1. Match the Following List-I with List-II

List - I	List - II
a. O negative	1. 3 Plasma component
b. AB positive	2. 2 Universal recipient
c. Fresh Frozen Plasma (FFP)	3. 1 Universal donor
d. Platelet concentrate	4. 4 Used in thrombocytopenia

Choose the correct match:

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

2. What is the correct chronological sequence of pre-operative verification steps immediately prior to transferring a patient from the holding area into the operating room suite?

A) Surgical site marking by the surgeon, followed by patient verbal identity confirmation, and immediate anesthesia induction in the holding area.
B) Patient verbal verification of identity/procedure/site, followed by surgical site marking by the operating surgeon while the patient is awake, concluding with final verbal verification in the holding area before transport.
C) Final verbal check by the circulating nurse, surgical site marking inside the operating room under general anesthesia, and patient consent re-verification.
D) Administration of pre-operative prophylactic antibiotics, patient identity check, and subsequent site marking by the circulating nurse.

3. Which of the statements are true regarding Quality Management

Statement I: Internal Quality Control (IQC) helps monitor the accuracy and precision of laboratory tests.

Statement II: External Quality Assessment (EQA) compares the performance of one laboratory with other laboratories.

Options:

A) Both Statement I and Statement II are true
B) Statement I is true and Statement II is false
C) Statement II is true and Statement I is false
D) Both Statement I and Statement II are false

4. Which of the statements are true regarding Laboratory Ethics

Statement I: Patient laboratory reports should be kept confidential.

Statement II: A laboratory technician may disclose patient results to unauthorized persons without the patient's consent.

Options:

A) Both Statement I and Statement II are true.
B) Statement I is true, but Statement II is false.
C) Statement I is false, but Statement II is true.
D) Both Statement I and Statement II are false.

5. Which of the statements are true regarding Laboratory test

Statement I: The Papanicolaou (Pap) stain is routinely used for cervical cytology.

Statement II: The Pap smear is a screening test used for the early detection of cervical cancer and precancerous lesions.

Options:

A) Both Statement I and Statement II are true.
B) Statement I is true, but Statement II is false.
C) Statement I is false, but Statement II is true.
D) Both Statement I and Statement are false.

6. Which of the statements are true regarding Gram Staining

Statement I: Gram-positive bacteria retain the crystal violet stain and appear purple under the microscope.

Statement II: Gram-negative bacteria appear pink or red after Gram staining due to the counterstain.

Options:

A) Both Statement I and Statement II are false.
B) Statement I is true, but Statement II is false.
C) Statement I is false, but Statement II is true.
D) Both Statement I and Statement II are true.

7. Which of the statements are true regarding Tuberculosis

Statement I: Ziehl-Nelsen stain is used to demonstrate acid-fast bacilli.

Statement II: Mycobacterium tuberculosis is an acid-fast bacterium.

Options:

A) Both Statement I and Statement II are true.
B) Statement I is true, but Statement II is false.
C) Statement I is false, but Statement II is true.
D) Both Statement I and Statement II are false.

8. Multiple Statement on Blood Component Storage and Shelf-Life

I. Packed Red Blood Cells (PRBCs) stored in CPDA-1 have a shelf-life of 35 days at 2°C to 6°C.
II. Platelet concentrates must be stored at 20°C to 24°C with continuous gentle agitation.
III. Fresh Frozen Plasma (FFP) can be stored for up to one year if kept at -18°C or colder.

Options:

A) I and II are correct
B) II and III are correct
C) I and III are correct
D) I, II, and III are correct

9. Arrange the steps of Gram staining in the correct sequence:
   I. Decolorization with alcohol/acetone
   II. Application of crystal violet
   III. Counterstaining with safranin
   IV. Application of Gram's iodine

   Options:
   A) IV → II → III → I
   B) II → IV → I → III
   C) II → I → IV → III
   D) III → II → IV → I

10. Arrange the following steps of routine tissue processing in the correct sequence:
   I. Dehydration
   II. Fixation
   III. Paraffin embedding
   IV. Clearing

   Options:
   A) II → I → IV → III
   B) I → II → III → IV
   C) II → IV → I → III
   D) IV → II → I → III

11. Arrange the steps of routine urine examination in the correct sequence:
   I. Chemical examination
   II. Specimen collection
   III. Microscopic examination of urine sediment
   IV. Physical examination

   Options:
   A) IV → II → I → III
   B) II → I → IV → III
   C) II → IV → I → III
   D) I → II → III → IV

12. Arrange the steps involved in preparing a peripheral blood smear in the correct sequence:
   I. Air dry the smear
   II. Place a drop of blood near one end of the slide
   III. Spread the blood using a spreader slide at an angle of about 30°-45°
   IV. Stain the smear with a Romanowsky stain (e.g., Leishman stain)

   Options:
   A) I → II → III → IV
   B) II → III → I → IV
   C) III → II → IV → I
   D) IV → II → III → I

13. Match the Term to its Definition

Set A: Record-Keeping Term	Set B: Correct Definition
a. ALCOA+	1. The process of tracking the life history of a sample from collection to disposal.
b. Chain of Custody	2. A temporary record used to hold data before it is entered into the official log.
c. Retrospective Validation	3. The foundational framework used to ensure data integrity in laboratory documentation.
d. Scratchpad Data	4. Establishing documented evidence that a record-keeping system does what it purports to do based on historical data.

