

114/2022

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. The characteristic features of trophozoites of *Giardia* spp. are:
 - (A) Single nucleus, pseudopodia and kinetoplast
 - (B) One macronucleus, cilia and food vacuoles
 - (C) Two symmetrical nuclei, central axostyle and flagella
 - (D) Four nuclei, rod shaped chromatoid bodies and cyst wall

2. *Schistosoma spindale* eggs are:
 - (A) Napoleon hat shaped with miracidium and a terminal spine
 - (B) Boomerang shaped with miracidium inside
 - (C) Triangular with hexacanth embryo
 - (D) Oval with yolk cells and operculum

3. Wet blood film examination is preferred for detection of:
 - (A) *Anaplasma marginale*
 - (B) *Theileria annulata*
 - (C) *Babesia bigemina*
 - (D) *Trypanosoma evansi*

4. Number of legs in larval acarines:
 - (A) Six legs
 - (B) Eight legs
 - (C) Ten legs
 - (D) None of the above

5. The stain best suited to demonstrate intracellular parasites:
 - (A) Gram's stain
 - (B) Giemsa stain
 - (C) Field stain
 - (D) Diff-quick stain

6. Method of transmission of trypanosomosis by *Tabanus* fly:
 - (A) Biological transmission
 - (B) Cyclical transmission
 - (C) Mechanical transmission
 - (D) Larval transmission

7. Organs of attachment in a trematode:
 - (A) Suckers
 - (B) Bothria
 - (C) Buccal capsule
 - (D) Both (A) and (B)

8. The optimum temperature time combination for sterilizing glass wares in a hot air oven is:
- (A) 100°C for 10min (B) 160°C for 10min
(C) 160°C for one hour (D) 120°C for 15min
9. Incomplete posterior spiracle with three slits and a button are seen in the maggots of:
- (A) *Oestrus ovis* (B) *Musca domestica*
(C) *Calliphora* spp. (D) *Sarcophaga* spp.
10. Bug odour in adult bugs is caused by:
- (A) Mehlis glands (B) Paratergal plates
(C) Stink glands (D) Laures gland
11. A quantitative method for the determination of the severity of helminthic infections:
- (A) Eggs per gram (B) Stoll's method
(C) McMaster counting technique (D) All the above
12. Which of the following is a dog tapeworm?
- (A) *Echinococcus granulosus* (B) *Moneizia benedeni*
(C) *Taenia solium* (D) *Davainea proglottina*
13. Lymph node smear can be prepared for diagnosis of schizogonous stages of the following:
- (A) *Toxoplasma gondii* (B) *Theileria* spp.
(C) *Babesia bigemina* (D) *Anaplasma marginale*
14. The most common site for blood collection in ruminants:
- (A) Saphenous vein (B) Jugular vein
(C) Femoral vein (D) Cephalic vein
15. The thickness of a blood smear is dependent on:
- (A) Size of the drop
(B) Angle of the spreader
(C) Speed with which spreader slide is pushed
(D) All the above
16. The stain that can be used for demonstration of siderocytes:
- (A) Alizarin red (B) Methyl blue
(C) Prussian blue (D) Congo red

17. The diluting fluid used for erythrocyte counting:
(A) Thoma's fluid (B) Hayem's solution
(C) Pilot's solution (D) Hinkleman's solution
18. The type of anemia seen in iron deficiency:
(A) Microcytic, hyperchromic (B) Macrocytic, hyperchromic
(C) Microcytic, hypochromic (D) Macrocytic, hypochromic
19. The test used to detect bile pigments in urine:
(A) Ross test (B) Lignin test
(C) Sulkowitch test (D) Gmelin test
20. The special stain used to demonstrate fat in tissues:
(A) Oil red O (B) Trichrome
(C) Alizarin red (D) Congo red
21. The type of jaundice in which van den Bergh's test give biphasic reaction:
(A) Prehepatic (B) Hepatic
(C) Post hepatic (D) Both (B) and (C)
22. The nutrient component of milk determined by Gerber test:
(A) Protein (B) Vitamin C
(C) Fat (D) All the above
23. Ascending grades of alcohol is used in tissue processing and staining for:
(A) Hydration (B) Clearing
(C) Impregnation (D) Dehydration
24. The species of animal in which Rouleaux formation is highest:
(A) Cow (B) Dog
(C) Horse (D) Goat
25. The volume of semen per ejaculate is highest in:
(A) Bull (B) Boar
(C) Stallion (D) Ram
26. Which of the following anticoagulants is indicated by green capped vacutainer tubes?
(A) Heparin (B) EDTA
(C) Sodium citrate (D) ACD

