

Sl. No. :

ASFS/19

Register
Number

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2019

**FORENSIC SCIENCE
(P.G. Degree Std.)**

Time Allowed : 3 Hours]

[Maximum Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains **200** questions. Prior to attempting to answer, the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed, it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination, it will not be replaced.**
3. Answer **all** questions. All questions carry equal marks.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Number with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per Commission's notification.
7. Each question comprises *four* responses (A), (B), (C) and (D). You are to select **ONLY ONE** correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are **four** circles (A), (B), (C) and (D) against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen **ONLY ONE** circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. e.g. If for any item, (B) is the correct answer, you have to mark as follows :

(A) ● (C) (D)
9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
10. **Do not make any marking in the question booklet except in the sheet before the last page of the question booklet, which can be used for rough work. This should be strictly adhered.**
11. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

SPACE FOR ROUGH WORK

1. Impression left on papers positioned under a piece of paper of on which writing is done is called
- (A) indented writing (B) over writing
(C) specimen writing (D) admitted writing
2. Serif is a term that can be related to
- (A) HPLC (B) Emission spectra
(C) X-ray diffraction (D) Typewriter
3. The principles used in the examination of typewriting are
- (A) Class characteristics
(B) Individual characteristics
 (C) Class and Individual characteristics
(D) General characteristics
4. The Diacritic is
- (A) the font in the typewriter
(B) the capital letter used in English language
 (C) the dot placed over the main stroke of 'i'
(D) the photocopy of a handwritten document
5. Diachronic filters are used in investigating forged documents to study
- (A) pencil writings (B) ink strokes
(C) paper material (D) font
6. Indented writings are best detected and deciphered by using
- (A) UV
(B) IR
(C) Photographic techniques
 (D) Side lighting techniques

7. The principal effects of alcohol are on the
- (A) digestive system
 - (B) CNS system
 - (C) circulatory system
 - (D) respiratory system
8. Pure methyl alcohol is also known as
- (A) chloroform
 - (B) ethyl alcohol
 - (C) wood alcohol
 - (D) bubanal
9. The amount of alcohol present in the blood is directly proportional to the concentration of alcohol in the
- (A) Heart
 - (B) Brain
 - (C) Lungs
 - (D) Liver
10. Opium is the coagulated air-dried latex Trice obtained by incision of the unripe capsules of the white poppy
- (A) Papaveri somniferous
 - (B) Narium odorum
 - (C) Cerabra theretia
 - (D) Datura Fastulosa
11. A technique more specific than colour test in the detection of drugs is
- (A) Microcrystalline test
 - (B) Tactile examination
 - (C) Solubility test
 - (D) Naked eye examination

12. Wood spirit is nothing but
(A) Rectified spirit (B) Methylated spirit
 (C) Methyl alcohol (D) Denatured alcohol
13. Lysergic acid diethyl amide (LSD) is
(A) Hypnotics (B) Hallucinogens
(C) Depressant (D) Stimulants
14. For identifying the drugs from the tissues and organs, the most widely used confirmation tests is
(A) Thin - layer chromatography
(B) Gas - chromatography
(C) Immunoassay
 (D) Gas chromatography - mass spectrometry
15. Indian opium yields the following percentage of morphine
(A) 0.5 to 1% (B) 3.9 to 7.6%
 (C) 9.5 to 14.2% (D) 1.8 to 4%
16. Which of the following is used in Arrow poisons?
(A) Sulphuric acid (B) Mercury
(C) Copper sulphate (D) Curare
17. Which of the following pair is not correct?
(A) Snake venom - Proteolytic enzyme
(B) Nitric Acid - Corrosive poisons
(C) Alcohol - CNS Depressants
 (D) Gasoline - Metallic poison
18. Which is not obtained from plant?
(A) Camphor
(B) Cannabis
(C) Cocaine
 (D) Chlorpromazine

19. High explosives are classified as
- (A) Initiating and non-initiated explosives
 - (B) Terminating and non-terminating explosives
 - (C) Progressive and non progressive explosives
 - (D) Both (A) and (B)
20. Name the three categories of explosives.
- (A) Commercial, military and improvised type
 - (B) Airgun, Shotgun, canon
 - (C) Agglutination, precipitation, HLA typing
 - (D) Nerin, Cleistanthin, Thevitin
21. The technique of _____ produces a unique absorption spectrum for an organic explosive.
- (A) UV spectrum
 - (B) IR spectrum
 - (C) HPTLC
 - (D) Gas chromatograph
22. Smokeless powder is made up of
- (A) Nitro cellulose and nitro glycerine
 - (B) Sodium nitrate, sulphur and carbon
 - (C) Sulphur and phosphorus
 - (D) Phosphorus and carbon
23. A finger print is an
- (A) individual characteristic
 - (B) group characteristic
 - (C) class characteristic
 - (D) common characteristic

