L
 (C) 1.0 L (D) 2.0 L
(E) Answer not known

87. Equivalence point in titration is

- (A) A stage in titration at which the amount of the reagent added is exactly and stoichiometrically equivalent to the amount of reacting substance in the analyte
- (B) Point of completion of reaction which is visible by a colour change
- (C) Starting point of a reaction
- (D) End point of a reaction
- (E) Answer not known

88. 1 A° is equal to

- (A) 1×10^{-7} m
- (B) 1×10^{-8} m
- (C) 1×10^{-9} m
- (D) 1×10^{-10} m
- (E) Answer not known

89. Calculate the molar concentration of 10 ppm solution of NaOH. Molecular weight of NaOH is 40.

- (A) 2.5×10^{-4} M
- (B) 2.5 M
- (C) 10 M
- (D) 1.0 M
- (E) Answer not known

90. The freezing point and boiling point of water at one atmospheric pressure in Fahrenheit scale is

- (A) 0°F and 100°F
- (B) 273°F and 373°F
- (C) 32°F and 212°F
- (D) 48°F and 240°F
- (E) Answer not known

91. How much $K_2Cr_2O_7$ would you weigh to prepare 250 ml of $N/20$ acidic solution? (Equivalent weight of $K_2Cr_2O_7$ is 49)
- (A) 3.675 g (B) 0.6125 g
 (C) 6.125 g (D) 36.75 g
 (E) Answer not known
92. Find the molarity of 2.48 N $Mg(OH)_2$ solution.
- (A) 2.48 M (B) 1.24 M
 (C) 0.8271 M (D) 7.44 M
 (E) Answer not known
93. What fractions are indicated by deci and femto?
- (A) 10^{-1} and 10^{-15} (B) 10^{-2} and 10^{-15}
 (C) 10^{-2} and 10^{-12} (D) 10^{-1} and 10^{-12}
 (E) Answer not known
94. The non-SI unit of mass, one unified atomic mass unit is equal to
- (A) 1.0 kg (B) 1.66×10^{-27} kg
 (C) 1.66×10^{-31} kg (D) 12.0×10^{-3} kg
 (E) Answer not known

95. If 25.3 cm³ of $\frac{N}{20}$ H₂SO₄ is neutralized with 20 cm³ solution of sodium carbonate, calculate the strength of sodium carbonate solution.
- (A) 0.6633 N
(C) 0.0395 N
(E) Answer not known
- (B) 0.0632 N
(D) 0.3950 N
96. 15.8 ml of 0.1 N oxalic acid was consumed by 25.8 ml KMnO₄ at 40°C. Calculate normality of KMnO₄
- (A) 0.061 N
(C) 0.10 N
(E) Answer not known
- (B) 0.106 N
(D) None of the above
97. What does ppm stand for
- (A) parts per million
(C) parts per metric
(E) Answer not known
- (B) percentage per million
(D) parts percentage of metric
98. If 0.25 g of sodium carbonate (equivalent weight = 53) is present in 500 mL of the solution, then the concentration of Na₂CO₃ solution would be
- (A) 0.0094 N
(C) 0.0094 M
(E) Answer not known
- (B) 0.09 M
(D) 0.09 N

99. The number of gram equivalents of a solute present in one litre of a solution is known as
- (A) Molality (B) Molarity
✓(C) Normality (D) Mole fraction
(E) Answer not known
100. 20 mL of NaOH neutralises 0.25 M H_2SO_4 at 22 mL. What is the normality and molarity of NaOH?
- (A) 0.275 N and 0.55 M (B) 0.55 N and 1.1 M
✓(C) 0.55 N and 0.55 M (D) 0.275 N and 0.275 M
(E) Answer not known
101. What is the function of natural milk proteins to young mammals?
- (A) To supply lipids
(B) To supply carbohydrates
✓(C) To supply essential amino acids
(D) To supply vitamins
(E) Answer not known
102. What is the pH at which casein protein precipitates?
- (A) 7.0 ✓(B) 4.6
(C) 3.0 (D) 3.5
(E) Answer not known
103. What is the ratio of casein : Whey protein present in buffalo milk?
- ✓(A) 80 : 20 (B) 50 : 50
(C) 60 : 40 (D) 20 : 80
(E) Answer not known