Choose the correct match:

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

14. Which of the following TRUE regarding Cross-Matching

Statement I: Cross-matching is performed before issuing blood for transfusion.
Statement II: Cross-matching helps detect incompatibility between donor and recipient blood.

A) Statement I is false, but Statement II is true
B) Statement I is true, but Statement II is false.
C) Both Statement I and Statement II are true.
D) Both Statement I and Statement II are false.

15. A used sharp needle must go through which chronological disposal process in the OT?

I. Cut the needle using a needle destroyer
II. Drop the needle directly into a puncture-proof container
III. Send for final incineration
IV. Cap the needle

Options:

A) II-III
B) I-III
C) II-I
D) III-I

(Set - C)

16. Consider the following statements about Standard Operating Procedures (SOP) in a laboratory:

I. SOPs are step-by-step instructions that ensure consistent and high-quality test results.

II. Laboratory technicians do not need to follow SOPs if they have more than five years of experience.

III. SOPs must be reviewed and updated regularly to reflect changes in equipment or safety protocols.

Which of the above statements is/are correct?

A) I and II only

B) I and III only

C) II and III only

D) II, III, and I

17. Consider the following statements about reporting laboratory accidents:

I. All accidents, chemical spills, and injuries must be recorded in an official incident report.

II. Incident reports help the laboratory administration find ways to prevent the same accident from happening again.

III. Technicians should hide minor spills from supervisors to avoid getting into trouble.

Which of the above statements is/are correct?

A) II, III, and I are true

B) II and III only true

C) I and III only true

D) I and II only true

18. Consider the following statements regarding the chain of custody (sample tracking):

I. The chain of custody is the chronological documentation that shows the collection, custody, control, and transfer of a specimen.

II. Lab records must clearly state the date, time, and the name of the person handling the sample at every step.

III. It is acceptable to throw away original handwritten notes as long as the final digital results are saved.

Which of the above statements is/are correct?

A) I and II only

B) II and III only

C) I and III only

D) II, III, and I

19. Match the Quality Term in Column-A with its definition or goal in Column-B.

Column-A (Term)	**Column-B (Definition/Goal)**
a. SOP	1. The official, written step-by-step instructions for performing a lab test.
b. Logbook	2. A chronological, daily record of all samples received
c. Calibration	3. Adjusting testing equipment so its results match known, standard values.
d. Maintenance	4. Regular cleaning and checking of machines to prevent sudden breakdowns.
e. Quality Control	5. Daily tests run on machines to ensure the accuracy of results

Choose the correct match:

A) a-1, b-2, c-3, d-4, e-5
B) c-1, b-2, a-4, d-5, e-3
C) a-2, b-3, c-4, d-5, e-1
D) d-1, e-2, c-3, b-5, a-4

20. Match the Type of Record in Column-A with its Primary Administrative Purpose in Column-B.

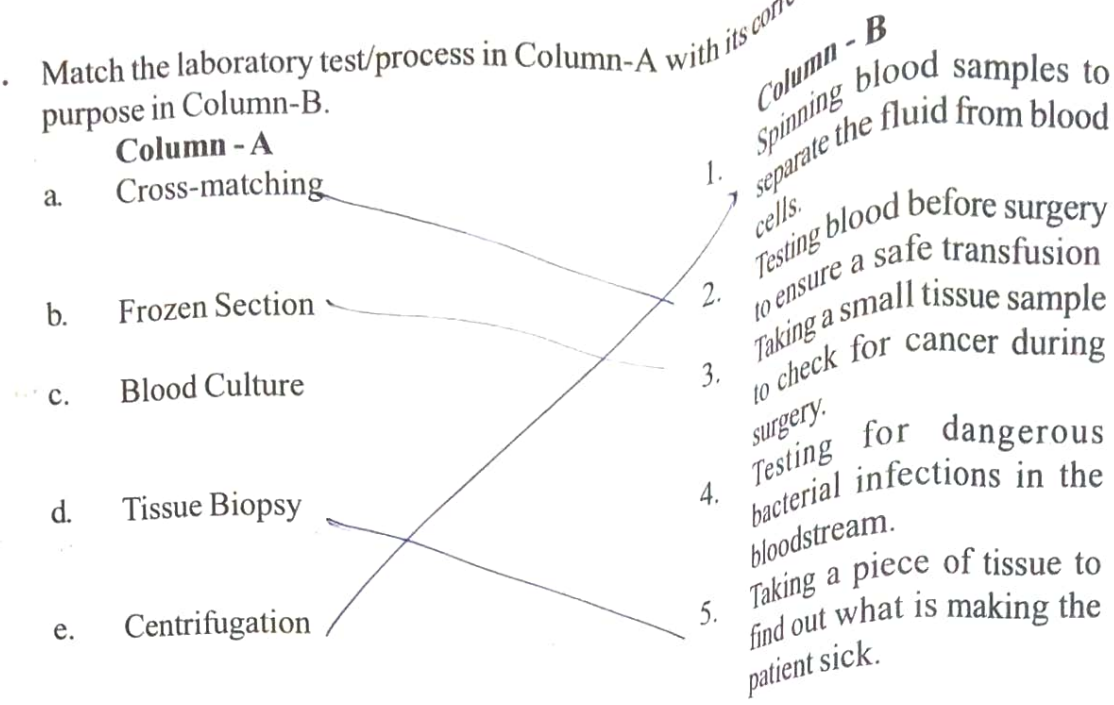
Column-A (Record Type)	**Column-B (Purpose)**
a. Biohazard Waste Log	1. Proves the lab follows safe environmental and disposal laws
b. Reagent Inventory	2. Shows exactly what chemicals are in stock and when they expire
c. Patient Lab Report	3. The official document used by doctors to make a medical diagnosis.
d. Maintenance Record	4. Provides a history of repairs and checks for lab equipment.
e. UHID (Unique ID)	5. Ensures that patient samples are never mixed up or lost.