30. The penetration of glass by a projectile whether it is a bullet of stone produced a familiar fracture pattern
- (A) An existing line of fracture
 - (B) Radial fracture
 - (C) Radial cracks
 - (D) Refractive index of glass
31. _____ is a hard, brittle amorphous substance that is composed of silicon oxides mixed with various metal oxides.
- (A) Fiber
 - (B) Paint
 - (C) Glass
 - (D) Soil
32. Rib marks on the cross section of concentric fracture gives information about the
- (A) from which side fracture opens
 - (B) nature of the glass
 - (C) velocity of the projectile
 - (D) source of heat
33. The sound spectrograph was first developed at Bell Telephone Laboratories in _____ year.
- (A) 1938
 - (B) 1940
 - (C) 1941
 - (D) 1942
34. The discrimination between hues in forensic paint comparison is normally accomplished by
- (A) UV light
 - (B) Stereoscopic binocular microscope
 - (C) IR light
 - (D) Oblique light

35. The acrylic lacquer paints can readily be distinguished from other classes by their solubility in
- (A) Acetone
 - (B) Acetic acid
 - (C) Chloroform
 - (D) Dichloromethane
36. The two most important components of dried paint from the criminalist's point of view are _____ and the _____.
- (A) Colour, Pigment
 - (B) Emulsion, Thinner
 - (C) Solvent, Colour
 - (D) Pigment, Binder
37. The layer that provides corrosion resistance for the automobiles is
- (A) Electrocoat primer
 - (B) Primer surfacer
 - (C) Base coat
 - (D) Clear coat
38. A comparison of the density of soil particles is done by which of the following method?
- (A) glass tube
 - (B) density-gradient tube
 - (C) mineral
 - (D) flotation method
39. The initial growth phase of hair is known as
- (A) Carcinogen
 - (B) Fibrinogen
 - (C) Anagen
 - (D) Telogen
40. _____ fibers are derived from animal or plant source.
- (A) Man made fiber
 - (B) Polymers
 - (C) Natural fibers
 - (D) Synthetic fibers

41. The two most popular confirmatory tests namely Takayama and teichmann microcrystalline test are associated with
- (A) Semen
 - (B) Blood
 - (C) Saliva
 - (D) Sweat
42. Blood can be characterized as being human origin by the _____ test.
- (A) Luminol test
 - (B) Precipitation test
 - (C) Kastlemeyar colour test
 - (D) Benzidin test
43. The existence of more than one form of a genetic trait is known as
- (A) Polymorphism
 - (B) Absorption
 - (C) Elution
 - (D) Agglutination
44. Which of the following is correctly matched
- (A) Bast (stem) fibres – Manila, sisal
 - (B) Leaf fibres – Flek, Hemp
 - (C) Hair fibres – Bombyx mori
 - (D) Seed fibres – Cotton and coir
45. The following methods provide most reliable conclusion in case of disputed paternity
- (A) HLA typing
 - (B) Cloning
 - (C) DNA finger printing
 - (D) Ordinary finger printing
46. Y-STRs are found only in
- (A) Mothers
 - (B) Females
 - (C) Males
 - (D) Daughters

47. Postmortem changes that causes a body to lose heat
 (A) Algor Mortis (B) Livor Mortis
 (C) Rigor Mortis (D) Autopsy
48. The first treatise describing the application of scientific disciplines to the field of criminal investigation was
 (A) Albert S. Osborn (B) Calvin Goddard
 (C) Hans Gross (D) Francis Galton
49. Which of the following is associated with processing crime scenes and is often summarised as "every contact leaves a trace".
 (A) Locard's principle (B) Trace evidence principle
 (C) Bertillon's principle (D) Lacassagne's principle
50. The examination of fine arms, discharged bullets cartridge cases, shotgun shells and ammunition of all types is conducted by the
 (A) Biology unit (B) Toxicology unit
 (C) Fire arms unit (D) Polygraph unit
51. The application of science to law describes _____.
 (A) Pathology (B) Psychology
 (C) Odontology (D) Forensic science
52. Who popularized scientific crime detection method through his fictional character long before their value was first recognized and accepted by real life investigators.
 (A) Sherlock Holmes
 (B) Edmond Locard
 (C) Sir Arthur Conan Doyle
 (D) Hans Gross
53. Human skeletal remains for identification and examination to reveal the identity of the individual should be submitted to the following division of Forensic Science Laboratory.
 (A) Anthropology (B) Serology
 (C) Biology (D) Toxicology