104. Name the alkaline milk proteinase are present in the milk.

- (A) Lyase (B) Phosphatase
(C) Cathepsin (D) Plasmin
(E) Answer not known

105. What is the temperature at which N-acetyl - β - D - glucosaminidase is active?

- (A) 25 °C (B) 40 °C
(C) 50 °C (D) 37 °C
(E) Answer not known

106. What is the temperature at which SOD in milk is active and stable?

- (A) 40 °C (B) 50 °C
(C) 71 °C (D) 90 °C
(E) Answer not known

107. During storage additional enzymes are produced in the milk by

- (A) Oxidation reaction (B) Chemical reaction
(C) Micro organisms (D) Secretory cells
(E) Answer not known

108. Name the bactericidal substance present in the milk.

- (A) Lactenins (B) Lactic acid
(C) Renin (D) Lacto Albumin
(E) Answer not known

109. Name the substrate which glucose oxidase catalyses.

- (A) Galactose
(B) Glucose
(C) Lactose
(D) Fructose
(E) Answer not known

110. Milk and skim milk exhibit _____ behaviour.

- (A) Brownian
(B) Swarming
(C) Newtonian
(D) None of the above
(E) Answer not known

111. Which is the pH at which lipase in milk is active?

- (A) 6.2
(B) 5.0
(C) 9.2
(D) 7.0
(E) Answer not known

112. α -Lactoglobulin is the type of whey protein found in milk. It has major weight contribution. It may be

- (A) 2-4 g/L
(B) 1-2 g/L
(C) 1-1.5 g/L
(D) 0.6-0.8 g/L
(E) Answer not known

113. Lower levels occur of lactose in Colostrum and Mastitic milk to offset high minerals and maintain

- (A) Vitamin balance
(B) Osmotic balance
(C) Sugar balance
(D) Option (A) and (B)
(E) Answer not known

114. Milk contains Immunoglobulins (Ig) select the suitable from the list.

- (A) Ig - G, Ig - A, Ig - M (B) Ig - D, Ig - F, Ig - M
(C) Ig - M, Ig - Z, Ig - Y (D) Ig - A, Ig - V, Ig - M
(E) Answer not known

115. The bacteria present in milk, when allowed to propagate lower down _____ potential in milk.

- (A) Oxidation-reduction (B) Lipolysis
(C) Proteolysis (D) None of the above
(E) Answer not known

116. One of the following is Milk Plasma defined as milk minus.

- (A) Milk protein
(B) Milk sugar
 (C) Milk fat globules
(D) Milk vitamin and minerals
(E) Answer not known

117. Whole milk is naturally adequate in _____ vitamins.

- (A) Vitamin A, Vitamin D (B) Vitamin E, Vitamin K
(C) Vitamin B, Vitamin C (D) Vitamin E, Vitamin C
(E) Answer not known

118. Milk contains lactose. It is otherwise known as

- (A) 4-O- β -D-galactopyranosyl-D-glucopyranose
- (B) 4-O- β -D-glucopyranose-D-galactopyranosyl
- (C) 4-O- α -D-glucopyranose-D-galactopyranosyl
- (D) 4-O- α -D-galactopyranosyl-D-glucopyranose
- (E) Answer not known

119. Lipolysis decreases surface tension due to release of surface active

- (A) Free fatty acids
- (B) Proteins
- (C) Glycolipids
- (D) Carbohydrates
- (E) Answer not known

120. The peroxide measurement usually not referred or suggested to check the lipid oxidation of milk. The reason is

- (A) Peroxides are unstable intermediates
- (B) Peroxides are stable intermediates
- (C) Peroxides are not found
- (D) Peroxides produce strong flavour
- (E) Answer not known

121. Pick out the shape of *Corynebacterium diphtheriae*

- (A) are rods
- (B) is club shaped
- (C) is a cocci
- (D) is spiral
- (E) Answer not known