Choose the correct match:

A) a-3, b-4, c-5, d-1, e-2
B) a-1, b-2, c-3, d-4, e-5
C) a-2, b-3, c-4, d-5, e-1
D) a-4, b-5, c-1, d-2, e-3

(Set - C)

21. Match the laboratory test/process in Column-A with its correct surgical or diagnostic purpose in Column-B.



Choose the correct match:

A) a-2, b-3, c-4, d-5, e-1
B) a-1, b-3, c-2, d-4, e-5
C) a-1, b-2, c-3, d-4, e-5
D) a-5, b-4, c-3, d-2, e-1

22. What is the standard culture medium used for performing antibiotic sensitivity testing?

A) Nutrient Broth
B) MacConkey Agar
C) Blood Agar
D) Mueller-Hinton Agar

23. What is the best way for a technician to break the chain of infection in the OT?

A) Wearing heavy makeup
B) Using strong body spray
C) Frequent and correct hand washing
D) Touching sterile items with bare hands

24. Arrange the following steps for wearing PPE in the correct chronological order before entering a sterile operation theatre:

I. Perform hand hygiene
II. Wear gown
III. Wear face mask and eye protection
IV. Wear gloves
V. Wear head cap

Options:

A) I-V-III-II-IV
B) I-II-III-IV-V
C) II-III-IV-V-I
D) III-IV-I-II-V

25. What is the primary purpose of adding Kovac's reagent to a microbial culture?
A) To test for catalase production
B) To perform a gram stain
C) To test for indole production
D) To measure bacterial motility

26. What is the primary purpose of logging expiration dates on laboratory reagent bottles?
A) To make the shelves look neat
B) To ensure test accuracy by using fresh chemicals
C) To order more of the same brand
D) To comply with fire safety rules

27. Which of the following is the proper technique for removing contaminated medical gloves?
A) Pull from the fingertips and snap off
B) Wash gloved hands with bleach first
C) Use scissors to cut them off
D) Peel from the wrist and roll inward

28. The Schick's test is clinically used to indicate an infection of which disease?
A) Diphtheria
B) Measles
C) Mumps
D) Rubella

29. Which bacteria is shaped like a curved rod or a comma?
A) Escherichia coli
B) Bacillus anthracis
C) Vibrio cholerae
D) Treponema pallidum

30. The Widal test is commonly used to diagnose which of the following diseases?
A) Malaria
B) Tuberculosis
C) Typhoid
D) HIV

31. Which of the following bacteria is responsible for causing tuberculosis?

A) Staphylococcus aureus

B) Mycobacterium tuberculosis

C) Streptococcus pneumoniae

D) Pseudomonas aeruginosa

32. Which of the following methods is the safest and most efficient for the disposal of hospital biomedical waste?

A) Open dumping

B) Composting

C) Incineration

D) Deep burial without burning

33. What is the minimum alcohol concentration recommended for an alcohol-based hand rub to be effective against a broad spectrum of pathogens in healthcare settings?

A) 40%

B) 60%

C) 50%

D) 95%

34. Which antiseptic agent is commonly preferred for surgical skin preparation or advanced skin antisepsis due to its persistent antimicrobial activity?

A) 70% Isopropyl alcohol

B) Hydrogen peroxide

C) Chlorhexidine gluconate

D) Povidone-iodine

35. When should a healthcare worker use soap and water instead of an alcohol-based hand rub?

A) Before putting on sterile gloves

B) After touching a patient's intact skin

C) Before entering an isolation room

D) When hands are visibly soiled or contaminated with bodily fluids

36. Pair the health education methods with their ideal uses

Teaching Method	Ideal Uses
a. Flash Cards	1. Used for sequenced storytelling and quick health message retention in small groups.
b. Posters	2. Highly effective for delivering simple, clear visual messages to large groups, including those with low literacy.
c. Role Play	3. A communication method allowing learners to practice health behaviors and develop empathy.
d. Symposium	4. A formal method where multiple experts present different aspects of a specific health issue to an audience

Choose the correct option:

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

37. What is the correct chronological sequence of steps for safely lifting a heavy, compressed gas cylinder from the floor in a laboratory setting?

A) Bend at the waist, widen stance, bring the cylinder to chest level, and then engage core muscles.
B) Lift immediately using back extensors, adjust footing mid-lift, and bring the load close at the top.
C) Assess the weight and pathway, establish a wide base of support, flex the knees with a straight spine, bring the cylinder close to your center of gravity, and drive upward using lower limb extensors.
D) Pull the cylinder toward the body using arms, lock the knees, twist slightly to clear the rack, and lift.

38. A laboratory assistant accidentally disposes of a broken glass Pasteur pipette contaminated with blood into a standard red plastic biohazard bag. What makes this a dual compliance violation?

A) Glassware must go into a puncture-resistant blue/white container; red bags risk puncture injuries and improper segregation.
B) Blood-contaminated glass must always be incinerated inside yellow bags only.
C) Glassware cannot be autoclaved under any circumstances.
D) Red bags are reserved exclusively for animal carcasses.

