

**POST OF JUNIOR SCIENTIFIC OFFICER IN TAMIL NADU
FORENSIC SCIENCES SUBORDINATE SERVICE -2023**

COMPUTER BASED TEST

PAPER –I

FORENSIC SCIENCE

(P.G. DEGREE STANDARD)

1. The examination of bullets, cartridge cases, shot gun shells and ammunition of all types is the responsibility of the
(A) Serology unit
(B) ~~Fire arm unit~~
(C) Toxicology unit
(D) Biology unit
(E) Answer not known

2. Which of the following is called as 'Nite Eye'?
(A) Surveillance camera
(B) Telescope
(C) Binoculars
(D) ~~Snooper scope~~
(E) Answer not known

3. Two main functions of chemical examiners laboratories during 19th Century is
(A) to identify poison, to examine liquor
(B) to identify blood and semen stains, to examine drugs
(C) ~~to identify poison, to identify blood and semen stains~~
(D) to examine liquors, to examine drugs
(E) Answer not known

4. Who is not authorised to examine currency, stamps, stamp papers etc to determine whether they are genuine or fake?
(A) ~~Investigating Officer~~
(B) Mint Master
(C) Government Examiner to questioned Documents
(D) Chemical Examiner
(E) Answer not known

5. The first forensic DNA typing unit established in India at
- (A) CFSC, Hyderabad in 1995 (B) CFSC, Chandigarh in 1998
 (C) CFSC, Calcutta in 1998 (D) FSD, Chennai in 1995
(E) Answer not known
6. Forensic Science is a scientific discipline which is directed towards
- (A) Recognition and Individualization
(B) Identification and Evaluation
(C) Recognition and identification
 (D) Recognition, identification, individualization and evaluation
(E) Answer not known
7. The cause of death can be decided only by a
- (A) Forensic Toxicologist (B) Forensic Biologist
 (C) Medical Examiner (D) Forensic Anthropologist
(E) Answer not known
8. Electro encephalograph is used in which of the following technique?
- (A) Brain mapping (B) Narco analysis
(C) Forensic hypnosis (D) Criminal profiling
(E) Answer not known
9. The act of disguising one computer to electronically look like another computer, to gain access to a system that would normally be restricted is called as
- (A) Goofing (B) Sniffing
 (C) Spoofing (D) Poofring
(E) Answer not known

10. The word "Forensics" was derived from the Latin word
- (A) Foreign (B) Frying
(C) Foramen ~~(D) Forensis~~
(E) Answer not known
11. The Frye standard is
- (A) a book on the infrastructure of a forensic laboratory
(B) the selection of judge for a special case
~~(C) for determining the admissibility of scientific evidence~~
(D) the infrared spectrum of a polyatomic molecule
(E) Answer not known
12. Who introduced Narco analysis technique?
- ~~(A) J.S. Horsely~~ (B) Alec. J. Jeffreys
(C) Lawrence A. Farwell (D) John Augustus Larson
(E) Answer not known
13. Where was first serology department established in India?
- (A) Madras (B) Bombay
(C) Delhi ~~(D) Calcutta~~
(E) Answer not known
14. Who defined forensic science as, "Application of the laws nature to the laws of human beings"?
- (A) Edmond Locard (B) Albert S. Osborn
(C) Hans Gross ~~(D) F.E. Camps~~
(E) Answer not known

15. Who among the following is known as father of criminal identification?
- (A) Hans Gross
(C) Edmond Locard
(E) Answer not known
- (B) Alphonse Bertillon
(D) Calvin Goddard
16. Torture of suspects in police custody is known as?
- (A) First-degree method
 (C) Third-degree method
(E) Answer not known
- (B) Second-degree method
(D) Fourth-degree method
17. The term forensic comes from _____ word forum, which means "market place".
- (A) German
(C) French
(E) Answer not known
- (B) Latin
(D) Spanish
18. The forensic scientist should not be an advocate of one party's cause, but only an advocate of
- (A) Defense
 (C) Truth
(E) Answer not known
- (B) Prosecution
(D) Public
19. The application of scientific knowledge and technology for enforcement of law is defined as
- (A) Political Science
(C) Natural Science
(E) Answer not known
- (B) Forensic Science
(D) Nuclear Science

20. What type of fingerprints would be found on putty or wax?
- (A) Visible prints (B) Latent prints
 (C) Plastic prints (D) Visible and latent prints
(E) Answer not known
21. Central Finger print Bureau is located at
- (A) Chennai (B) Mumbai
(C) Delhi (D) Kolkatta
(E) Answer not known
22. If an imaginary line drawn between the two delta of a whorl pattern touches any of the spiral ridges, the pattern is classified as
- (A) Central pocket loop (B) Double loop
 (C) Plain whorl (D) Accidental
(E) Answer not known
23. In the primary classification of finger print, if any finger having an arch or loop pattern, the value assigned would be
- (A) 1 (B) 0
(C) 8 (D) 2
(E) Answer not known
24. A technique for visualizing latent finger prints on non-persons surfaces by exposing them to cyanoacrylic vapours is
- (A) Sublimation (B) Iodine Fuming
(C) Fluorescing (D) Super glue fuming
(E) Answer not known