122. Milk stored below 5 °C will most likely be populated with

- (A) Pseudomonas species (B) Bacillus species
(C) Corynebacterium (D) Microbacterium
(E) Answer not known

123. The time duration for sterilization of milk at >100 °C is

- (A) 2 min (B) 5 min
 (C) 20-40 min (D) 10 min
(E) Answer not known

124. Fermented milk Kefir is produced by mixing of lactic acid bacteria with

- (A) Pseudomonas (B) Non alcoholic mold
 (C) Alcoholic yeast (D) Salmonella
(E) Answer not known

125. Which serious ailment does the Poliovirus cause all over the world?

- (A) Mental retardedness (B) Brain haemorrhage
(C) Paralysis (D) Poliomyelitis
(E) Answer not known

126. In mantoux test, patients injected with a purified protein derivative of

- (A) M. tuberculosis (B) B. Pertussis
(C) Streptococcus pneumoniae (D) Haemophilus influenzae
(E) Answer not known

127. Starter culture for the production of different dairy products is produced by mixing 600 ml milk with

- (A) 2% pure culture (B) 10% pure culture
(C) 25% pure culture (D) 5% pure culture
(E) Answer not known

128. Name the technique followed to destroy the spores of clostridium spp. present in raw milk.

- (A) Cooling (B) Stored at -4°C
 (C) Heating (D) Warming
(E) Answer not known

129. What will be the nature of milk when contaminated with streptococci?

- (A) Acidic (B) Neutral
(C) Basic (D) Alkaline
(E) Answer not known

130. Which is the primary host for mycobacterium bovis?

- (A) Birds (B) Rodents
(C) Humans (D) Cattle
(E) Answer not known

131. What is the source of entry of pathogen into milk?

- (A) Addition of preservatives (B) Pasteurization
 (C) Storage temperature (D) Boiling
(E) Answer not known

132. Which type of ruminal protozoan dominate in young animals?

- (A) Fibrillar
(B) Flagellates ✓
(C) Ciliates
(D) Pili
(E) Answer not known

133. What is the causative agent for the disease anthrax?

- (A) Clostridium tetani
(B) Bacillus anthracis ✓
(C) Brucella abortus
(D) Myobacterium abortus
(E) Answer not known

134. Which part of the body is infected by Diphtheria?

- (A) Central nervous system
(B) Intestine
(C) Upper-respiratory tract ✓
(D) Liver
(E) Answer not known

135. Name the procedure used to remove about 99% of spores from milk.

- (A) Homogenization
(B) High speed centrifugation ✓
(C) Ultra filtration
(D) Decantation
(E) Answer not known

136. Name the microorganism which produces yellow milk.

- (A) Pseudomonas syncyanea
(B) Pseudomonas synxantha ✓
(C) Streptococcus lactis
(D) Brevibacterium erythrogenes
(E) Answer not known

137. Which cells are destructed in case of polioencephalo malacia?

- (A) Central nervous system
- (B) Lungs
- (C) Liver
- (D) Intestine
- (E) Answer not known

138. Name of the antibiotics for Diphtheria.

- (A) Penicillin
- (B) Amoxicillin
- (C) Ampicillin
- (D) Clarithromycin
- (E) Answer not known

139. Diphtheria toxin is responsible for

- (A) Inhibits protein systesis, cell death
- (B) Cause severe diarrhea
- (C) Cause fever, shock
- (D) Cause hemolysis
- (E) Answer not known

140. One of the following is Q fever transmitted by

- (A) by droplets
- (B) by infected saliva
- (C) by infected blood
- (D) dust particles contact with infected animals
- (E) Answer not known

141. What kind of details can be observed with a scanning electron microscope?

- (A) Surface morphology
- (B) Cellular structures
- (C) Internal composition
- (D) Chemical properties
- (E) Answer not known

142. What is the factor essential for the complete separation of phase in a disc-bowl centrifuge?

- (A) Equal densities of liquids
- (B) The thickness of the sludge
- (C) Temperature of the liquid
- (D) Speed of the liquid feed
- (E) Answer not known