54. Which was the headquarters of the first chief Inspector of explosives?
(A) Madras
 (B) Nagpur
(C) Lucknow
(D) Pune
55. Where was the first serology department was established?
 (A) Calcutta
(B) Bombay
(C) Delhi
(D) Madras
56. In which year ballistic laboratory was set up in India?
(A) 1948
(B) 1915
 (C) 1930
(D) 1954
57. Where was the first computer forensic laboratory established in India?
(A) Bombay
(B) Calcutta
(C) Delhi
 (D) Hyderabad
58. When was the use of DNA as a scientific tool in forensic medical examination has been statutorily acknowledged?
(A) 2008
(B) 2000
(C) 2012
 (D) 2006
59. A likely sequence of events, evaluation of physical evidence, statements made by people involved supports
 (A) Crime-scene reconstruction
(B) Drama reconstruction
(C) Office reconstruction
(D) Instrument reconstruction

60. Choose the right answer
- Basic principles of finger print are
- (A) Accuracy permanency, individuality
 - (B) Permanency, variety, flexibility
 - (C) Transparency, adoptability, permanency
 - (D) Persistency, variety, flexibility
61. The ridges running from one side to the other making no backward turn is known as
- (A) Composite pattern
 - (B) Loop pattern
 - (C) Arch pattern
 - (D) Whorl pattern
62. Dust foot wear marks on the hard floors are lifted with
- (A) Electro static lifting device
 - (B) Holograph
 - (C) Laser
 - (D) Shellac spray
63. Gait pattern is not studied by
- (A) Foot line
 - (B) Length of step
 - (C) Width of step
 - (D) Rock climbing
64. The chemical used in the super glue fuming technique for developing finger prints is
- (A) Cyano polyester
 - (B) Cyano polyesterate ester
 - (C) Cyano polyethylene ester
 - (D) Cyano acrylate ester

65. Fingerprints registered on pliable materials are called
- (A) Latent prints
 - (B) Visible prints
 - (C) Plastic prints
 - (D) Eliminative prints
66. A useful record for studying the gait pattern and not common in India is
- (A) Photogrammetry
 - (B) Molography
 - (C) Laser trajectory
 - (D) ESDA
67. Research on the extraneous materials that adheres to the footwear has shows that _____ is commonly found on the footwear to an extent of 37 percent
- (A) Plant materials
 - (B) Gravel / Sand
 - (C) Metal fragments
 - (D) Glass particles.
68. A finger print made by the deposit of oils or perspiration which is invisible to naked eye.
- (A) Latent finger print
 - (B) Naked finger print
 - (C) Looped finger print
 - (D) Arched finger print
69. As a rule of thumb, the spread in the pattern made by 12 – gauge shotgun is increased 1 inch for every _____ of distance from the target.
- (A) 1 feet
 - (B) 1 meter
 - (C) 1 decimeter
 - (D) 1 yard
70. The diameter of the gun barrel is known as
- (A) Bore
 - (B) Caliber
 - (C) Rifling
 - (D) Grooves

71. Tool marks are encountered in the following cases
- (A) Murder cases
 - (B) Suspicious death cases
 - (C) Drowning cases
 - (D) Burglary cases
72. Prying action of a tool will cause
- (A) Abrasions
 - (B) Indented impressions
 - (C) Striations
 - (D) Fissures
73. The size and shape of a tool will always reveal important
- (A) Class characteristics
 - (B) Individual characteristics
 - (C) Minute ridges
 - (D) Specific irregularities
74. The identifications of a particular tool is possible only with the
- (A) Indentation marks
 - (B) Striation marks
 - (C) Graze marks
 - (D) Minute imperfections
75. The most suitable acid used in the etching reagent for steel surface is
- (A) Aqua regia
 - (B) Hydrochloric acid
 - (C) Nitric acid
 - (D) Commercial sulphuric acid
76. The _____ is the original part of the bore left rifling grooves are formed.
- (A) Lands
 - (B) Caliber
 - (C) Rifling
 - (D) Gauge