25. The presence or absence of which pattern is used as a basis for determining the primary classification in the Henry system
- (A) Arches
 - (B) Composite
 - (C) Loop
 - ~~(D) Whorl~~
 - (E) Answer not known
26. Finger prints from shrunk fingers of cadavers are obtained through
- (A) Boiling the digits
 - ~~(B) Injecting fluids~~
 - (C) Lasers
 - (D) Photography
 - (E) Answer not known
27. You are tasked with searching for footwear prints on the floor at the scene of a breaking and entering. Once located how would you collect those shoeprints?
- ~~(A) Use an electrostatic dust lifter~~
 - (B) Detailed and Scaled drawing of the pattern
 - (C) Use oblique lighting
 - (D) Using Cellulose Acetate sheet
 - (E) Answer not known
28. The length of the scale to be used for taking quality photograph of Footwear impression is
- (A) One inch long scale
 - (B) Six inch long scale
 - (C) Three inch long scale
 - ~~(D) The scale extending to the full length of the impression~~
 - (E) Answer not known

33. What is swing in walking pattern?
- (A) The Phase in which the person limps while walking
 - (B) The Phase in which the shoulders droop while walking
 - (C) The Phase in which the foot is in the air for limb advancement
 - (D) The Phase in which the foot is in the ground partially
 - (E) Answer not known
34. The human foot can move in _____ directions
- (A) 2
 - (B) 3
 - (C) 4
 - (D) 1
 - (E) Answer not known
35. Which of the following is the simplest of all finger print pattern?
- (A) Plain Arch
 - (B) Double loop
 - (C) Tented arch
 - (D) Central Pocket loop
 - (E) Answer not known
36. An impression that results when the contact area of shoe or tire removes residue from a surface, leaving behind a clean image of the print in the residue.
- (A) Positive Impression
 - (B) Negative Impression
 - (C) Out sole
 - (D) Stone hold
 - (E) Answer not known

37. You are called to the scene of a burglary and notice a footwear print in cooking oil on the top of the Kitchen Cabinet near a broken window. Which of the following techniques would be the best way to collect this print?
- (A) Dental stone casting
 - (B) Photographing the print at an oblique angle
 - (C) Rubber lifter
 - (D) Sulphur casting
 - (E) Answer not known
38. The type impression on a soft earth in a crime scene is best preserved by
- (A) Photography and casting
 - (B) Photographing only
 - (C) Casting only
 - (D) Sketching the print of the impression
 - (E) Answer not known
39. Individual characteristics of a Foot print are
- (A) Shape and size
 - (B) Shape and creases
 - (C) Missing additional toes and ridges
 - (D) Size and Creases
 - (E) Answer not known

40. If a footwear impression encountered on a surface is made in light deposits of dust or dirt, then the most desirable method of preservation is
- (A) Electrostatic lifting device
 - (B) Lifting on lifting material
 - (C) Tracing the outline
 - (D) Close up photograph
 - (E) Answer not known
41. Indentations can be examined well by
- (A) Diffused Lighting
 - (B) Monochromatic lighting
 - (C) Oblique Lighting
 - (D) Transmitted lighting
 - (E) Answer not known
42. The conversion of light energy of one wavelength to energy of a longer wavelength is called _____. This is useful in the examination of inks in obliterated writings
- (A) Luminescence
 - (B) Fluorescence
 - (C) Birefringence
 - (D) Transmittance
 - (E) Answer not known
43. Feathering is related to
- (A) Erasures in documents
 - (B) Burning of documents
 - (C) Dementia
 - (D) Spectrograph
 - (E) Answer not known

44. What are Trashmarks in document examination?
- (A) The marks found on a garbage truck
 - (B) The tick or cross mark in an answer sheet
 - (C) Marks appearing in photocopy, printed document but not present in original
 - (D) The marks found due to scratching of a rubber
 - (E) Answer not known
45. Wrongfully simulating the Genuine writing of a Person is called
- (A) Burglary
 - (B) Forgery
 - (C) Copying
 - (D) Eliminating
 - (E) Answer not known
46. What are transitory defect marks in a printer.
- (A) the broken mechanical portion causing a mark on the printed document temporarily
 - (B) dust particle causing a mark on the printed document
 - (C) a dent in the glass platen of the printer causing a mark on the printed document
 - (D) A defect in the metal portion of the inner cover of a printer.
 - (E) Answer not known

47. What is standard is handwriting examination?
- (A) The qualifications of the Document examiner
 - (B) The maintenance and calibration of all the instruments in a Document examiners lab
 - (C) The proficiency in many languages
 - (D) A condensed and compact set of adequate, proper set of authentic specimen, from a known source
 - (E) Answer not known
48. Allographs are
- (A) Particular colour in a painting
 - (B) data depicted as graph
 - (C) Letter designs of handwriting
 - (D) a type of medicine
 - (E) Answer not known
49. What is retracing in handwriting examination
- (A) Using a tracing paper making a copy of what is written
 - (B) The writings which can be read only by holdings them against a light source
 - (C) The writing which are not complete
 - (D) Any stroke that goes back over another writing stroke
 - (E) Answer not known
50. 'Pica', 'Elite' are what type of machines
- (A) Spectrophotometers
 - (B) Microscopes
 - (C) Typewriters
 - (D) Weighing machines
 - (E) Answer not known