143. Which type of microscopy is best for examining surface texture of a food sample with higher resolution?

- (A) Transmission electron microscopy
- (B) Scanning electron microscopy
- (C) Polarizing microscopy
- (D) Confocal microscopy
- (E) Answer not known

144. What is the key feature of instrumental method like NMR in fat analysis?

- (A) High sensitivity to moisture
- (B) Destruction of sample during analysis
- (C) Requirement of complex sample preparation
- (D) Non destructive measurement
- (E) Answer not known

145. Which method for fat analysis in milk is considered simpler and faster, commonly used in Europe?

- (A) Babcock method
- (B) Gerber method
- (C) Mojonnier method
- (D) Soxhlet method
- (E) Answer not known

146. Which technique is used to measure the solid fat content of lipids in dairy products?

- (A) Soxhlet extraction
- (B) Nuclear magnetic resonance
- (C) Foss-Let method
- (D) Infrared spectroscopy
- (E) Answer not known

147. In the Mojonnier method, what is used to neutralize acidic milk samples before fat extraction?

- (A) Ammonium hydroxide
- (B) Sodium chloride
- (C) Potassium hydroxide
- (D) Calcium carbonate
- (E) Answer not known

148. What is the function of a specific gravity bottle?

- (A) To measure milk fat
- (B) To measure milk viscosity
- (C) To measure the density of the liquids
- (D) To measure liquid acidity
- (E) Answer not known

149. How are lacto meter readings adjusted for temperature variations?

- (A) No adjustment is needed
- (B) A correction factor is applied
- (C) A new lactometer is used
- (D) Readings are always multiplied by 2
- (E) Answer not known

150. What is the purpose of calibration for lactometers?

- (A) To adjust for air bubbles
- (B) To ensure accuracy in different liquids
- (C) To measure pH
- (D) To calculate viscosity
- (E) Answer not known

151. What is the Quevenne lactometer used to determine?

- (A) Milk fact content
- (B) Acidity of milk
- (C) Milk density
- (D) Temperature of milk
- (E) Answer not known

152. The typical electrode used in pH meters is

- (A) Platinum Electrode
- (B) Glass Electrode
- (C) Copper Electrode
- (D) Silver Electrode
- (E) Answer not known

153. The following pH meter is of great accuracy and of potentiometer type

- (A) Digital
(C) Modern
(E) Answer not known
- (B) Null-Detector
(D) Analog

154. _____ type of colorimeter, measures the density of primary colours.

- (A) Photometer
(C) Spectrophotometer
(E) Answer not known
- (B) Densitometer
(D) Tristimulus meter

155. Which micropipette would you choose to measure 550 μ l?

- (A) P 1000 Micropipette
(C) P 200 Micropipette
(E) Answer not known
- (B) P 500 Micropipette
(D) P 10 Micropipette

156. Which measuring instrument follows Abbe's principle?

- (A) Colorimeter
 (C) Micrometers
(E) Answer not known
- (B) Vernier Calipers
(D) Voltmeter

157. Standard Glucose (Stock) 500 mg of glucose is dissolved in 100ml of water. It contains _____ mg of glucose/ml

- (A) 0.5 mg
 (C) 5.0 mg
(E) Answer not known
- (B) 0.05 mg
(D) 0.005 mg

158. Lambert's law states that the intensity of light decreases with respect to

- (A) Concentration
- (B) Volume
- (C) Distance
- (D) Composition
- (E) Answer not known

159. Scientists use a _____ device to measure very small volumes with accuracy

- (A) Glass Pipette
- (B) Micropipette
- (C) Injector
- (D) Measuring Jar
- (E) Answer not known

160. Which equipment is used to measure the amount of light absorbed by microbial cultures?

- (A) Autoclave
- (B) Centrifuge
- (D) Spectro photometer
- (C) Laminar flowhood
- (E) Answer not known

161. Eye and facial pain with vision loss is a common symptom of

- (A) Pulmonary mucormycosis
- (B) Rhinocerebral mucormycosis
- (C) Cutaneous mucormycosis
- (D) Disseminated mucormycosis
- (E) Answer not known

