

1. Which of the following substances is present in plasma but not in serum?
 (A) Globulins (B) Fibrinogen
(C) Erythrocytes (D) Inorganic ions
2. The destruction of all micro-organisms including spores is called
(A) Sanitation (B) Antisepsis
 (C) Sterilization (D) Disinfection
3. Which of the following vitamin deficiency causes pellagra?
(A) Thiamine (B) Niacin
 (C) Riboflavin (D) Pyridoxine
4. The solution used to fix a pap smear is
(A) Wright stain (B) Hematoxylin
 (C) Cytospray (D) Methylene blue
5. Which of the following is called as "GOOD" cholesterol?
 (A) LDL-C (B) HDL-C
(C) IDL-C (D) VLDL-C
6. The site of a specimen must be written on a swab container
(A) To warn staff about a possible pathogen
(B) Only if time permits-it is always on the requisition
 (C) To determine suitable agar and atmospheric requirements
(D) To determine the fee
7. Which needle gauge corresponds with the smallest needle size?
(A) 18 (B) 20
(C) 21 (D) 23
8. Blood for an RBC count must be prepared from
 (A) EDTA blood (B) Heparinized blood
(C) Citrated blood (D) Oxalated blood
9. The enzymes are chemically
(A) Proteins (B) Lipids
(C) Carbohydrates (D) Lipoproteins
10. If a lavender top, red top, grey top, and light blue top tubes are collected, what is the order of draw
(A) They can be collected in any order
 (B) lavender top, red top, grey top, light blue top
(C) red top, light blue top, lavender top, grey top
(D) grey top, lavender top, light blue top, red top
11. The test procedure that uses a Westergren tube is
(A) Hematocrit (B) Reticulocyte count
(C) Differential count (D) ESR

12. If the mother has blood group B and the father has blood group A. The offspring have the blood group _____.
- (A) AB (B) O
(C) B, O (D) A, B, AB, O
13. What is the normal pH of human blood?
- (A) 7.0 (B) 7.2
(C) 7.35 – 7.45 (D) 7.6
14. An automated hematology cell count uses the principle of
- (A) Changes in cell electrical current (B) Colour absorption changes
(C) High frequency sound waves (D) Light wave scattering
15. The creatinine in serum by Jaffe's reaction mainly react with _____ to produce an orange color.
- (A) Picric acid (B) Citric acid
(C) Benzoic acid (D) Acetic acid
16. Which factor would interfere with the growth of a pathogen?
- (A) Alkaline pH (B) Acidic pH
(C) Darkness (D) Moist environment
17. Solid crystals of potassium oxalate are added to distilled water in a container. What term would describe the potassium oxalate?
- (A) Solution (B) Solvent
(C) Solute (D) Reagent
18. Which Gram stain reagent acts as a mordant to bind the stain to the bacteria?
- (A) Lugol's iodine (B) Gram's iodine
(C) Crystal violet (D) Safranin
19. Which statement is true regarding the use of reagent dipsticks?
- (A) heat and moisture do not affect the reagent reactivity
(B) timing of each reagent area is not necessary
(C) reagent sticks are held vertically when reading
(D) reagent strips should be tested daily with control
20. Which of the following cells are involved in the production of antibodies?
- (A) Ganglion cells (B) Mast cells
(C) Plasma cells (D) Langerhans cells
21. Glucose results are correctly reported in
- (A) mg/L (B) gm/L
 (C) mg/dL (D) gm/dL
22. The tablet used for glucose testing in urine is
- (A) Clinitest (B) Ictotest
(C) Acetest (D) TCA