77. The three printing processes typically used in printing bank notes are
- (A) letter press, intaglio, screen
 - (B) intaglio, typographic, offset
 - (C) wet offset, letter press, vignettes
 - (D) dry offset, typographic, vignettes
78. What is the commonly used metal in bullet manufacture?
- (A) Lead alloy
 - (B) Stainless steel
 - (C) Silver
 - (D) Antimony
79. Retention factor (R_f) is a measure of
- (A) Distance travelled by the solute
 - (B) Partition co-efficient
 - (C) Distance travelled by the solvent
 - (D) Ratio of the distance travelled by the solute and solvent
80. Permits rapid separation of complex mixtures in the individual compounds and allows identification and quantitative determination of each compound
- (A) AAS
 - (B) GC
 - (C) MS
 - (D) ICPAES
81. Tin has as many as _____ number of isotopes.
- (A) 4
 - (B) 6
 - (C) 8
 - (D) 10
82. Which one of the instrument is not ideal for organic analysis of a subspace?
- (A) GC
 - (B) Spectrophotometer
 - (C) IR Spectrophotometer
 - (D) NAA (Neutron Activation Analysis)

83. Which fuel/oxidant mixture used in flame atomizer provides the lowest temperature flame?
- (A) Hydrogen/Air
 - (B) Acetylene/Nitrous oxide
 - (C) Propane/Air
 - (D) Acetylene/Oxygen
84. _____ is an Instrument used to measure and record the absorption spectrum of a chemical substance.
- (A) HPLC
 - (B) GC
 - (C) MS
 - (D) Spectrophotometer
85. An analytical method for identifying a substance by its selective absorption of different wavelength of light is
- (A) diffraction
 - (B) grating
 - (C) chromatography
 - (D) spectrophotometry
86. D-Line is a term related to
- (A) Tube light
 - (B) Sodium vapour lamp
 - (C) Kerosene lamp
 - (D) LED
87. The nuclear reactor is a source of
- (A) Electron
 - (B) Proton
 - (C) Atom
 - (D) Neutron

94. What is substrate control?
- (A) controls collected adjacent or closed to areas where physical evidences deposited
 - (B) control collected at the area where physical evidence is deposited
 - (C) controls collected at the laboratory
 - (D) controls collected at the police station
95. The frequency of occurrence of an event is called
- (A) Certainty
 - (B) Probability
 - (C) Individual characteristics
 - (D) General characteristics
96. Photography with ultraviolet rays is used to reveal all except
- (A) stains analysis
 - (B) paints analysis
 - (C) difference in paper analysis
 - (D) charred document analysis
97. Where did you collect the control sample of hair, blood and semen for forensic comparison?
- (A) at the crime scene
 - (B) from respect
 - (C) from laboratory
 - (D) from police personnel
98. Evidence that can be associated with a common source with an extremely high degree of probability is said to possess
- (A) individual characteristics
 - (B) general characteristics
 - (C) specific characteristics
 - (D) group characteristics

99. Charred Documents contents can be revealed by using
- (A) Infrared photography (B) Ultraviolet photography
(C) Normal photography (D) X-Ray photography
100. Can the author of a traced forgery be identified?
- (A) by comparing the forger's handwriting with the traced forgery
(B) by comparing the forger's signature with the traced forgery
(C) by comparing the forger's cheque with the traced forgery
 (D) not possible
101. 'Guide Lines' is a term associated with
- (A) traced forgery (B) freehand forgery
(C) simulated forgery (D) genuine signature
102. Normal or usual deviations found between repeated specimens of any individual handwriting are called
- (A) forged variations (B) natural variations
(C) erased variations (D) chemical variations
103. _____ is defined as a deliberate change of normal writing habits and is used whenever the author wants to hide identity.
- (A) disguised writing (B) copybook writing
(C) authentic writing (D) rhythmic writing
104. A deliberate departure from normal handwriting habit is
- (A) illegible (B) disguise
(C) specimen writing (D) admitted writing
105. Who is recognized as the father of documents examination?
- (A) Albert S. Osborn (B) Palmer
(C) Zaner-Bloser (D) Maclean