162. The distinguishing feature between Rhizopus and Mucor is

- (A) Aseptate Hypha (B) Hyaline Hypha
 (C) Rhizoid (D) Sporangiospores
(E) Answer not known

163. The percentage of KOH used to screen the presence of aspergillus in respiratory specimens is

- (A) 10% (B) 20%
(C) 30% (D) 40%
(E) Answer not known

164. In LPCB mount, Phialides are arranged in two rows in which of the following fungi?

- (A) Aspergillus Niger (B) Aspergillus Fumigatus
(C) Aspergillus Glaucus (D) Aspergillus Versicolor
(E) Answer not known

165. In pure crystalline form penicillins are _____ nature

- (A) White in color (B) Colorless
(C) Blue in colour (D) Pale green in colour
(E) Answer not known

166. Aflatoxin is

- (A) A carcinogenic compound for rat
(B) A non carcinogenic compound
(C) An insecticide
(D) A pesticide
(E) Answer not known

167. Penicillium are found to cause

- (A) Mycotic Keratitis (B) Mucormycosis
(C) Aspergillosis (D) Shigellosis
(E) Answer not known

168. Pick out the used Media for Aspergillus

- (A) Nutrient agar
 (B) Sabouraud's dextrose agar
(C) Tryptose agar
(D) Brain heart infusion agar
(E) Answer not known

169. The Decolorizer used in cold method of Acid fast staining is

- (A) 25% Acid (B) 5% Acid
(C) 5% Alcohol (D) 1% Acid Alcohol
(E) Answer not known

170. The ideal sample for brucella culture is

- (A) Bone Marrow (B) Blood
(C) CSF (D) Joint Fluid
(E) Answer not known

171. Mycobacterium tuberculosis can survive and multiply in

- (A) RBC (B) Macrophages
(C) WBC (D) Stem cells
(E) Answer not known

172. For laboratory diagnosis of Cholera, the specimen of choice is

- (A) Faeces
- (B) Sputum
- (C) Urine
- (D) Blood
- (E) Answer not known

173. The differences between Gram positive and Gram negative bacteria is shown to reside in the

- (A) Cell wall
- (B) Nucleus
- (C) Cell membrane
- (D) Mesosomes
- (E) Answer not known

174. Listeriosis can be treated by

- (A) Penicillin, gentamicin
- (B) Amoxicillin
- (C) Ampicillin
- (D) Nystalin
- (E) Answer not known

175. Salmonellosis occurs by

- (A) Faecal-Oral route
- (B) Blood borne infection
- (C) Air borne mode of transmission
- (D) Physical contact
- (E) Answer not known

176. *Mycobacterium Tuberculosis* is identified by

- (A) Robert Koch
- (B) James
- (C) Franklin
- (D) Victor C Paul
- (E) Answer not known

177. Spherical bacterial cells are

- (A) Spirilla
- (B) Cocci
- (C) Bacilli
- (D) Spirillum
- (E) Answer not known

178. One of the following is detected in Coliform tests

- (A) Erwinia
- (B) Escherichia
- (C) Proteus
- (D) Salmonella
- (E) Answer not known

179. The principal food vehicle for brucellosis is

- (A) Raw milk or cream
- (B) Cooked meat
- (C) Pasteurized milk
- (D) Boiled vegetables
- (E) Answer not known

180. Salmonellosis an infection by Salmonella that affects the

- (A) Gastrointestinal tract
- (B) Respiratory tract
- (C) Nerves
- (D) Pulmonary tract
- (E) Answer not known

181. If the pest control material is in the gaseous state, it is termed as

- (A) Sprays
- (B) Emulsions
- (C) Aerosols
- (D) Fumigants
- (E) Answer not known

182. Bacillus Sphaericus, a microbial pesticide controls

- (A) Rust mites
- (B) Mosquito
- (C) Beetles
- (D) Aphids
- (E) Answer not known