51. Inserting a writing or typewriting between two lines of writings is called
- (A) Impression
 - (B) Interlineation
 - (C) Restoration
 - (D) Erasure
 - (E) Answer not known
52. Placement of diacritics is a principal
- (A) Class characteristics of handwriting
 - (B) Individual characteristics of handwriting
 - (C) Characteristics of simulated forgery
 - (D) Characteristics of disguised writing
 - (E) Answer not known
53. In a typewriter the letters run 10 to the inch is called as
- (A) Pica
 - (B) Metric
 - (C) Elite
 - (D) Proportional spacing
 - (E) Answer not known
54. What is verso in a book?
- (A) The left hand page of a book
 - (B) The right hand page of a book
 - (C) The number of pages in a book
 - (D) The number of words in a book
 - (E) Answer not known

55. What is Voir dire?
- (A) A pin hole mark on a paper
 - (B) A witness under oath is accepted as an expert witness on the subject
 - (C) A translucent design impressed into paper
 - (D) The appearance and arrangement of a printed matter
 - (E) Answer not known
56. Watermark in a document is
- (A) Spilling of water on the paper
 - (B) Pulling a cross or tick mark
 - (C) Writing on a paper while drinking
 - (D) A translucent design impressed into certain papers during the course of their manufacture
 - (E) Answer not known
57. The smallest elements that can be resolved in a graphic is called
- (A) Pixels
 - (B) Pica
 - (C) Bitmaps
 - (D) RGB
 - (E) Answer not known
58. How can matted documents (soaked in water) can be recovered?
- (A) By heating them with a candle
 - (B) Freeze drying
 - (C) By making a ball out of them
 - (D) By hitting them with a hammer
 - (E) Answer not known

64. Match the following :

List I

Vegetable poisons

- (a) Nux vomica
- (b) Opium
- (c) Dhatura
- (d) Abrus precatorius

List II

Active principles

- 1. Papaverine
- 2. Abrin
- 3. Brucine
- 4. Atropine

- | | (a) | (b) | (c) | (d) |
|----------------|------------------|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 4 | 3 | 2 | 1 |
| (C) | 3 | 1 | 4 | 2 |
| (D) | 2 | 4 | 1 | 3 |
| (E) | Answer not known | | | |

65. Which of the following sample will be best and effective in detecting gaseous poison is

- (A) Stomach
- (B) Intestine
- (C) Liver
- ~~(D)~~ Blood
- (E) Answer not known

66. Opium is an acrid juice secreted from the incision made on unripe fruit of the plant

- (A) Gloriosa superba
- (B) Calotropis gigantea
- (C) Cannabis saliva
- ~~(D)~~ Papaver somniferum
- (E) Answer not known

67. Heroin is chemically known as
- (A) Methylbenzoyl ecgonine ~~(B) Diacetylmorphine~~
(C) Methyl morphine (D) Cannabinol
(E) Answer not known
68. _____ can be isolated from Hallucinogenic mushrooms.
- (A) Adenine (B) Cyanide
(C) Thevitin ~~(D) Psilocin~~
(E) Answer not known
69. Love Doves is the street name of
- (A) Cocaine (B) Heroin
~~(C) MDMA~~ (D) Nitrazepam
(E) Answer not known
70. Fill in the blanks.
Very large number of drugs fall into the categories of salts of _____
and _____
- (A) Calmpose and phencyclidine (B) Stimulant and Hallucinogen
~~(C) Acids and bases~~ (D) Hallucinogen and bases
(E) Answer not known
71. A substance that induces changes in mood attitude, thought or perception is
- (A) Depressants ~~(B) Hallucinogens~~
(C) Stimulants (D) Tranquilizers
(E) Answer not known

72. _____ percent of alcohol is excreted unchanged wherever water is removed from the body in the form of urine, perspiration and saliva
- (A) Less than 10 (B) 10 to 15
(C) 15 to 20 (D) 20 to 25
(E) Answer not known
73. In general, the toxicity of alcohols increases as the hydrocarbon chain lengthens with the exception of
- (A) Isopropyl alcohol (B) Ethyl alcohol
(C) Amyl alcohol (D) Methyl alcohol
(E) Answer not known
74. Consider the following statement and select your answer.
- Assertion (A) : Addiction creates an irresistible desire to continue to take the drug and develops tolerance.
- Reason (R) : Therefore the tendency to increase the dose and development of dependence on the drug.
- (A) Both (A) and (R) are false
(B) Both (A) and (R) are true
 (C) Both (A) and (R) are true and (R) is the correct explanation for (A)
(D) Both (A) and (R) are true and (R) is not the correct explanation for (A)
(E) Answer not known
75. When alcohol is once ingested, the maximum absorption takes place in
- (A) Small intestine (B) Stomach
(C) Pyloric sphincter (D) Gastric Mucosa
(E) Answer not known