106. Freehand drawings which copy a model signature are termed as
- (A) Modern forgery (B) Simple forgery
 (C) Simulated forgery (D) Traced forgery
107. Overwriting and crossing out in Document examination is called
- (A) Indented writing
(B) Erasure
 (C) Obliteration
(D) Alteration
108. Identifying characteristics for type and manufacture of paper
- (A) Book Marks (B) Bullet Marks
(C) Pencil Marks (D) Water Marks
109. This types of hand writing is not a class characteristic of a letter design
- (A) Capital (B) Rubric
(C) Numeral (D) Copy Book
110. Typewriting samples in the document problems can be handled with
- (A) Comparison microscope
 (B) Stereo microscope
(C) IR conversion microscope
(D) Student microscope
111. Handwriting characteristics, habits (or) mannerisms peculiar to an individual is called
- (A) Embellishment
(B) Speed of writing
(C) Idolize writing
 (D) Idiosyncrasies

112. A combination of heroin and Cocaine is known as
- (A) Crack
 - (B) Speed balls
 - (C) Dope
 - (D) LSD
113. As the alcohol is circulated by the blood stream the body proceeds at once to begin the Fast of elimination its process in two mechanisms namely _____ and _____.
- (A) Breath and dilution
 - (B) Sweat and oxidation
 - (C) Excretion and breath
 - (D) Oxidation and excretion
114. The following substance is not obtained from plant cannabis sativa
- (A) Ganja
 - (B) Morphine
 - (C) Charas
 - (D) Bhang
115. 'Flashback phenomenon' is unique in
- (A) Morphine
 - (C) LSD
 - (B) Ketamine
 - (D) Ganja
116. Ricinus communis is a
- (A) Metallic poison
 - (B) Chemical poison
 - (C) Vegetable poison
 - (D) Drug
117. Which is wrongly matched?
- (A) Strong Acids - Salicylates
 - (B) Weak Acids - Barbiturates
 - (C) Neutral Acids - Meprobamate
 - (D) Amphoteries - Phenothiazines

118. The Investigation of poison deaths is often made difficult by _____
- (A) Lack of knowledge
 - (B) Resemblance of the systems of some poisoning to those of some diseases
 - (C) Lack of testing procedures
 - (D) Paucity of funds.
119. The specific test applicable to the cases of cyanide poisoning is
- (A) Reinsch test
 - (B) Montiqui's test
 - (C) Prussianblue test
 - (D) Diphenylamine test
120. Depending upon the energy input and the physical properties of the explosive composition _____ is formed.
- (A) Radiation
 - (B) Hotspots
 - (C) Friction
 - (D) Energy
121. Explosive substances which on initiation decompose via the passage of shockwave are called
- (A) Detonators
 - (B) Fuses
 - (C) Propellents
 - (D) Ignitors
122. Which of the following statement regarding "Plastic Explosives" is true?
- (A) Plastic explosives are made by plastic material
 - (B) Plastic explosives are primary explosives
 - (C) Plastic explosives cannot be detected even by explosive sniffer dogs
 - (D) Plastic explosives are secondary explosives

123. A flaming fire though supported by a gaseous fuel, in some instances a fuel can burn without the presence of flame. This phenomenon is known as
- (A) Complete combustion
 - (B) Spontaneous combustion
 - (C) Glowing combustion
 - (D) Partial combustion
124. Military dynamite differs from dynamite as it does not contain the following
- (A) Nitroglycerine
 - (B) RDX
 - (C) TNT
 - (D) SAE 10 motor oil
125. The most widely used explosive in military?
- (A) PETN
 - (B) TNT
 - (C) ANFO
 - (D) RDX
126. In _____ fires, the aim of the arsonist is to burn the target quickly, completely and without attracting attention.
- (A) Autoxidation
 - (B) Accidental
 - (C) Malicious
 - (D) Spontaneous
127. _____ method is best suited for rinsing the suspected flammable liquid found on a nonporous materials such as glass fragments.
- (A) Solvent evaporation
 - (B) Steam distillation
 - (C) Solvent wash
 - (D) Vacuum distillation
128. The odour of smoke in respect of burning of feathers is due to
- (A) Carbon monoxide
 - (B) Carbon dioxide
 - (C) Nitrous oxide
 - (D) Sulfur dioxide
129. The most commonly sought physical evidence in arson investigation is
- (A) Ignitable fluids
 - (B) Foot prints
 - (C) Finger prints
 - (D) Blood stains