183. What is DDT?

- (A) Dichlorodiphenyl trichloroethane
- (B) Dichlorophenyl trichloroethane
- (C) Dichloro dibromo trichloromethane
- (D) Dichloro dioxy trichloromethane
- (E) Answer not known

184. The purpose of calculating the Coefficient Variation (CV) in pipette Calibration is

- (A) To provide insight into the precision and accuracy of the pipette being calibrated
- (B) To adjust the calibration setting of the pipette
- (C) To determine the type of liquid being handled
- (D) To clean the pipette thoroughly
- (E) Answer not known

185. What is the need for using a burette in Quantitative chemical analysis?

- (A) To mix two chemicals
- (B) To maintain safety
- (C) To measure the volume of a liquid accurately
- (D) To maintain constant temperature
- (E) Answer not known

186. Which is used to measure different volume of liquids?

- (A) Conical Flasks (B) Round Bottom Flask
 (C) Graduated Cylinders (D) Graduated Pipette
(E) Answer not known

187. The following apparatus is used in heating process except

- (A) Bunsen Burner (B) Tripod Stand
(C) Boiling tube (D) Test tube Brushes
(E) Answer not known

188. The reading shown by the lactometer for the milk adulterated with water

- (A) 20 (B) 16
(C) 0 (D) 35
(E) Answer not known

189. Volumetric Flask are needed to prepare the

- (A) Primary Standard Solution
(B) Secondary Standard Solution
(C) Both
(D) None of these above
(E) Answer not known

190. The following glassware is used to measure the acidity (on alkaline of the solutions)

- (A) Spectrophotometer (B) Gel electrophoresis
 (C) pH meter (D) Centrifuge
(E) Answer not known

191. Which of the following represents the physical characteristic of water?

- (A) Chloride
- (B) BOD
- (C) COD
- (D) Turbidity
- (E) Answer not known

192. MPN test used to evaluate quality of water. It stands for

- (A) Myelo Proliferative Neoplasm
- (B) Most Perfect Number
- (C) Most Probable Number
- (D) Most Profitable Number
- (E) Answer not known

193. In Reverse Osmosis, the pressure that is greater than the naturally occurring osmotic Pressure is applied in order to

- (A) Mineralize water
- (B) Desalinate water
- (C) Decompose Organics
- (D) Push Bacteria Across Membrane
- (E) Answer not known

194. In multiple tube fermentation test, the microbial mediums used to defect water quality are

- (A) Lactose or laury tryptose broth, Brilliant green lactose bile broth, Endo agar, Nutrient agar
- (B) Nutrient agar, SS agar, Baird-Parker agar
- (C) Lactose or Laury tryptose broth, Nutrient broth, Nutrient agar
- (D) Brilliant green-lactose bile broth, Nutrient broth
- (E) Answer not known

195. During water purification process, the suspended materials and microorganisms are entrapped and settle down. This is known as

- (A) Coagulation or flocculation
- (B) Precipitation
- (C) Sedimentation
- (D) Accumulation
- (E) Answer not known

196. The alkalinity of water is attributed to the presence of

- (A) OH^- , CO_3^{2-} and HCO_3^-
- (B) OH^- , SO_4^{2-} and Cl^-
- (C) HCO_3 , SO_4 and HCO_3^-
- (D) All the above
- (E) Answer not known

197. The process of removing common salt from water is known as

- (A) Demineralisation
- (B) Desalination
- (C) Dechlorination
- (D) All the above
- (E) Answer not known

198. The advantage of detergents over soap is

- (A) Detergents are soluble in water
- (B) Detergents could not give much lather
- (C) Detergent give lather even with hard water
- (D) Soaps give lather even with hard water
- (E) Answer not known

199. The chemical equivalent of CaSO_4 is

- (A) 60
- (B) 68
- (C) 82
- (D) 47.5
- (E) Answer not known

200. The Hardness that cannot be removed by boiling is called as

- (A) Permanent Hardness
 - (B) Temporary Hardness
 - (C) Semi temporary Hardness
 - (D) Semi Permanent Hardness
 - (E) Answer not known
-