27. Total magnification under high power in a compound microscope:
- (A) 40X (B) 400X
(C) 4000X (D) 100X
28. In which of the following systems, virus is not cultured:
- (A) Mac Conkey Agar (B) Laboratory animal
(C) Cell culture (D) Embryonated egg
29. Which of the following decolourizer is used in Acid fast staining?
- (A) Sulphuric acid (B) Ethyl Alcohol
(C) Acid Alcohol (D) Acetic acid
30. The mordant that is used in Gram's staining is:
- (A) Gram's Iodine (B) Potassium Iodide
(C) Carbol fuchsin (D) Crystal violet
31. Which of the following is not a compound stain?
- (A) Gram's stain (B) Leishman's stain
(C) Wright's stain (D) Giemsa stain
32. An infection after medical or surgical management, whether or not patient was hospitalized:
- (A) Nosocomial infection (B) Latrogenic infection
(C) Chronic infection (D) Peracute infection
33. Percentage of agarose is maximum in:
- (A) Liquid media (B) Solid media
(C) Semisolid medium (D) Peptone water
34. Zoonotic disease means:
- (A) Disease transmitted from human to animals
(B) Disease transmitted from animal to human
(C) Disease transmitted from human to animal and vice versa
(D) Disease affecting animals only
35. Lactophenol cotton blue stain is associated with staining of:
- (A) Bacteria (B) Virus
(C) Fungus (D) Protozoa

36. Which of the following is not an anti-coagulant used in blood sample collection?
(A) EDTA (B) Potassium Iodide
(C) Sodium Citrate (D) Heparin
37. Which of the following is not a serological test?
(A) ELISA (B) Agar gel precipitation test
(C) FAT (D) PCR
38. In Mac Conkey agar, lactose fermenter colonies will be:
(A) Pink colour (B) Colourless
(C) White colour (D) Blue colour
39. Temperature for serum inactivation to destroy complement:
(A) 50°C (B) 56°C
(C) 60°C (D) 63°C
40. Which of the following is dry heat sterilization?
(A) Boiling (B) Pressure cooker
(C) Autoclave (D) Hot air oven
41. Which of the following is the perfect microbial sterilization condition of Hot air oven?
(A) 100°C for one hour (B) 121°C for 15 min
(C) 160°C for one hour (D) 121°C for 30 min
42. The counter stain used in Acid fast staining:
(A) Dilute carbol fuchsin (B) Loeffler's alkaline methylene blue
(C) Crystal violet (D) ZN carbol fuchsin
43. Which of the following is not used as enzyme in ELISA?
(A) Alkaline phosphatase (B) Horse radish peroxidase
(C) Beta galactosidase (D) Glutamate dehydrogenase
44. Medium containing bile salt:
(A) Tryptic soy agar (B) Sabouraud dextrose agar
(C) Mac Conkey agar (D) Chocolate agar
45. Percentage of Potassium hydroxide for fungal detection from skin scrapings:
(A) 1% (B) 2%
(C) 10% (D) 40%

46. Widal test is used for diagnosis of:
- (A) Typhoid (B) Cholera
(C) Anthrax (D) Salmonellosis
47. Antiglobulin test is:
- (A) Coombs test (B) Widal test
(C) Strauss test (D) Abortus Bang ring test
48. Which of the following is Gram negative, non-spore forming bacteria?
- (A) *Bacillus anthracis* (B) *Clostridium botulinum*
(C) *Listeria monocytogenes* (D) *Escherichia coli*
49. McFaydean reaction is for detecting:
- (A) *Bacillus subtilis* (B) *Bacillus anthracis*
(C) *Clostridium tetani* (D) *Clostridium novyi*
50. Media prepared using blood :
- (A) Mac Conkey agar (B) Chocolate agar
(C) Tryptic soy agar (D) Albimi agar
51. Which of the following is a differential staining method?
- (A) Wright's attaining (B) Leishman's staining
(C) Acid fast staining (D) Levaditi staining
52. Expand HACCP :
- (A) Hazard And Critical Care Point
(B) Hazard Analysis Critical Control Point
(C) Hazard And Control Care Point
(D) Hazard Analysis Care Control Point
53. The organism which causes Food intoxication :
- (A) *Coxiella burnettii* (B) *Escherichia coli*
(C) *Bacillus cereus* (D) *Clostridium botulinum*
54. Pick out the one which is not an Emulsifier :
- (A) Gelatin (B) Vegetable gum
(C) Caesin (D) Propionate