39. Under standard biomedical waste management protocols, which color-coded container is specifically designated for the disposal of discarded human and animal anatomical waste, soiled cotton, dressings, and plaster casts containing blood or body fluids?

A) Red container/bag
B) Yellow container/bag
C) White/Translucent container
D) Blue container

40. Multiple statements of Clinical Signs of Severe Dehydration in Patients.

I. A patient with severe dehydration typically exhibits a slow, bounding pulse, reduced blood pressure, and warm, flushed skin.
II. Skin turgor in severe dehydration remains flat and elastic when pinched.
III. A decrease in urinary output (oliguria) is a classic clinical indicator of severe dehydration.
IV. Sunken eyes and depressed fontanelles (in infants) are common clinical signs of severe dehydration

Which of the above statements are correct?

A) Statements I, II, and III are correct
B) Statements III and IV are correct
C) Statements II and IV are correct
D) Statements I and II are correct

41. In the standard WHO Surgical Safety Checklist continuum, what is the correct chronological occurrence of the three core phases relative to the patient's presence in the operating suite?

A) Sign In (before induction) → Time Out (before skin incision) → Sign Out (before patient leaves OR)
B) Time Out (before induction) → Sign In (before skin incision) → Sign Out (before patient leaves OR)
C) Sign In (before skin incision) → Time Out (before induction) → Sign Out (before recovery)
D) Time Out (before incision) → Sign Out (during incision) → Sign In (post-op)

42. When organizing a standard surgical or procedural instrument tray, what is the core rationale for the sequential left-to-right (or functional tier) arrangement?

A) To balance the weight distribution of the stainless-steel tray evenly during autoclaving
B) To allow the assistant to stack sharp cutting tools underneath heavy clamps to prevent dulling
C) To facilitate workflow efficiency and allow the operator to anticipate and retrieve tools in order of use without breaking the sterile field
D) To ensure that chemical indicator strips touch every single instrument handle simultaneously

43. Match the emergency condition in Column-A with the immediate first-aid action in Column-B.

Column-A		Column-B
a. Severe Bleeding	1.	Apply direct pressure to the wound
b. Fainting	2.	Elevate legs and loosen tight clothing
c. Chemical Burn (Eye)	3.	Flush with continuous running water for 15+ minutes
d. Heat Stroke	4.	Move to a cool place and apply cold compresses

Choose the correct match:

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

44. An open abdominal surgery requires the use of an alcohol-based chlorhexidine gluconate skin antiseptic solution. What is the critical safety mandate regarding the application and drying phase to prevent operating room fires during electrosurgery?

A) The prep solution must be applied with a metal clamp and rinsed with sterile water immediately before draping.
B) The electrosurgical unit must be grounded via a redundant dual-pad system before the skin prep application begins.
C) The liquid must be completely dried and vapours allowed to fully dissipate from skin folds and pooling sites (e.g., umbilicus) prior to draping or ignition sources.
D) An oxygen-enriched environment must be maintained under the surgical drapes to dilute any residual alcohol fumes.

45. Which of the following statements are true

I. India was the first country in the world to initiate a state-sponsored Family Planning Programme.
II. The National Family Welfare Programme was originally launched in 1952.
III. Raghunath Dhondo Karve is widely recognized as the 'Father of Family Planning' in India.
IV. The symbol for the Indian Family Welfare Programme is an inverted red triangle.

Which of the above statements are true/false?

A) Statements I, II, and IV are true; Statement III is false.
B) Statements I, II, and III are true; Statement IV is false.
C) Statements I, II, III and IV are true.
D) Statements I, III, and IV are true; Statement II is false

46. Which of the following statements are correct

I. Primary prevention aims to prevent disease before it occurs through health promotion and specific protections (e.g., vaccination).

II. Secondary prevention involves early diagnosis and prompt treatment to halt the disease process (e.g., screening tests).

III. Tertiary prevention is focused on rehabilitation and restoring optimal function.

IV. Contact tracing and administration of prophylactic drugs are examples of primary prevention.

Which of the above statements are correct?

A) I, II, and III

B) I and II only

C) II, III, and IV

D) I, III, and IV

47. When performing chemical tests for ketone bodies using Rothera's nitroprusside test, which specific ketone body reacts poorly or fails to react, potentially underestimating severe ketoacidosis?

A) Acetone

B) Acetoacetic acid

C) Beta-hydroxybutyrate

D) Diacetic acid

48. Match the communication barrier to the correct challenge.

a.	Psychological Barrier	1.	Using complex medical jargon with rural patients
b.	Physiological Barrier	2.	Hearing impairment or speech difficulty
c.	Semantic Barrier	3.	Distrust, fear, or preconceived notions about government workers
d.	Cultural Barrier _____	4.	Traditional beliefs that conflict with modern health practices

Choose the correct match:

A) a-1, b-2, c-3, d-4 .

B) a-3, b-4, c-2, d-1

C) a-3, b-2, c-1, d-4

D) a-2, b-3, c-4, d-1

49. Transfusion-Related Acute Lung Injury (TRALI) is primarily mediated by which mechanism in transfused blood products?

A) Bacterial endotoxin contamination

B) Donor leukocyte antibodies reacting with recipient white blood cells

C) Rapid volume overload causing hydrostatic pulmonary edema

D) IgM-mediated acute intravascular hemolysis

50. What is the precise chronological sequence of processing contaminated surgical instruments upon arrival at the Central Sterile Services Department (CSSD) prior to final sterilization?