76. Which Poison known as king of Poison?
- (A) Aluminium phosphate (B) Baygon
 (C) Cyanide (D) Endosulphan
(E) Answer not known
77. A drug which is used for reducing mental tension and relieve anxiety, without producing sedation or hypnosis under therapeutic dose is known as
- (A) Sedatives (B) Hypnotics
 (C) Tranquilizers (D) Stimulants
(E) Answer not known
78. In case of carbon monoxide poisoning which preservative is recommended for the preservation of blood sample
- (A) Sodium Chloride (B) Sodium Fluoride
 (C) Sodium Carbonate (D) Liquid Paraffin
(E) Answer not known
79. Name source of the Metallic Poisons.
- (A) Chlorine, Bromine
 (B) Arsenic, Antimony, Mercury, Bismuth
(C) Iodine, Bromine
(D) Phosphorus, Bromine
(E) Answer not known

80. The toxic principle in the plant *Ricinus communis* is known as Ricin which fall in the class of
- (A) Toxic globulin ~~(B) Toxalbumin~~
(C) Toxic peptide (D) Toxic carbohydrate
(E) Answer not known
81. Which one of the following is a naturally occurring element that is not radio active?
- (A) Radium ~~(B) Hydrogen~~
(C) Uranium (D) Thorium
(E) Answer not known
82. When left in a sealed container a saturated protein solution will slowly grow into crystals? What is the name of this Crystallization?
- (A) Macro seeding (B) Micro seeding
(C) Dialysis ~~(D) Batch Crystallization~~
(E) Answer not known
83. A beam of X-rays reflected off the atomic planes of a crystal produces pattern that are unique for each Crystalline substance, known as
- ~~(A) X-ray Diffraction~~ (B) X-ray Dispersion
(C) X-ray Radiation (D) X-rays Scattering
(E) Answer not known
84. An _____ is a display of colours or frequencies emitted from a light source.
- (A) Continuous spectrum ~~(B) Emission spectrum~~
(C) Line spectrum (D) Absorption spectrum
(E) Answer not known

85. _____ is an accepted method of bullet lead analysis.
- (A) ICP
 - (B) GC
 - (C) MS
 - (D) TLC
 - (E) Answer not known
86. As electrons move around the nucleus, they are confined to a path of flight from which they cannot stray. This orbital path is associated with a definite amount of
- (A) Force
 - (B) Power
 - (C) Energy
 - (D) Work
 - (E) Answer not known
87. Identify the method that is not used as preliminary examination for isolating and identifying unknown substance from the options given below
- (A) Visual examination
 - (B) Magnified examination
 - (C) Chemical spot tests
 - (D) Micro-Crystalline test-with Instruments
 - (E) Answer not known
88. What is plotted on the X and Y axis in a mass spectrum?
- (A) Y-axis = abundance of ion X-axis = charge
 - (B) Y-axis = charge on ion X-axis = mass
 - (C) Y-axis = abundance of ion X-axis = mass
 - (D) Y-axis = abundance of ion X-axis = mass/charge
 - (E) Answer not known

89. Which of the following is required in order to obtain a mass spectrum?
- (A) The compound must lose a pair of electrons
 - (B) The compound must lose an electron
 - (C) The compound must be water soluble
 - (D) The compound must gain an electron
 - (E) Answer not known
90. The principle of Gas Chromatography is that it separates mixture on the basis of their distribution between a stationary liquid phase.
- (A) And a stationary gas phase
 - (B) And a moving liquid phase
 - (C) And a moving gas phase
 - (D) And a stationary vapour phase
 - (E) Answer not known
91. A device for isolating individual wavelengths or frequencies of light is called as
- (A) Radiator
 - (B) Detector
 - (C) Monochromator
 - (D) Recorder
 - (E) Answer not known
92. The selective absorption of light by atoms is the basis for a technique known as
- (A) Inductively coupled plasma
 - (B) Mass Spectrometry
 - (C) Gas Chromatography
 - (D) Atomic absorption Spectrophotometry
 - (E) Answer not known

93. Organic explosives are generally heat sensitive and are therefore more readily separated by
- (A) Gas Chromatography
 - (B) High Performance Liquid Chromatography
 - (C) Thin Layer Chromatography
 - (D) Electrophoresis
 - (E) Answer not known
94. In HPLC, the moving phase is a liquid that is pumped under through a column filled with fine
- (A) Particulate matter
 - (B) Solid particles
 - (C) Vapour pressure
 - (D) Soil particles
 - (E) Answer not known
95. Which of the following is not used in Thin layer Chromatography?
- (A) Solvent Chamber
 - (B) Mobile Phase
 - (C) Stationary Phase
 - (D) Capillary Column
 - (E) Answer not known
96. The eluting power of a solvent is determined by its
- (A) Solubility of sample
 - (B) Overall polarity
 - (C) Boiling point
 - (D) Viscosity
 - (E) Answer not known