55. The Range of Specific Gravity of Milk at 15.6 degree Celsius :
- (A) 1.02 – 1.05 (B) 1.10 – 1.50
(C) 0.09 – 1.0 (D) 1.12 – 1.15
56. Dextrinisation process of Starch includes the following the changes :
1. Starch hydrolyses to simpler forms
 2. Colour and flavour changes
 3. Development of burnt, toasted flavour due to Enzymatic browning
- (A) 1 and 3 only (B) 1 and 2 only
(C) 2 and 3 only (D) All the above (1,2 and 3)
57. The Fat globule size in Homogenised Milk :
- (A) 0.1 – 20 micro meter (B) 0.001 – 0.005 micro meter
(C) 0.006 – 0.0010 micro meter (D) 0.0015 – 0.0020 micro meter
58. Government of India Promulgated PFA and FPO act in the year :
- (A) 1954, 1955 (B) 1954, 1956
(C) 1955, 1956 (D) 1956, 1954
59. Which of the following Statements are correct Cheese Making?
1. Processing of Milk in to Cheese removes most of the water soluble Vitamins
 2. Protein Concentration increases during Cheese Manufacture
 3. Lactose Concentration increases during Cheese Manufacture
- (A) 2 and 3 only (B) 1 and 3 only
(C) All the above (1, 2 and 3) (D) 1 and 2 only
60. Which of the following statements are correct about quality of Meat products?
1. The main Parameters of fresh Meat quality is colour and Marbling
 2. To retain colour Oxygen is removed during Packaging
 3. The Myoglobin whose main role in living Muscle is to bind Oxygen needed for various Chemical reactions
- (A) 1 and 2 only
(B) All the above (1, 2 and 3)
(C) 2 and 3 only
(D) 1 and 3 only

61. Which of the following statements are correct on Adulteration of Food as per PFA?
1. If any constituent of the Article has been wholly or in part abstracted so as to affect injuriously the nature, substance or quality there of
 2. If any inferior or cheaper substance has been substituted wholly or in part for the Article, so as to affect injuriously the nature, substance or quality there of
 3. If the article contains any prohibited preservatives or permitted preservatives in excess of the prescribed limits
- (A) 1 and 2 only (B) 1 and 3 only
(C) All the above (1, 2 and 3) (D) 2 and 3 only
62. Which of the following statements are correct for AGMARK standards?
1. The AGMARK Act was enacted by the Govt. of India in 1938
 2. The Directorate of Marketing and Inspection established under this Act, has set up a number Analytical Laboratories and commodities testing centres
 3. The AGMARK standards are quality standards depending on the degree of excellence of the produce
- (A) All the above (1, 2 and 3) (B) 1 and 2 only
(C) 1 and 3 only (D) 2 and 3 only
63. Which of the following statements are correct to Mould as a Microorganism?
1. Moulds grow over a wide range of PH from quite acid to fairly alkaline PH 2.0 – 8.5
 2. Moulds are smaller than Bacteria and probably harmful
 3. Moulds grow most rapidly at Temperature of 20-35 degree Celsius
- (A) All the above (1, 2 and 3) (B) 2 and 3 only
(C) 1 and 2 only (D) 1 and 3 only
64. The working distance of a low power objective is :
- (A) 0.5 - 1.5 mm (B) 5 - 6 mm
(C) 0.15 - 0.20 mm (D) None of the above
65. The height preferred for laboratory work benches where one stands to work is :
- (A) 34-36 inches (B) 40-42 inches
(C) 26-28 inches (D) 46-48 inches
66. Which glassware is used for the preparation of reagents where great accuracy is required?
- (A) Standard flask (B) Measuring cylinder
(C) Conical flask (D) Beaker

67. Fire caused by flammable liquids can be extinguished using :
- (A) Water (B) Fire blanket
(C) CO₂ fire extinguisher (D) All of the above
68. Name an instrument which utilizes the working principle 'steam under pressure' :
- (A) Incubator (B) Autoclave
(C) Water bath (D) Hot air oven
69. Identify the chemical which is not stored in brown coloured bottle :
- (A) Iodine (B) Potassium permanganate
(C) Sodium nitroprusside (D) Hydrogen fluoride
70. Which of the following is not true regarding an analytical balance?
- (A) Close the door of the balance while weighing
(B) Use your hands to handle weights
(C) Balance the pans before putting the weights
(D) Balance should be in the resting positions before removing the weights
71. Which of the following specimens should be processed immediately after collection?
- (A) Urine (B) Stool
(C) CSF (D) Blood
72. Scalds are not caused by :
- (A) Hot water (B) Contact with hot objects
(C) Hot oil (D) Steam
73. One of the chemicals listed below is stored under water to prevent explosion. Identify it.
- (A) Picric acid
(B) Nitric acid
(C) Trichloro acetic acid
(D) Sulphosalicylic acid
74. Which among the following is not a monochromator?
- (A) Prism (B) Filter
(C) Diffraction grating (D) Mirror