130. Chemical composition of glass can be determined using
- (A) Gas Chromatography and Mass Spectrometer
 - (B) Scanning Electron Microscope and Energy Dispersive X-ray
 - (C) UV-VIS Spectrophotometer
 - (D) Potentiometer
131. Examination of broken glass objects primarily involves
- (A) swelling with solvents
 - (B) watermark
 - (C) mechanical fit
 - (D) capillary electrophoresis
132. Lehr is the term involved in
- (A) tempering of a glass
 - (B) stamping process
 - (C) colouring process
 - (D) annealing process
133. When glass is immersed in a liquid of similar refractive index, its _____ will disappear and minimum contrast between the glass and liquid will be observed.
- (A) Solve line
 - (B) Becke line
 - (C) Annealing
 - (D) Match point
134. Floatation is a method used by scientists to determine the
- (A) Weight
 - (B) Density
 - (C) Volume
 - (D) Refractive index

135. In forensic laboratories density gradient tube technique is used for _____.
- (A) Paint analysis
 - (B) Soil analysis
 - (C) Gun shot residue analysis
 - (D) Glass analysis
136. Examination of the colour of soil samples that have been heated to temperature of _____ for 30 minutes may supply additional information when combined with the data from dry sample examination in some soils.
- (A) 750°C
 - (B) 850°C
 - (C) 950°C
 - (D) 1050°C
137. Pyrex glass is otherwise known as
- (A) Borosilicate
 - (B) Bottle glass
 - (C) Magnesium silicate
 - (D) Window glass
138. The only one paint that was fire retardant paint containing
- (A) Sodium chloride
 - (B) Potassium chloride
 - (C) Sulphur dioxide
 - (D) Antimony oxide
139. Pyrolytic gas chromatography is used in identification of
- (A) Paint binders
 - (B) Glass particles
 - (C) Fibres
 - (D) Hair

140. Which, when extracted from physiological fluids show resistant to chemical reagents?
(A) Urine (B) Spermatozoa
(C) Fecal matter (D) Tears
141. Normospermic semen contains sperm cell concentrations from approximately
(A) 5×10^6 to 10×10^6 /ml (B) 10×10^6 to 25×10^6 /ml
(C) 25×10^6 to 50×10^6 /ml (D) 50×10^6 to 150×10^6 /ml
142. Vasectomized males will not release sperm. Therefore _____ tests can identify semen. Specific enzymes are helpful in verifying the presence of semen in sexual assault case.
(A) Polymerase (B) Adenilase kinar
(C) Phosphogluco mutase (D) Acid phosphotase
143. Which of the following test is for detection of species origin of blood?
(A) Benzidine test
(B) Spectroscopic test
 (C) Precipitin test
(D) Absorption elution test
144. What identify all blood group systems as well as the polymorphic enzymes and proteins of their offspring?
 (A) Genotype of parents
(B) Psychology of parents
(C) Families of parents
(D) Determination of parents
145. Anti-H lectin, which strongly reacts with the H-substance present in "O" blood can be prepared by extracting
(A) Guinea pigs (B) Rats
 (C) Ulex europaeus seeds (D) Rabbits
146. Tarsals are the bones of
(A) Hand and shoulder (B) Pelvis
(C) Skull and neck (D) Foot and ankle

147. The bottom portion of hair nearest the scalp in which DNA may be found is called the
- (A) Medulla
 - (B) Shaft
 - (C) Follicular tissue
 - (D) Cortea
148. Which of the following is the forensic database for DNA?
- (A) NIBIN
 - (C) CODIS
 - (B) AFIS
 - (D) STR
149. This is not the basic component of a DNA molecule
- (A) Lipid
 - (B) Sugar
 - (C) Nitrogenous base
 - (D) Phosphate group
150. The fluid portion of the blood is called as _____
- (A) Thrombocyte
 - (B) Antigen
 - (C) Antibody
 - (D) Plasma
151. The human diploid genome consists of how many pairs of autosomes
- (A) 23 pairs
 - (B) 26 pairs
 - (C) 22 pairs
 - (D) 24 pairs
152. In popularizing scientific crime detection methods, which fictional character has a great role or influence
- (A) Albert S. Osborn
 - (B) Sherlock Holmes
 - (C) Sir Arthur Canon Doyle
 - (D) Walter C Mc Crone