A) Washing and enzymatic cleaning → Decontamination/Sorting → Inspection and Packaging → Sterilization

B) Decontamination/Sorting → Washing and Enzymatic Cleaning → Inspection, Testing & Packaging → Sterilization

C) Inspection and Packaging → Decontamination → Washing → Sterilization

D) Washing → Inspection and Packaging → Decontamination → Sterilization

51. Consider the following statements regarding empathetic communication in healthcare:

I. Empathy is the ability to feel *exactly* what the patient is feeling rather than just understanding their perspective.

II. Active listening, such as maintaining eye contact and nodding, is a vital component of empathetic communication.

III. Showing empathy helps build trust and reduces patient anxiety during a consultation.

Which of the above statements are correct?

A) I and II only

B) II and III only

C) I and III only

D) I, II, and III

52. Match the disease with its correct causative pathogen or vector type.

a. Malaria	1. Bacteria (Salmonella typhi)
b. Typhoid	2. Droplet infection
c. HIV	3. Female Anopheles Mosquito
d. Influenza	4. Virus

Choose the correct match:

A) a-1, b-2, c-3, d-4

B) a-2, b-3, c-4, d-1

C) a-3, b-1, c-4, d-2

D) a-4, b-1, c-3, d-2

(Set - C)

53. Which of the following clinically significant blood bank antibodies is characteristically neutralized by human or synthetic substance/secretions?

A) Anti-D

B) Anti-K

C) Anti-Le^a (Lewis)

D) Anti-Fy^a (Duffy)

54. Which rare phenotype lacks all antigens of the Rh blood group system, resulting in stomatocytosis and hemolytic anemia?

A) Bombay phenotype (\(O_{h}\))

B) Rhnull phenotype

C) McLeod phenotype

D) Lu(a-b-) phenotype

55. A junior assistant accidentally breaches patient confidentiality by discussing a rare infectious disease result with an unauthorized staff member in the cafeteria. Which ethical principle is primarily violated, and what legal/professional term applies?

A) Beneficence; Malpractice

B) Autonomy; Negligence

C) Non-maleficence; (Tort)

D) Justice; Misfeasance

56. Pair the following regarding Drug Administration

a.	Intramuscular (IM) route	1.	90-degree needle angle
b.	Intradermal (ID) route	2.	10-to-15-degree angle
c.	Subcutaneous (SC) route	3.	45-degree needle angle
d.	Intravenous (IV) route	4.	25-degree needle angle

Choose the correct option:

A) a-1, b-2, c-3, d-4

B) b-1, a-2, c-4, d-3

C) c-1, d-2, b-3, a-4

D) d-1, a-2, c-3, b-4

57. Match the specific graphic aid to its distinct purpose in public health.

Column-A (Graphic Aid)	Column-B (Primary Purpose)
a. Pie graph	1. Shows relationships, workflows, or step-by-step disease Development
b. Map	2. Shows numerical statistics as proportions of a whole
c. Flow chart	3. Displays the location of outbreaks or disease Distributions
d. Chalkboard	4. Oldest, most basic tool for outlining and illustrating facts

Choose the correct match:

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

58. Consider the following statements regarding the principles of health education:

I. Health education aims to develop health as a major community asset.
II. The educational process should be forced upon the community to ensure compliance.
III. Health education should begin with the interests and current knowledge of the people.
IV. Motivation is a critical step in translating health knowledge into healthy behavior.

Which of the above statements are correct?

A) I, II, and III only
B) I, III, and IV only
C) II, III, and IV only
D) All of the above

59. Under the ISO 15189 standard for medical laboratories, what is the primary distinction between Internal Quality Control (IQC) and External Quality Assessment (EQA)?

A) IQC monitors daily precision and analytical variation, whereas EQA evaluates overall method accuracy via inter-laboratory comparison.
B) IQC is mandatory for accreditation, while EQA is completely optional.
C) EQA detects random analytical errors, whereas IQC detects systemic calibration drift.
D) IQC evaluates the post-analytical phase, while EQA evaluates the pre-analytical phase.

60. Which of the following describes a situation representing an analytical error rather than a pre-analytical or post-analytical mistake?

A) Incorrect patient identification during venipuncture
B) Transcribing a potassium value of 6.2 mmol/L as 2.6 mmol/L on the report
C) Pipetting an incorrect volume of sample due to a poorly calibrated automatic micro-pipette
D) Processing a hemolyzed blood sample for a serum potassium test without noting the limitation

61. Which cellular organelle contains enzymes that degrade hydrogen peroxide and synthesize plasmalogens?

A) Lysosome
B) Peroxisome
C) Mitochondria
D) Golgi apparatus

62. What type of epithelium lines the proximal convoluted tubules of the kidney, specialized for reabsorption?

A) Simple squamous epithelium
B) Pseudostratified ciliated columnar epithelium
C) Simple cuboidal epithelium with microvilli
D) Transitional epithelium

63. In the cardiac action potential, phase 0 depolarization in ventricular myocytes is primarily driven by the rapid influx of which ion?

A) Potassium (K^+)
B) Calcium (Ca^{2+})
C) Chloride (Cl^-)
D) Sodium (Na^+)

64. What is the normal physiological value of the capillary filtration coefficient (K_f) in standard Starling forces across a capillary bed?

A) Net driving pressure minus interstitial pressure
B) The product of hydraulic conductivity and surface area
C) Total plasma protein concentration divided by blood flow
D) Oncotic pressure gradient per unit time

65. Which leukocyte type releases heparin and histamine, playing a major role in systemic allergic/anaphylactic responses?