23. Which method is acceptable to discard a used needle?
 (A) Discard whole needle into puncture -proof container
 (B) Bend needle and discard into puncture proof container
 (C) Discard into biohazard bag
 (D) Discard into regular garbage
24. A centrifuge is decontaminated
 (A) Weekly
 (C) Daily
 (B) At the end of each work shift
 (D) A, B & C
25. Separated serum that is dark yellow to amber in color is termed
 (A) Lipemic
 (C) Jaundiced
 (B) Hemolysed
 (D) Icteric
26. Which factor may cause a blood smear to be too thin?
 (A) The angle of the spreader is too high
 (C) The edge of the spreader is cracked
 (B) The angle of the spreader is too low
 (D) The smear is spread too slowly
27. Kala azar is caused by the following parasite _____
 (A) *Entamoeba histolytica*
 (C) *Leishmania donovani*
 (B) *Trypanosoma brucei*
 (D) *Plasmodium vivax*
28. A refractometer is used to test
 (A) Hemoglobin in urine
 (C) Urine specific gravity
 (B) Urine osmolality
 (D) The presence of nitrates in urine
29. A 1/6 dilution of serum in water was made. The glucose result was 4.0 mmol/L. What is the reported result?
 (C) 24.0 mmol/L
 (A) 4.0 mmol/L
 (B) 16.0 mmol/L
 (D) 32.0 mmol/L
30. An immature neutrophil is called
 (A) Blast cell
 (C) Packed cell
 (B) LE cell
 (D) Band cell
31. When an agar plate is streaked correctly the final result is?
 (A) Individual colonies
 (C) dense growth which covers the plate
 (B) No growth pathogens
 (D) a pure culture
32. Quality control ensures
 (A) More safety for lab personnel
 (C) More reliable test results
 (B) More safety for patients
 (D) Decreased infection for patients and staff
33. A patient has hepatitis, which test (s) will be increased
 (A) AST
 (C) ALP
 (B) ALT
 (D) A, B & C

34. Which reagent is not used to concentrate and stain ova and parasite specimen?
 (A) Zinc Sulfate (B) Crystal Violet
 (C) 10% Formalin (D) Ether
35. Which test does not monitor a patient's coagulation mechanism?
 (A) PT (B) APTT
 (C) ACTH (D) FDP
36. The functional unit of the kidney is the
 (A) Renal cell (B) Renal cortex
 (C) Renal pelvis (D) Nephron
37. Which of the following is a standard criterion for quality of laboratory in India?
 (A) NABL (B) NHAI
 (C) NAAC (D) NATC
38. The functions of the respiratory system is
 (A) to supply oxygen to tissue (B) to remove carbon dioxide from tissue
 (C) to regulate heartbeat (D) A & B
39. Some bacteria can produce a capsule that is resistant to heat and drying. This is called a
 (A) Spore (B) Cyst
 (C) Sheath (D) Scab
40. The most commonly used microscope in the clinical laboratory is the
 (A) Electron (B) Light
 (C) Phase contrast (D) Florescent
41. Which test would not be performed on plasma or serum?
 (A) Iron (B) Electrolytes
 (C) Hb Electrophoresis (D) BUN
42. Xylene is used to
 (A) Fix autopsy specimen (B) Clear tissue in paraffin wax
 (C) Embed tissue in paraffin wax (D) Attach cover slips to slides
43. Which is super vital stain?
 (A) Ziehl-Neelson stain (B) Wright's stain
 (C) Romanowsky stain (D) New Methylene blue stain
44. The stain used to visualize mitochondria is -
 (A) Fast green (B) Janus green
 (C) Safranin (D) Iodine
45. Which is not a liver function test?
 (A) Albumin (B) AST
 (C) ALT (D) CK-Total
46. What solution is used to clean up biohazardous spills on the floor?
 (A) Dettol (B) Lysol
 (C) 1% Hypochlorite (D) Spirit

47. The largest vein in the body is the
(A) Vena cava (B) Aorta
(C) Pulmonary vein (D) Iliac vein
48. Which of the following test to detect Syphilis?
(A) Rh factor (B) CRP
 (C) VDRL (D) ESR
49. The "universal solvent" is
(A) Absolute Alcohol (B) 10% Ethanol
 (C) Water (D) 0.85% NaCl
50. Insulin is
(A) A hormone (B) Produced by the pancreas
(C) Has the opposite effect to glucagon (D) A, B & C
51. Blood films are not fixed before staining because
 (A) Wright's stain contains methanol, which does the fixing
(B) They are fixed with heat after staining
(C) They are fixed with phosphate buffer during staining
(D) the anti-coagulant EDTA acts as a fixing agent
52. Which is not part of the large intestine??
(A) Cecum (B) Rectum
 (C) Duodenum (D) Sigmoid colon
53. Which test will not be performed on a grossly hemolyzed specimen?
(A) LDH (B) CK
(C) K (D) A, B & C
54. Which of the following is not an example of autosomal dominant trait?
(A) Cystic fibrosis (B) Brachydactyly
 (C) Huntington's disease (D) Marfan syndrome
55. In Anemia
 (A) Decreased hemoglobin or red blood cell production
(B) Increased hemoglobin or red blood cell production
(C) Morphological changes in red blood cells
(D) A & C
56. Round bacteria which grow in clusters called
(A) Streptococci (B) Staphylococci
(C) Diplococci (D) Basilococci
57. Which reagent is stored under water?
(A) Picric acid (B) NaOH
(C) Ether (D) CuSO₄