153. Who among the following developed Polymerase Chain Reaction (PCR) that amplifies a tiny quantity of DNA and earned Nobel prize.
- (A) Sir Alec Jeffreys
 - (B) Kary mullis
 - (C) Sir Arthur Conan Doyle
 - (D) Karl Land steiner
154. In India, the role played by the government forensic scientists has been given due recognition under _____.
- (A) Section 293 of CrPc
 - (B) Section 294 of CrPc
 - (C) Section 193 of CrPc
 - (D) Section 194 of CrPc
155. Many criminals commit crime in their own characteristic way known as _____.
- (A) Corpus delicti
 - (B) Modus operandi
 - (C) Signatures
 - (D) Algor Montis
156. The first chemical Examiner's laboratory was set up at _____.
- (A) Madras
 - (B) Delhi
 - (C) Calcutta
 - (D) Bombay
157. In India, the first fingerprint bureau was started in which place?
- (A) Madras
 - (B) Bombay
 - (C) Calcutta
 - (D) Delhi

158. The 'general acceptance' principle which serves as a criterion for the judicial admissibility of scientific evidence was known as
- (A) Frye standard
 - (B) Duebert ruling
 - (C) Exper testimony
 - (D) Gate keeping
159. A portable electrostatic lifting device used for lifting dust impression is
- (A) Poliray
 - (B) Route finder
 - (C) Path finder
 - (D) Tracker
160. When shoe and tire marks are impressed into soft earth at crime scene, their preservation is best accomplished by
- (A) Photography and tracing
 - (B) Tracing and casting
 - (C) Photography and casting
 - (D) Lifting and casting
161. Fixed points in a finger print pattern are called
- (A) Delta point and core point
 - (B) Right point and left point
 - (C) Front point and back point
 - (D) Upper point and lower point
162. Two well defined loops one superincumbent on or surrounding the other is called
- (A) Lateral loop pattern
 - (B) Ulnar loop pattern
 - (C) Twinned loop pattern
 - (D) Radial loop pattern
163. The common name for gypsum or calcium sulphate is
- (A) Talc powder
 - (B) Finger print developer
 - (C) Fluorescent powder
 - (D) Plaster of paris

164. 60 to 65% of the population has _____ finger print pattern
- (A) Arch (B) Loop
(C) Whorl (D) Composite
165. Footwear impression is an example for
- (A) Group characteristic
(B) Individual characteristic
(C) Class characteristic
(D) Common characteristic
166. For lifting, collection and preservation of residue imprints which one of the following is not suitable
- (A) Gel lifters (B) Adhesive lifters
(C) Electrostatic lifting (D) Laser
167. The basic principles that form the present system of identification by finger prints was developed by
- (A) Alphonse Bertillon
(B) Francis Galton
(C) Leone Lattes
(D) Calvin Goddard
168. The skin ridge pattern could be important for the identification of criminals was suggested by
- (A) Alphonse Bertillon
(B) Henry Fauld
(C) William Herschel
(D) Will mess
169. The shoe print comparisons and automated shoe print identification systems was developed on which country?
- (A) Poland
(B) England
(C) Russia
(D) America

170. Proof mark denotes

- (A) The stamp mark on the breach of the firearm
- (B) Firing pin mark on the cartridge case
- (C) Striation mark on the bullets
- (D) Percentage of alcohol.

171. Discharged bullets (evidence) should be marked on the

- (A) Base
- (B) Sides
- (C) Left
- (D) Right

172. Carbon monoxide remains in the barrel of a gun after _____ hours.

- (A) 6 hrs
- (B) 12 hrs
- (C) 18 hrs
- (D) 24 hrs

173. Fill in the blanks :

_____ is the most important component of the cartridge

- (A) Breech block
- (B) Primer
- (C) Cartridge head
- (D) Groove

174. Tool marks helps in establishing the _____ of crime.

- (A) Corpus delicta
- (B) Modus operandi
- (C) Victim
- (D) Site

175. The diameter of the shot gun barrel is expressed by term
- (A) Lands
 - (B) Grooves
 - (C) Calibre
 - (D) Gauge
176. _____ method provides a more definitive indication of GSR collected from the hand of the shooter.
- (A) SEM - EDX
 - (B) ICP - AES
 - (C) GC - MS
 - (D) FT - IR
177. _____ seems to adhere more firmly than the powder residue around the bullet hole in clothing / tissue.
- (A) Major elements
 - (B) Trace element
 - (C) Back scatter electrons
 - (D) Secondary electrons
178. The amount and distribution of _____ and _____ around bullet holes is a function of the turing distance.
- (A) Lead and antimony
 - (B) Lead and bismuth
 - (C) Antimony and bismuth
 - (D) Barium and magnesium
179. Bank notes have traditionally been printed on high-quality
- (A) paper
 - (B) rag
 - (C) polymer
 - (D) cellulose