75. In quality control what does the term 'Precision' refers to :
- (A) Ability of a method to determine solely the analyte
 - (B) Close to the actual value or true value
 - (C) Closeness of the result on repeated analysis
 - (D) Ability of a method to detect smallest quantity of analyte
76. Which label should be exhibited on the containers that handles pathogenic organisms or materials that may contain them?
- (A) Toxic
 - (B) Biohazard
 - (C) Harmful
 - (D) Irritant
77. Thrombocytes are formed from :
- (A) Reticulocytes
 - (B) Megakaryocyte
 - (C) Myeloblast
 - (D) Pronormoblast
78. Fouchet's reagent for testing bilirubin in urine contains :
- (A) TCA, 10% ferric chloride, distilled water
 - (B) HCl, 10% ferric chloride, distilled water
 - (C) TCA, Sodium nitroprusside, distilled water
 - (D) None of the above
79. In double oxalate mixture, ammonium oxalate and potassium oxalate are mixed in the ratio :
- (A) 1:2
 - (B) 2:3
 - (C) 3:2
 - (D) 1:3
80. The concentration of formalin as routine fixative in histopathology is :
- (A) 20%
 - (B) 10%
 - (C) 40%
 - (D) 100%
81. Microscopic examination of stool showed the presence of a colourless, plano-convex shaped ova containing a tadpole shaped larva. Identify the ova :
- (A) Ova of *A. lumbricoides*
 - (B) Ova of *T. solium*
 - (C) Ova of *A. duodenale*
 - (D) Ova of *E. vermicularis*
82. Which among the following is not an RBC diluting fluid?
- (A) Hayem's fluid
 - (B) Dacie's formol citrate
 - (C) Toisson's fluid
 - (D) Hinglemann's fluid

83. The pH of buffer used in Leishman's staining for peripheral smear examination is :
- (A) 8.6 (B) 6
(C) 6.8 (D) 9
84. Each 0.1 mm of buffy coat corresponds to about :
- (A) 500 WBC/mm³ of blood (B) 1000 WBC/ mm³ of blood
(C) 2000 WBC/ mm³ of blood (D) None of the above
85. Which among the following is not a clearing agent?
- (A) Dioxane (B) Xylene
(C) Chloroform (D) Cedar wood oil
86. Commercially available anticoagulant tubes are universally colour coded. Tube with grey coloured top contains the anticoagulant :
- (A) K₃EDTA
(B) Heparin
(C) Sodium citrate
(D) Sodium fluoride and potassium oxalate
87. In which microtome the block remains stationary and the knife moves during sectioning?
- (A) Rocking microtome (B) Rotary microtome
(C) Sliding microtome (D) Base Sledge microtome
88. Which urine crystal appears as hexagonal plates?
- (A) Calcium sulphate (B) Calcium carbonate
(C) Triple phosphate (D) Cystine crystal
89. _____ gram of NaCl in 1000 ml of solution is equivalent to 1 Molar solution.
- (A) 48.5 gm (B) 40.5 gm
(C) 58.5 gm (D) None
90. Before cleaning with water, newly purchased Sodalime glassware should be treated overnight with :
- (A) 5% HCl (B) 5% NaOH
(C) 15% NaOH (D) 5% KOH
91. Example of essential amino acid is :
- (A) Alanine (B) Glycine
(C) Lysine (D) Tyrosine

92. Glycolysis takes place in :
(A) Cytoplasm (B) Mitochondria
(C) Both (A) and (B) (D) None
93. Fluoride inhibit _____ enzyme of glycolysis.
(A) Hexokinase (B) Enolase
(C) Aldolase (D) Pyruvate
94. _____ is the storage form of lipids in adipose tissue.
(A) LDL (B) VLDL
(C) Triglycerides (D) HDL
95. Normal urea level in plasma :
(A) 20 - 40 mg/dl (B) 50 - 70 mg/dl
(C) 5 - 7 mg/dl (D) 2 - 4 mg/dl
96. _____ significantly elevated in myocardial infarction.
(A) ALT (B) AST
(C) Alkaline phosphatase (D) Acid phosphatase
97. Creatinine estimation is done by :
(A) Berthelot method (B) Caraway method
(C) BCG method (D) Jaffes method
98. Acetone is formed in the body as a secondary product from acetoacetic acid by loss of :
(A) Oxygen (B) Carbon dioxide
(C) Water (D) Carbon monoxide
99. Albustix is a paper strip impregnated with the indicator :
(A) Bromocresol green (B) Bromothymol blue
(C) Bromocresol purple (D) Tetrabromophenol blue
100. On which principle does Photo electric colorimeter work?
(A) Beer's Law (B) Lambert's Law
(C) Both (A) and (B) (D) None
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SPACE FOR ROUGH WORK

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