97. In Gel permeation Chromatography
- (A) Molecular weights can be determined
 - (B) Atomic weights can be determined
 - (C) Molecular weight and atomic weight can be determined
 - (D) Molecular weight and atomic number can be determined
 - (E) Answer not known
98. Copper telegraphic wires consists of following sets of trace elements
- (A) Selenium, gold, antimony and silver
 - (B) Bismuth, iron, nickel, antimony
 - (C) Selenium, iron, nickel, bismuth
 - (D) Nickel, zinc, manganese, magnesium
 - (E) Answer not known
99. _____ can be characterized through pattern recognition by gas chromatography utilizing a Flame Ionisation detector in arson cases.
- (A) Human Leukocyte Antigen
 - (B) Siliceous Debris
 - (C) DeoxyriboNucleic Acid
 - (D) Accelerants
 - (E) Answer not known
100. In inductively coupled plasma emission spectrometry the sample introduced in the form of
- (A) Plasma
 - (B) Aerosol
 - (C) Liquid
 - (D) Gas
 - (E) Answer not known

101. The technique which indicates bone fractures, hidden objects in sealed packages, projectiles in the body is known as
- (A) Portrait photography ~~(B) Radiography~~
(C) Photomicrography (D) Macrophotography
(E) Answer not known
102. To locate gun powder residues on a coloured garment, the garment should be photographed with
- (A) X – rays (B) UV rays
~~(C) IR – rays~~ (D) Gamma rays
(E) Answer not known
103. Night photography requires films/plates which are sensitive to
- (A) X rays (B) UV rays
~~(C) IR rays~~ (D) Light rays
(E) Answer not known
104. Apart from the fundamental photographic skills, which of the following does forensic photographers take advantage of while photographing physical evidence to create permanent record of them.
- ~~(A) Properties of light, special filters, film emulsions~~
(B) Properties of light, quality of physical evidence, special filter
(C) Size of physical evidence, properties of light, large studio
(D) Latest equipments, special filters, film emulsions
(E) Answer not known

105. Which view of the photograph to be taken at the crime scene?

- (A) Overview photograph only
- (B) Side angles only
- (C) Under view angle only
- (D) Various angles covering all aspects in scene of crime
- (E) Answer not known

106. Match List I with List II and choose the best code from the options given below the list.

List I		List II	
Nature of Crime scene		Search of interest	
(a) Homicide		1. Tool marks	
(b) Burglary		2. Clothings	
(c) Theft		3. Fingerprints	
(d) Rape		4. Weapon	

- (A) (a) (b) (c) (d)
4 1 3 2
- (B) 3 2 1 4
- (C) 2 3 4 1
- (D) 1 4 2 3
- (E) Answer not known

107. During the search of a residence for contraband drugs, the investigators should have

- (A) Legal documents of the vehicles in that house
- (B) Intelligence information about the possession of Drugs
- (C) Name of the residents attorney
- (D) Documents showing ownership of the residence
- (E) Answer not known

108. As far as the definition of detail in the images of crime scene is concerned _____ remains unsurpassed.

- (A) Video taping
- (B) Still photograph
- (C) Sketching
- (D) Tracing
- (E) Answer not known

109. This could be a valid analysis in an automotive hit-and-run accident during the front head on collisions

- (A) Camera sensor on the rear
- (B) Paint
- (C) Seat cover
- (D) Chassis number of the engine
- (E) Answer not known

110. The value of a piece of individual evidence is _____ to the chance of false association.

- (A) Directly proportional
- (B) Inversely proportional
- (C) Exponentially proportional
- (D) Logarithmically proportional
- (E) Answer not known

111. Methods of sketching the crime scene include all except

- (A) Coordinate method
- (B) Polar technique
- (C) Immersion method
- (D) Photogrammetry method
- (E) Answer not known

112. One of the following is not a crime – scene search patterns. Find the odd one out.
- (A) Spiral search (B) Grid method
 (C) Quadrant (or) zone search ~~(D) Rectangular search~~
 (E) Answer not known
113. When size of an item is of significance, a _____ may be inserted near the object and included in the photograph as a point of reference?
- (A) Stock ~~(B) Ruler~~
 (C) Metal (D) Wood
 (E) Answer not known
114. The following is not a physical evidence
- (A) A footwear (B) Body fluids
~~(C) Physical appearance~~ (D) A written document
 (E) Answer not known
115. Photographs of physical evidence must include the following to record details of the objects
- ~~(A) Overview and closeup~~ (B) Indoor and outdoor
 (C) Entry and exit (D) Sketch and notes
 (E) Answer not known
116. _____ of the crime scene investigation must include the Investigator's over all observations, actions, descriptions of the scene and specific information of identification.
- (A) Night videotaping ~~(B) Written record~~
 (C) IR. Photography (D) Oblique photography
 (E) Answer not known