180. A nuclear reactor is a source of
- (A) Proton
 - (B) Neutrons
 - (C) Electron
 - (D) Atom
181. The way of eliciting how the elements are combined into compounds in a crystal
- (A) Emission spectroscopy
 - (B) Atomic absorption
 - (C) Neutron activation analysis
 - (D) X-ray diffraction
182. Tritium is the isotope of
- (A) Carbon
 - (B) Hydrogen
 - (C) Oxygen
 - (D) Nitrogen
183. Instrument used to obtain and record the line spectrum is
- (A) Absorption spectrograph
 - (B) Emission spectrograph
 - (C) IR spectrograph
 - (D) UV spectrograph
184. This substance can be an example for sublimation
- (A) Iodine
 - (B) Water
 - (C) Proteins
 - (D) Lipids

185. Best technique for separating and identifying body fluids is
- (A) HPLC (B) Spectrophotometry
 (C) Electrophoresis (D) GC
186. The fingerprint of heroin samples can be provided by
- (A) Mass spectrometry
(B) X-ray diffraction
 (C) I.R. Spectrophotometry
(D) Scanning electron microscopy
187. Which of the following can be used as a carrier gas in Gas chromatography?
- (A) Hydrogen and chlorine
(B) Ozone and Oxygen
(C) Bromine and Sulphur – di – oxide
 (D) Nitrogen or Helium
188. Identification of Organic compounds is better in _____ that the
- (A) Neutron Activation analysis
(B) Atomic Absorption spectrophotometry
(C) Spectrophotometry
 (D) Mass spectrometry
189. Light petroleum to heavy petroleum distillates can be separated by
- (A) Gas chromatography
(B) Video spectral comparator
(C) Infra red spectroscopy
(D) Cross over Immuno electrophoresis
190. Gas chromatography uses which types of mobile phase
- (A) Plates
(B) Silica
 (C) Gas
(D) Liquid

191. Properties of evidence that can only be associated with a group and never with a single source is known as.
- (A) Class characteristics
 - (B) Individual characteristics
 - (C) Product rule
 - (D) Crime-Scene reconstruction.
192. Each item collected at the crime scene must be placed in a _____ container?
- (A) Plastic container
 - (B) Universal container.
 - (C) Separate container.
 - (D) Airtight container.
193. A forensic examination process including examination of biological evidence follows a basic sequence of steps. Which of the following lists the correct sequence?
- (A) Recognition, identification, individualization and reconstruction
 - (B) Recognition, individualization, identification and reconstruction
 - (C) Individualization, recognition, identification and reconstruction
 - (D) Identification, recognition, individualization and reconstruction.
194. This is not the method of crime scene search.
- (A) Grid method
 - (B) Spiral search method
 - (C) Line search method
 - (D) Going through the list of history sheeters
195. Normally, the purpose of examining vehicle head lights or tail lights as physical evidence is
- (A) to determine the voltage
 - (B) to find out the wattage
 - (C) to determine whether a light was 'on' or off at the time of impact
 - (D) to fix the headlight or tail light back on the vehicle.

196. A list of all persons who came into possession of an item of evidence
- (A) Chain of custody
 - (B) Forensic expert
 - (C) Investigating officers
 - (D) Expert witness
197. When a criminal come in contact with an object or person, a cross transfer of evidence occurred. This is called
- (A) Locard's Principle
 - (B) Law of Circumstantial facts
 - (C) Law of Individuality
 - (D) Law of Progressive change
198. Automobiles run on gasoline crime laboratories run on
- (A) Police investigation
 - (B) Direct enquiry
 - (C) Physical evidence
 - (D) Criminal law
199. The frequent inability of the expert to relate physical evidence to a common origin with a high degree of probability in which the evidence possesses
- (A) individual characteristics
 - (B) class characteristics
 - (C) common characteristics
 - (D) specific characteristics
200. The method used to support a likely sequence of events by the observation and evaluation of physical evidence, as well as statements made up those involved with the incident is called
- (A) notes-taking
 - (B) searching
 - (C) sketching
 - (D) reconstruction

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