A) Basophil
B) Monocyte
C) Lymphocyte
D) Neutrophil

66. The counter current multiplier system in the loop of Henle establishes an osmotic gradient in the renal medulla due to the water-impermeable nature of which segment?
A) Thin descending limb
B) Thick ascending limb
C) Collecting duct
D) Proximal straight tubule

67. A decrease in arterial blood pH (acidosis) shifts the oxyhaemoglobin dissociation curve in which direction, and what is this effect called?
A) Left; Haldane effect
B) Right; Haldane effect
C) Left; Bohr effect
D) Right; Bohr effect

68. Which glial cell type is responsible for myelin sheath formation in the central nervous system?
A) Schwann cell
B) Astrocyte
C) Oligodendrocyte
D) Microglia

69. Tropic hormones released by the anterior pituitary gland are regulated by releasing and inhibiting hormones produced in which brain region?
A) Thalamus
B) Hypothalamus
C) Pons
D) Amygdala

70. What is the normal pH range for human arterial blood?
A) 6.35 - 6.85
B) 7.15 - 7.35
C) 7.35 - 7.45
D) 7.55 - 7.85

71. Which of the following cells is responsible for producing insulin in the pancreas?
A) Alpha cells
B) Beta cells
C) Delta cells
D) Acinar cells

72. Immunoglobulin are which type of protein in nature
A) Alpha globulin
B) Beta globulin
C) Gamma globulin
D) Delta globulin

(Set - C)

73. In hematology, which organ is responsible for the destruction of old and damaged red blood cells?

A) Liver
B) Lymph nodes
C) Bone marrow
D) Spleen

74. Which of the following is the most abundant type of White Blood Cell (WBC) in normal human blood?

A) Lymphocyte
B) Eosinophil
C) Neutrophil
D) Basophil

75. Consider the following statements about digestive physiology:

I. Hydrochloric acid (HCl) in the stomach is secreted by parietal cells.
II. The liver produces bile, which is stored and concentrated in the gallbladder.
III. Amylase is the primary enzyme responsible for protein digestion.
IV. The primary site of nutrient absorption is the small intestine.

Choose the correct option:

A) Statements I and III are true.
B) Statements I, II, and IV are true.
C) Statements II, III, and IV are true.
D) All statements are true.

76. Assess the following statements regarding endocrine glands and their hormones:

I. The anterior pituitary gland produces Thyroid-Stimulating Hormone (TSH) and Growth Hormone (GH).
II. The adrenal medulla secretes adrenaline and noradrenaline.
III. Insulin is produced by the beta cells of the pancreatic islets.
IV. The pineal gland is responsible for regulating blood calcium levels.

Choose the correct option:

A) Statements I, II, and III are true.
B) Statements I and IV are true.
C) Statements II, III, and IV are true.
D) All statements are true.

77. Review the following statements about the human heart and circulation:

I. The pulmonary artery carries oxygenated blood from the lungs to the left atrium.
II. The mitral (bicuspid) valve is located between the left atrium and left ventricle.
III. The sinoatrial (SA) node functions as the natural pacemaker of the heart.
IV. Deoxygenated blood returns to the right atrium via the superior and inferior vena cava.

Choose the correct option:

A) Statements I and III are true.
B) Statements II, III, and IV are true.
C) Statements I, II, and IV are true.
D) All statements are true.

78. Consider the following statements regarding the formed elements of blood:

I. Platelets (thrombocytes) are cell fragments derived from megakaryocytes.
II. Basophils are granulocytes that release histamine and heparin during inflammatory reactions.
III. Mature erythrocytes contain a nucleus to maximize oxygen-carrying capacity.
IV. Eosinophils increase in number during parasitic infections and allergic reactions.

Choose the correct option:

A) Statements I, II, and IV are true.
B) Statements I and III are true.
C) Only Statement III is true.
D) All statements are true.

79. Match the following:

Column-A (Term)	**Column-B (Definition)**
a. Standard Precautions	1. Normal breaths per minute in a healthy adult
b. 12-20/min	2. The rule to treat all blood as if it column carries infections
c. Vital Signs	3. Cleaning process that kills most germs on surfaces
d. Disinfection	4. Temperature, pulse, blood pressure, and breathing rate

Choose the correct match:

A) b-2, c-1, d-3, a-4
B) a-1, b-2, c-3, d-4
C) c-2. d-4, a-1, b-3
D) b-1, c-4, d-3, a-2

80. Match the following:

a. Bone Marrow	1. Site of haematopoiesis and blood cell derivation
b. Islets of Langerhans	2. Secretion site for insulin and glucagon
c. Thyroid Gland	3. Secretion site for calcitonin and metabolic regulation
d. Lysosome	4. Intracellular digestion via hydrolytic enzymes

Choose the correct match:

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

81. Match the following

a. ACTH and TSH	1. Adrenal Cortex
b. Glucocorticoids	2. Anterior Pituitary Gland
c. PPD Derivative (Tuberculin)	3. Produced by Hepatocytes (Liver) / Stored in Gallbladder
d. Bile	4. Used for Type IV Hypersensitivity evaluation (Mantoux)

Choose the correct match:

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

82. Which of the following statements are true regarding respiration

I. Alveoli are the main sites for gas exchange in the lungs.
II. Oxygen moves across the alveolar-capillary membrane by active transport.
III. The diaphragm moves down during inhalation.
IV. Carbon dioxide levels in the blood control the normal breathing rate

Options:

A) Statements I, III, and IV are true.
B) Statements I and II are true.
C) Statements II, III, and IV are true.
D) All statements are false.