117. The examination of clue material after requires comparison with a
- (A) Photo
 - (B) Video
 - (C) Known standard
 - (D) Sketch
 - (E) Answer not known
118. Chain of custody is maintained by affixing the items/objects to be examined using
- (A) Seals
 - (B) Scales
 - (C) Apparatus
 - (D) Reagents
 - (E) Answer not known
119. Hand writing characteristics are the best examples for
- (A) Common source
 - (B) Specific source
 - (C) Group source
 - (D) Class source
 - (E) Answer not known
120. The list of all persons who came into possession of an item of evidence must be presented in court is termed as
- (A) Witness line up
 - (B) Roll call
 - (C) Chain of custody
 - (D) Call list
 - (E) Answer not known
121. The process that determines a substance's physical or chemical identity with as near absolute certainty as existing analytical techniques will permit is called
- (A) Identification
 - (B) Comparison
 - (C) Reconstruction
 - (D) Corroboration
 - (E) Answer not known

122. Wads are present in

- (A) Pistols (B) Revolvers
 (C) Shot guns (D) Machine guns
(E) Answer not known

123. Which one of the category given in the options below is considered as additional documentation for firearms recovered at crime scene?

- (A) Notes taking (B) Digital photography
 (C) Recording of serial number (D) Crime scene sketching
(E) Answer not known

124. A _____ consists of a series of concentric steel rings which passes through the barrel of a firearm and cuts groves into the barrel.

- (A) Button (B) Broach
(C) Mandrel (D) Colt
(E) Answer not known

125. Fill in the blanks

The Firearm barrel is long in _____ and _____ and the barrel is short in _____ and _____.

- (A) Pistol and shot gun, Shot gun revolvers
(B) Pistol and rifle, rifle and revolvers
(C) Revolvers and pistols, rifle and shot guns
 (D) Rifles and shot guns, revolvers and pistols
(E) Answer not known

126. The precise distance from which a weapon has been fired must be determined from
- (A) Striations on the bullet
 - (B) Firing pin mark on the cartridge cases
 - (C) Scorch marks on the cloth
 - (D) Gun shot residues on the hands
 - (E) Answer not known
127. The bullets used in shooting galleries and for cattle stunning are called
- (A) Frangible bullets
 - (B) Steel jacketed bullets
 - (C) Boat Tailed bullet
 - (D) Teflon coated bullet
 - (E) Answer not known
128. Determining whether or not an individual has fired a weapon is done by measuring the elements _____ present on the hands?
- (A) Barium × Antimony
 - (B) Carbon × Iron
 - (C) Copper × Carbon
 - (D) Iron × Zinc
 - (E) Answer not known
129. This is not the sound produced by the operation of a firearm.
- (A) Crack
 - (B) Muzzle Blast
 - (C) Stippling
 - (D) Sound of the hot expanding gases
 - (E) Answer not known

130. 'Abrasion ring' at the entrance hole caused due to the penetration of a bullet on the human target occurs.

- (A) When the bullet rubs the edges of the hole
- (B) Due to the bullet's rotational movement
- (C) Due to the bullet burning the skin
- (D) Due to burning propellant particles travelling along with the bullet
- (E) Answer not known

131. The bullet is held in the cartridge case by a groove called

- (A) Land
- (B) Breech
- (C) Muzzle
- (D) Cannelure
- (E) Answer not known

132. The diameter of the shotgun barrel is expressed by the term

- (A) Caliber
- (B) Gauge
- (C) Groove
- (D) Rifling
- (E) Answer not known

133. The shotgun has a _____ barrel

- (A) Rifled
- (B) Grooves
- (C) Smooth
- (D) Surface
- (E) Answer not known

134. The act of counterfeiting is punishable under section _____ of IPC.

- (A) 307
- (B) 489
- (C) 376
- (D) 304 A
- (E) Answer not known

135. Various wavelengths of light sources that are needed to examine the counterfeit currency are
- (A) 0 – 250 nm (B) 250 – 400 nm
(C) 400 – 700 nm ~~(D) 250 – 1000 nm~~
(E) Answer not known
136. During _____, the strained area will dissolve at a faster rate as compared to the unaltered metal helping to restore original numbers.
- (A) Thermo gravimetry (B) Magnetic method
~~(C) Chemical Etching~~ (D) Grinding
(E) Answer not known
137. A _____ is any impression caused by a tool coming into contact with another object
- ~~(A) Tool marks~~ (B) Skid marks
(C) Indentation marks (D) Surface marks
(E) Answer not known
138. It is often difficult to link the tool with the tool marks when _____ is used in the commission of crime.
- ~~(A) Saws~~ (B) Cutting pliers
(C) Hammers (D) Chisels
(E) Answer not known