58. Which of the following associated with allergic and hypersensitivity reactions?
(A) Ig A (B) Ig D
✓ (C) Ig G (D) Ig E
59. Which of the following statements is true regarding personal information about patients?
(A) Patients personal information may be discussed during coffee break
✓ (B) Must never be discussed outside the hospital
(C) May be discussed with other patients
(D) May be used for your personal advantage
60. Which of the following is true regarding a bacterial spore?
(A) A spore consists of a hard, thick walled capsule a spore consists of a hard, thick walled capsule
(B) Spores represent a resting and protective stage
(C) All bacteria forms spores
✓ (D) A & B
61. The destruction of erythrocytes to release hemoglobin is called
(A) Hemorrhage (B) Hemolysis
(C) Hemostasis (D) Hypoxia
62. Which is true regarding Zeil-Neelson staining EXCEPT?
(A) It is also called acid-fast staining
(B) Carbofufusion, acid-alcohol and methylene blue are used
(C) It is done to detect tuberculosis
✓ (D) The mycobacteria stain blue
63. What type of water should be used in an autoclave?
(A) Distilled water (B) Tap water
(C) Salt water (D) Mineral water
64. The common antiseptic that destroys HIV and HBV is
(A) Lysol (B) 1% Hypochlorite
(C) Iodine/ Chlorohexidine (D) B & C
65. The first line of defense of our body is _____.
✓ (A) T lymphocyte and B lymphocyte (B) Neutrophils and Eosinophils
(C) Antibody (D) Interferon
66. MSDS stands for
(A) Material Safety Data System (B) Material Safety Data Sheet
(C) Managing Safe Detail Sheet ✓ (D) Maintaining Safe Delivery Standards

67. _____ isoenzyme is elevated during myocardial infarction.
- (A) Amylase (B) G6-PD
(C) LDH (D) CK-MB
68. Leukopoiesis is
- (A) The synthesis of white blood cells
(B) An increase in the production of white blood cells
 (C) The destruction of white blood cells
(D) The synthesis of red blood cells
69. TSH is a hormone
- (A) Produced by the thyroid gland
 (B) Which stimulates T3 and T4 to be secreted
(C) Also produced by the parathyroid glands
(D) Which stimulates testosterone to be secreted
70. Identify the gland that releasing melatonin hormone in our body?
- (A) Adrenal Medulla (B) Pineal
(C) Anterior pituitary (D) Thymus
71. Which of the following is the best means of determining the effectiveness of the sterilization process?
- (A) Steam clox indicators (B) Culture tests
 (C) Autoclave tape (D) Sterilometers-thermolabile strips
72. A buffer is made from mixing a
- (A) Strong acid and strong base (B) Weak acid or base with salt
(C) Salt with organic acid (D) Weak acid with a weak base
73. The person having fasting condition, then its urine detects higher amount of _____.
- (A) Amino acids (B) Glucose
(C) Ketones (D) Fats
74. Which of the following an example of agglutination test?
- (A) SGPT (B) Glucose
(C) ESR (D) Blood group
75. Which of the following is correct method to determination of ESR?
- (A) Rapid test (B) Western blot
(C) CBC (D) Westergren
76. Which of the following ship was involved in 'Mission Sagar-II'?
- (A) INS Vikramaditya (B) INS Airavat
 (C) INS Kesari (D) INS Shakti

77. Atal Innovation Mission is set up under the
 (A) Niti Aayog
 (B) Department of Science and Technology
 (C) Ministry of Labour and Employment
 (D) Ministry of Skill Development and Entrepreneurship
78. RNA interference (RNAi) technology has gained popularity in the last few years, Why?
 1. It is used in developing gene silencing therapies.
 2. It can be used in developing therapies for the treatment of cancer
 3. It can be used to develop hormone replacement therapies.
 4. It can be used to produce crop plants that are resistant to viral pathogens.
 Select the correct answers using the code give below.
 (A) 1, 2 & 4 (B) 2 & 3
 (C) 1 & 3 (D) 1 & 4
79. Which one of the following is used in preparing a natural mosquito repellent?
 (A) Nut Grass (B) Elephant Grass
 (C) Congress Grass (D) Lemon Grass
80. Which one of the following ancient towns is well-known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs?
 (A) Kalibangan (B) Rakhigarhi
 (C) Dholavira (D) Ropar
81. Dingo Singh, an Asian Games gold medalist, who died in 2021, was associated with which one of the following games
 (A) Gymnastics (B) Archery
 (C) Boxing (D) Swimming
82. Avani Lekhara became the first Indian women to win two Paralympics medals at the Tokyo Paralympics 2020. Which one of the following was her discipline?
 (A) Badminton (B) Shooting
 (C) Table Tennis (D) Archery
83. Which one of the following are the primary colors of light?
 (A) Yellow, Red & Green (B) Violet, Red & Yellow
 (C) Blue, Red & Green (D) Indigo, Violet & Green
84. Point of Origin of Earthquake Wave is known as
 (A) Focus (B) Seismic Zone
 (C) Photosphere (D) Epicenter
85. The National Informatics Centre (NIC), under the Ministry of Electronics and Information Technology, has launched an instant messaging platform called
 (A) Samachar (B) Telegraph
 (C) Chat (D) Sandes