83. Match the following

a.	Nephron	1.	Pumps oxygenated blood to the body
b.	Left Ventricle	2.	Filters blood and forms urine
c.	Alveoli	3.	Produces bile for fat digestion
d.	Liver	4.	Site of gas exchange in the lungs

Choose the correct match:

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

84. Match the following with regard to basic cells of the body

a.	Epithelial Tissue:	1.	Covers body surfaces and lines organs.
b.	Connective Tissue:	2.	Supports and connects other body tissues (like bone and blood).
c.	Muscle Tissue:	3.	Contracts to cause body movement.
d.	Nervous Tissue:	4.	Sends fast messages across the body.

Choose the correct match:

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

85. Match the following regarding anatomical terms

a.	Anterior:	1.	The back side of the body.
b.	Posterior:	2.	The front side of the body.
c.	Superior:	3.	Toward the feet or lower part
d.	Inferior:	4.	Toward the head or upper part.

Choose the correct match:

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

(Set - C)

86. Which of the following statements are true

I. The nucleus holds DNA. Mitochondria make energy. Ribosomes make proteins.

II. Epithelial tissue covers body surfaces. Muscle tissue helps with movement.

III. Skeletal system: Bones store calcium. Red bone marrow makes blood cells. The adult human body has 206 bones.

IV. Muscular system: Muscles need calcium and ATP to contract. Actin and myosin are protein filaments in muscle fibres.

Options:

A) I, IV, and II are true

B) II, III and IV are true

C) All the statements are true

D) Only I and II are true

87. Which choice shows the correct order of the body's structural hierarchy from simplest to most complex?

A) Organ → Tissue → Cell → Chemical → Organ system → Organism

B) Chemical → Cellular → Tissue → Organ → Organ system → Organism

C) Cellular → Chemical → Organ → Tissue → Organism → Organ system

D) Tissue → Cell → Organ → Organ system → Organism → Chemical

88. What is the correct sequence of the steps involved in the human digestive process?

A) Digestion → Ingestion → Absorption → Egestion → Assimilation

B) Absorption → Digestion → Ingestion → Egestion → Assimilation

C) Ingestion → Absorption → Digestion → Assimilation → Egestion

D) Ingestion → Digestion → Absorption → Assimilation → Egestion

89. Match the Lab Equipment to its Public Health Use

	Instrument		Use
a.	Autoclave	1.	Sterilizing lab glass and killing all germs
b.	Hot Air Oven	2.	Sterilizing sharp tools like metal needles
c.	Centrifuge	3.	Spinning blood to separate plasma
d.	Incubator	4.	Growing bacteria at a warm body temperature

Choose the correct match:

A) a-2, b-3, c-4, d-1

B) a-1, b-2, c-3, d-4

C) a-3, b-4, c-1, d-2

D) a-4, b-1, c-2, d-3

90. Identify the correct statements about bathing a bedridden patient.
Statement I: Bed baths help improve blood flow in the skin.
Statement II: The water temperature should be hot (above 45°C) to kill surface bacteria.
Statement III: You should wash the patient's face first.
Statement IV: Soapy water should be left on the skin to act as a barrier.
Options:
A) Statements I and III are correct.
B) Statements II and III are correct.
C) Statements I, II, and III are correct.
D) Statements II, III, IV, and I are correct.

91. Arrange the steps of proper hand washing according to the World Health Organization (WHO) guidelines.
I. Rub hands palm to palm
II. Wash palms with fingers interlaced
III. Wet hands with water
IV. Rinse hands with water
V. Apply soap
Options:
A) III → I → V → II → IV
B) V → III → I → II → IV
C) III → V → I → II → IV
D) V → I → II → III → IV

92. Which statements correctly describe the spread and prevention of communicable diseases?
Statement I: Tuberculosis (TB) is an airborne disease spread through coughs and sneezes.
Statement II: Handwashing is one of the most effective ways to stop the spread of germs in the home.
Statement III: Malaria is a waterborne disease that you catch by drinking dirty water.
Statement IV: Health education teaches people how to change habits to avoid getting sick.
Options:
A) Statements I and II are correct.
B) Statements II, III, and I are correct.
C) Statements II, III, IV, and I are correct.
D) Statements I, II, and IV are correct.

93. What is the most important step to prevent the spread of infections in a sick room?
A) Changing the bed sheets daily and sending for washing
B) Washing hands thoroughly with soap
C) Keeping the windows and doors closed
D) Giving the patient antibiotics for a week

94. What does the term "personal hygiene" include?
A) Cleaning the hospital floors and windows and doors
B) Bathing, brushing teeth, and washing hands
C) Sterilizing laboratory glass tubes and instruments
D) Organizing medical files and reports

95. Which bacteria cause waterborne diseases like cholera?
A) Vibrio cholerae
B) Salmonella typhi
C) Mycobacterium tuberculosis
D) Clostridium tetani

96. What is the best way to destroy all microbes on glass lab tools?
A) Washing with soap
B) Freezing
C) Autoclaving
D) Wiping with alcohol

97. Which of the following is the first and most critical step before sterilizing reusable surgical instruments?
A) Wrapping them in cotton
B) Decontamination and cleaning
C) Immediate storage in a cold room
D) Dipping them in oil

98. What is the standard physical indicator for the most common steam sterilization (autoclave) cycle?
A) 100 °C at 10 psi for 10 minutes
B) 121 °C at 15 psi for 15-20 minutes
C) 150 °C at 30 psi for 30 minutes
D) 60 °C at 5 psi for 60 minutes