139. When a burglar prys open the door using a crowbar, the marks that would be found on the door is/are
- (A) Striated mark
 - (B) Indented mark
 - (C) Both indented and striated marks
 - (D) Compression mark
 - (E) Answer not known
140. A solution consisting of 120 ml hydrochloric acid 90g. Copper chloride and 100 ml of water generally works well for etching of _____ surfaces.
- (A) Copper
 - (B) Aluminium
 - (C) Gold
 - (D) Steel
 - (E) Answer not known
141. Many manufactured items including automobile engine blocks and firearms are impressed with a _____ for identification.
- (A) Symbol
 - (B) Trade mark
 - (C) Serial number
 - (D) Manufacture name
 - (E) Answer not known
142. The Debris recovered from the site of an explosion is routinely rinsed with solvent
- (A) Acetone
 - (B) Chloroform
 - (C) Methanol
 - (D) Rectified spirit
 - (E) Answer not known

143. An explosive device which is shaped like some common object such as transistor radio is known as
- (A) Time Bomb (B) Fuse Bomb
 (C) Booby Trap (D) Throw downs
(E) Answer not known
144. The explosives mostly used in improvised explosive devices are
- (A) High explosives (B) Plastic explosives
 (C) Low explosives (D) Military explosives
(E) Answer not known
145. Which one of the following is not a novel bomb?
- (A) Magnetic Bomb (B) Human Bomb
 (C) Electronic Bomb (D) Fuse Bomb
(E) Answer not known
146. Which one is the most widely used explosive in the military?
- (A) RDX (B) ANFO
(C) Sugar (D) Potassium chlorate
(E) Answer not known
147. Basic of all industrial explosive, yellow oily transparent liquid by the action of Nitric and Sulphuric acid in Glycerine with constant stirring and cooling is
- (A) Nitro glycerine (B) Ammonium Nitrate
(C) Gelatine (D) Ammonia Dynamite
(E) Answer not known

148. The Main explosive used in the detonating cord

- (A) PETN (B) RDX
(C) Amatol (D) HMX
(E) Answer not known

149. What is the burning rate of high explosive

- (A) Upto 28000 ft/sec. (B) Upto 25000 ft/sec.
(C) Upto 22000 ft/sec. (D) Upto 20000 ft/sec.
(E) Answer not known

150. Insensitive chemicals and chemical mixtures that are detonated by means of a high explosive primer or booster is known as

- (A) Detonators (B) Safety fuse
(C) Low explosive (D) Blasting agents
(E) Answer not known

151. The rate of deflagration will increase with increasing degree of

- (A) Burning spots (B) Confinement
(C) Pressure (D) Flow of materials
(E) Answer not known

152. The value of explosive power is compared with the explosive power of standard explosive namely

- (A) Trinitro Toluene (B) Nitroglycerine
 (C) Picric Acid (D) Teteryl
(E) Answer not known

153. Which primary explosive, turns violet and finally black on exposure to light?

- (A) Lead Azide (B) Lead styphnate
(C) Tetrayene ~~(D) Silver Azide~~
(E) Answer not known

154. The gas chromatography separates ——— components and produces a chromatographic pattern characteristic of a particular petroleum product

- (A) Carbon (B) Oxygen
~~(C) Hydrocarbon~~ (D) Hydroxyl groups
(E) Answer not known

155. ——— are formed through the breaking of molecular bonds and are described as molecular fragments possessing one or more unpaired electrons

- (A) Fire suppression (B) Hydro Carbons
(C) Explosive train ~~(D) Free radicals~~
(E) Answer not known

156. Examples of spontaneous combustion

- (A) Sudden burning of charcoal
(B) Sudden burning of flammable liquid
(C) Burning of coal
~~(D) Burning of rags soaked with certain types of highly unsaturated oils~~
(E) Answer not known

167. In cases involving telephoned threats or tape recorded messages, the investigators may require the skills of
- (A) Voice stress analysis
 - (B) Voiceprint analysis
 - (C) Lie detection analysis
 - (D) Statement analysis
 - (E) Answer not known
168. Soil comparison can be done by a method called
- (A) Agglutination method
 - (B) Precipitin method
 - (C) Stas-otto method
 - (D) Density gradient method
 - (E) Answer not known
169. Density is defined as
- (A) Mass per unit volume
 - (B) Weight per weight
 - (C) Volume per volume
 - (D) Meter per Second
 - (E) Answer not known
170. The most common mineral in natural soil is
- (A) Aluminium
 - (B) Manganese
 - (C) Quartz
 - (D) Iron
 - (E) Answer not known
171. Glass fractures caused by projectiles generally do not show
- (A) Coning of glass
 - (B) Curving of glass
 - (C) Cratering of glass
 - (D) Cracks of glass
 - (E) Answer not known

172. Refractive index is used to measure the speed of light in a vacuum in

- (A) Air
- (B) Water
- (C) Glass
- (D) Any medium
- (E) Answer not known

173. Refractive index is equal to

- (A) Velocity of light in vacuum/velocity of light in medium
- (B) Velocity of light in medium/velocity of light in vacuum
- (C) Velocity of light in medium/velocity of light in water
- (D) Velocity of light in water/velocity of light in medium
- (E) Answer not known

174. Fill in the blanks

A hard, brittle, amorphous substance composed mainly of silicon oxide is _____

- (A) Graphite
- (B) Tin
- (C) Glass
- (D) Coal
- (E) Answer not known

175. In the following fractures of a glass, while most of the broken glass travels in the direction of the applied force, many fine chips are thrown in the opposite direction.