86. Which of the following statements are correct regarding National Payments Corporation of India (NPCI)
1. It is an initiative of RBI and Indian Banks Association
 2. It was incorporated as a 'Not for Profit' Company in 2008
 3. UPI, RuPay and BHIM app are the major products of NPCI
 4. This is an umbrella organization to operate Retail Payments and settlements systems in India.
- (A) 1, 2, 3, 4 (B) 1, 2, 3
 (C) 1, 3, 4 (D) 2, 3, 4
87. RT-PCR is a
1. Reverse Transcriptase polymerase chain reaction
 2. The use of PCR is to produce a large number of cDNA copies of mRNA.
 3. It is to produce millions of copies of the DNA from RNA
 4. It is used for the diagnosis of Covid 19 infection
- (A) 1, 2, 3, 4 (B) 1
 (C) 1, 2, 3 (D) 2, 3, 4
88. 'Hanging Minarets' is located in -
- (A) Lucknow (B) Ahmedabad
 (C) New Delhi (D) Agra
89. 'Heritage Walk' in the city of Ahmedabad, initiates/starts from one of the following?
- (A) Jama Masjid (B) Calico Dome
 (C) Lambeshwari ni pol (D) Swaminarayan Mandir, Kaiupur
90. The present Mayor of Ahmedabad Municipal Corporation is
- (A) Shri Bijal Patel (B) Shri Gautam Shah
 (C) Shri Amit Shah (D) Shri Kiritkumar Parmar
91. 'Right to privacy' is protected under which Article of the Constitution of India?
- (A) Article 15 (B) Article 19
 (C) Article 21 (D) Article 29
92. Who has the right of information under the Right of Information Act, 2005?
- (A) All individual in India including the foreigners residing in India
 (B) All individual in India, agencies of the state and the foreigners residing in India
 (C) All citizens of India
 (D) All agencies of the State
93. Which of the following features were borrowed by the Constitution of India from the British Constitution ?
- (A) Rule of Law (B) Law-making Procedure
 (C) Independence of Judiciary (D) Parliamentary Systems
94. The power to legislate on all matters relating to elections to Panchayats lies with
- (A) The Parliament of India (B) The Election Commission of India
 (C) The State Legislature (D) The State Election Commission

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95. What is the objective of the mission 'Indradhanush' started by the Government of India?
- (A) Strengthen the immune system for all children
(B) Assurance of affordable and quality health care for all
(C) Provide free dialysis services to the poor and support services to all patients
✓(D) Assurance of affordable and quality health care for all
96. With reference to 'Blockchain Technology', consider the following statements:
1. It is a public ledger that everyone can inspect but which no single user controls.
2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody's permission.
- Which of the statements given above is/are correct?
- (A) 1 only (B) 1 & 2 only
(C) 2 only (D) 1 & 3 only
97. The Operating System manages which of the following?
- (A) Memory ✓(B) Processor
(C) Disk and I/o Device (D) All of the above
98. Which of the following programming languages are classified as low level languages?
- (A) C, C++ (B) Java, Python
(C) BASIQCOBOL ✓(D) Assembly Languages
99. A VGA cable is used for computer video output, what does VGA stand for?
- (A) Visual Graphics Arrangement ✓(B) Video Graphic Array
(C) Volatile Graphics Array (D) Visual Graph Adaptor
100. In MS-Word, Home key is used for which of the following?
- (A) To move the cursor to the beginning of the document
(B) To move the cursor to the beginning of the line
(C) To move the cursor to the beginning of the paragraph
✓(D) To move the cursor to the beginning of the screen