99. What is the shelf life of a surgical instrument set that is double-wrapped in two layers of CSR (Central Supply Room) wrap?
A) 24 hours
B) 6 months
C) 30 days
D) One year

100. What is the primary purpose of logging expiration dates on laboratory reagent bottles?
A) To make the shelves look neat
B) To ensure test accuracy by using fresh chemicals
C) To order more of the same brand
D) To comply with fire safety rules

101. When restocking instrument trays, which safety practice must the technician strictly follow?
A) Check for cracks in glassware and expiry dates
B) Clean the shelves with soap only
C) Place heavy items on the top shelf
D) Leave the trays unwrapped until the doctor arrives

102. What should staff wear when they wash and handle dirty, used surgical tools?
A) Regular clothes and surgical shoes
B) Just gloves and surgical shoes
C) Personal Protective Equipment
D) Mask and surgical shoes

103. Why is a unidirectional (one-way) flow used in the CSSD?
A) To save electricity and time
B) To stop dirty tools from crossing paths with clean tools
C) To make staff work faster and safely
D) To make the rooms look bigger and spacious

104. What is the primary purpose of the WHO Surgical Safety Checklist in the OT?
A) To keep track of surgical instruments and other materials
B) To promptly distribute the articles and materials
C) To record the time of the surgery procedure
D) To reduce surgical errors and improve patient safety

105. Which document describes the step-by-step procedure for performing a laboratory test?
A) Attendance Register and Bio-metrics
B) Stock Register and inventory control
C) Standard Operating Procedure
D) Salary Register and accounts register

106. Which quality control measure helps detect errors in laboratory testing?
A) Internal Quality Control
B) Patient Register
C) Billing Record
D) Appointment Book

107. Which stain is most commonly used for routine cytological examination of cervical smears?
A) Gram stain
B) Ziehl-Neelsen stain
C) Papanicolaou (Pap) stain
D) Giemsa stain

108. Which of the following bacteria retains the crystal violet stain and appears purple after Gram staining?
A) Escherichia coli
B) Salmonella Typhi
C) Vibrio cholerae
D) Staphylococcus aureus

109. Which specimen is most commonly used for the diagnosis of pulmonary tuberculosis?
A) Urine
B) Sputum
C) Stool
D) Blood

110. Which of the following is the primary purpose of cytological examination?
A) To identify blood groups and Hb level in the blood
B) To study cells for abnormalities, including cancer
C) To estimate blood glucose levels and other components
D) To measure serum electrolytes and their abnormalities

111. Which fixative is most commonly used for routine histopathological tissue fixation?
A) 10% Methanol formula
B) 10% Acetone formula
C) 10% Neutral Buffered Formalin
D) 10% Ethanol formula

112. Which instrument is used to cut thin sections of paraffin-embedded tissue for microscopic examination?
A) Centrifuge
B) Cryostat
C) Microtome
D) Autoclave

113. Which stain is routinely used for the microscopic examination of tissue sections in histopathology?
A) Gram stain
B) Ziehl-Neelsen stain
C) Giemsa stain
D) Haematoxylin and Eosin (H&E) stain

114. What is the primary purpose of tissue fixation in histopathology?
A) To increase tissue size and prevent decomposition
B) To dissolve tissue proteins and prevent decomposition
C) To preserve tissue architecture and prevent decomposition
D) To stain the tissue permanently and prevent decomposition

115. Match List-I with List-II.

List - I	List - II
a. Standard Operating Procedure (SOP)	1. Protects laboratory personnel
b. Personal Protective Equipment (PPE)	2. Step-by-step laboratory Procedure
c. Internal Quality Control (IQC)	3. Monitors accuracy of test results
d. Confidentiality	4. Protects patient information

Choose the correct match:

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

116. Match List-I with List-II.

List - I	List - II
a. Calibration	1. Maintains reagent records
b. Stock Register	2. Ensures equipment accuracy
c. Biomedical Waste Segregation	3. Safe disposal of laboratory waste
d. Laboratory Ethics	4. Honesty and professional conduct

Options:

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

117. Match the Following

List - I	List - II
a. Papanicolaou (Pap) stain	1. Tuberculosis bacilli
b. Gram stain	2. Cervical cytology
c. Ziehl-Neelsen stain	3. Differentiates Gram-positive and Gram-negative bacteria
d. Potassium hydroxide (KOH) mount	4. Demonstration of fungal elements

Choose the correct match:

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

118. Match List-I with List-II.

List-I	**List-II**
a. Staphylococcus aureus	1. Acid-fast bacillus
b. Escherichia coli	2. Gram-positive cocci
c. Mycobacterium tuberculosis	3. Gram-negative bacillus
d. Candida albicans	4. Yeast (fungus)

Choose the correct match:

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

119. Match the following List-I with List-II.

List-I	**List - II**
a. 10% Neutral Buffered Formalin	1. Routine tissue stain
b. Microtome	2. Tissue fixative
c. Hematoxylin	3. Cuts thin tissue sections
d. Eosin	4. Stains cytoplasm pink

Choose the correct match:

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

120. Match the following List-I with List-II.

List - I	**List - II**
a. Paraffin embedding	1. Removes water from tissue
b. Tissue dehydration	2. Produces permanent tissue block
c. Xylene	3. Clearing agent
d. Frozen section	4. Rapid intraoperative diagnosis

Choose the correct match:

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