- (A) Radial fractures
- (B) Concentric fractures
- (C) Heat fractures
- (D) Backward fragmentation
- (E) Answer not known

176. When a force pushes on one side of a pane of glass, the _____ of the glass permits it to bend in the direction of the force applied.

- (A) Elasticity
- (B) Plasticity
- (C) Rigidity
- (D) Brittility
- (E) Answer not known

177. One layer of plastic is sandwiched between two sheets of ordinary glass in a

- (A) Soda lime glass
- (B) Borosilicate glass
- (C) Laminated glass
- (D) Tempered glass
- (E) Answer not known

178. The 3R rule refers to Radial cracks in

- (A) Soil examination
- (B) Glass fracture examination
- (C) Fiber examination
- (D) Tyre examination
- (E) Answer not known

179. Automobile glass headlights are _____ glass.

- (A) Soda lime
- (B) Pyrex
- (C) Laminated
- (D) Tempered
- (E) Answer not known

180. From the following what type of glass is used in the side windows of automobiles

- (A) Tempered glass
- (B) Borosilicates
- (C) Soda – lime glass
- (D) Pyrex
- (E) Answer not known

181. _____ regions are known as genes and contain information necessary for a cell to make proteins.
- (A) Junk (B) Coding
(C) Non coding (D) Genetic trait
(E) Answer not known
182. The other name of microsatellite is
- (A) VNTR (B) STR
(C) LTR (D) MIR
(E) Answer not known
183. What is a nucleosome?
- (A) DNA wound around ionic membrane
(B) DNA wound around histones
(C) DNA wound around non histones
(D) DNA wound around an isotope
(E) Answer not known
184. Which of the following is the correct pairing of bases within the DNA double helix
- (A) A-T, G-C (B) A-C, G-T
(C) A-A, G-T (D) C-A, T-G
(E) Answer not known
185. Chromosomes in all somatic cells are in diploid state and chromosomes in all gametes (sperm (or) egg) in _____ state.
- (A) Polyploid (B) Haploid
(C) Cuboid (D) Double stranded
(E) Answer not known

186. Which of the following is not a bone from pelvis
- (A) Ischium (B) Sacrum
(C) Ilium ~~(D) Occipital~~
(E) Answer not known
187. Viscose is a cellulosic polymer identical to which of the following?
- (A) Cellulose acetate (B) Cellulose nitrate
(C) Nylon ~~(D) Cotton~~
(E) Answer not known
188. The largest sesamoid bone in the body is
- (A) First metacarpal (B) First metatarsal
~~(C) Patella~~ (D) Phalanges
(E) Answer not known
189. Mohair was the name given to hair from the
- (A) Camel ~~(B) Angora goat~~
(C) Rabbit (D) Horse
(E) Answer not known
190. This is an articulation with his socket joint.
- (A) Ectocanthion ~~(B) Acetabulum~~
(C) Glabella (D) Prosthion
(E) Answer not known

191. Most reliable criteria in determination of age with teeth
- (A) Attrition
(B) ~~Transparency of the root~~
(C) Secondary dentin
(D) Plaque/Scaling on Teeth
(E) Answer not known
192. The enzyme that can be found in smoked cigarette butts, useful in distinguishing between individuals is
- (A) ~~Amylase~~
(B) Invertase
(C) Zymase
(D) Phosphatase
(E) Answer not known
193. A drip trail pattern is useful in
- (A) ~~Stabbing crisis~~
(B) Drowning crisis
(C) Suicide crisis
(D) Theft crisis
(E) Answer not known
194. A pattern created by blood that is expelled from the mouth or nose is called
- (A) Cost – off spatter
(B) ~~Expired blood pattern~~
(C) Arterial spray spatter
(D) Transfer pattern
(E) Answer not known
195. Blood stain extract can be identified as being of human origin by the _____ test.
- (A) Absorption Elution
(B) Agglutination
(C) Absorption inhibition
(D) ~~Precipitin~~
(E) Answer not known

196. Which of the following is a presumptive chemical used for screening blood at a crime scene
- (A) PCR (B) SPR
(C) Acid phosphatase (D) Leucomalachite green
(E) Answer not known
197. The blood stained article from scene of crime is dried in
- (A) Hot air (B) Air oven
(C) Room temperature (D) UV rays
(E) Answer not known
198. The absorption – Elution assay is highly sensitive and can be used for testing
- (A) Seminal stains (B) Dried blood stains
(C) Saliva stains (D) Urine stains
(E) Answer not known
199. Both saliva and semen are products of
- (A) Endocrine gland (B) Exocrine gland
(C) Pituitary gland (D) Sweat gland
(E) Answer not known
200. The extract of *Ulex Europaeus* seeds gives the following anti serum
- (A) Anti – A (B) Anti – H
(C) Anti – B (D) Anti – A₁
(E) Answer not known