

## ANSWER KEYS

(Correct Answers are marked in Bold Letters)

### SECTION-A

1. **Choose the option nearest in meaning to the word 'Obfuscate':**
  - a. Clarify
  - b. Illuminate
  - c. Confuse intentionally**
  - d. Simplify
2. **Free legal aid to ensure equal justice is provided under which Article of the Indian Constitution?**
  - a. Article 21
  - b. Article 39A**
  - c. Article 32
  - d. Article 36
3. **Which of the following is considered transient evidence?**
  - a. Fingerprints
  - b. Bloodstains
  - c. Oduor**
  - d. Footwear impressions
4. **In information technology and ergonomics, "HCI" refers to:**
  - a. High Computer Internet
  - b. High Computer Interference
  - c. Hold Human Complex
  - d. Human Computer Interaction**
5. **Which of the following is NOT recognized as a fundamental principle of forensic science?**
  - a. Principle of Exchange
  - b. Principle of Relativity**
  - c. Principle of Individuality
  - d. Principle of Probability
6. **Which element among the following possesses the highest electron affinity?**
  - a. Nitrogen
  - b. Oxygen
  - c. Fluorine
  - d. Chlorine**
7. **The Implicit Association Test (IAT), developed by Greenwald et al. (1998), is primarily designed to assess:**
  - a. Perception
  - b. Attention
  - c. Implicit prejudice and attitudes**
  - d. Intelligence quotient
8. **Which chromatographic technique is most suitable for separation of non-volatile compounds?**
  - a. GCMS
  - b. Gas chromatography
  - c. GCHS
  - d. HPLC**
9. **If sales increase from 200 units to 260 units, calculate the percentage increase.**

- a. 20%
- b. 25%
- c. **30%**
- d. 35%
10. **In forensic odontology, the term “Chiloscopy” refers to:**
- a. Study of palatal rugae patterns for identification
- b. Analysis of bite marks on human skin
- c. **Examination of lip print patterns for personal identification**
- d. Microscopic study of dental pulp tissues
11. **Which constitutional body among the following is incorrectly categorized as constitutional?**
- a. Election Commission of India
- b. Union Public Service Commission
- c. Finance Commission
- d. **NITI Aayog**
12. **The cerebellum is primarily associated with:**
- a. Hormonal regulation
- b. Body temperature control
- c. **Coordination of voluntary movements**
- d. Long-term memory storage
13. **Choose \_\_\_\_\_ the \_\_\_\_\_ correct \_\_\_\_\_ preposition:**  
**“He is addicted \_\_\_\_\_ gambling.”**
- a. with
- b. for
- c. **to**
- d. on
14. **The null hypothesis ( $H_0$ ) generally represents:**
- a. Maximum certainty
- b. Presumption of guilt
- c. Alternative explanation
- d. **No effect or no difference**
15. **A footwear impression discovered in soft soil should be photographed:**
- a. Close-up scaled photography
- b. Long-range photography
- c. Mid-range photography
- d. **All of the above**
16. **In a positively skewed forensic dataset, the most appropriate measure of central tendency is generally the:**
- a. Mean
- b. Range
- c. **Median**
- d. Variance
17. **Which statement regarding admissibility of forensic evidence is most accurate?**
- a. Forensic evidence is admissible only if collected under the Exchange Principle (Locard), regardless of chain of custody.
- b. **Reports of Senior Scientific Officers (SSO) in State Forensic Science Laboratories are automatically admissible under Section 293 CrPC and Section 329 BNSS.**
- c. Admissibility of forensic evidence is governed by the Best Evidence Rule and requires proper chain of custody and expert testimony.
- d. Digital evidence is admissible only if accompanied by oral testimony of the investigating officer, not under Section 65B of the Indian Evidence Act

18. **Which statement regarding expert opinion under the Bharatiya Sakshya Adhiniyam is correct?**
- Expert opinion is conclusive proof
  - Expert testimony is inadmissible
  - Expert opinion assists the court in technical matters**
  - Courts are legally bound by expert conclusions
19. **While Calvin Goddard is popularised as the 'father of modern ballistics,' the critical instrumentation, the comparison microscope adapted specifically for comparing bullets side-by-side, was primarily engineered by which of his colleagues at the Bureau of Forensic Ballistics?**
- Alexandre Lacassagne and Victor Balthazard
  - Charles Waite and Philip Gravelle**
  - Albert S. Osborn and John Wigmore
  - Paul Kirk and August Vollmer
20. **Dr. E.H. Hankin served as a renowned Chemical Examiner and Bacteriologist in the late 19th and early 20th century. In which Indian city was his laboratory located, famously known for its rigorous medico-legal analysis and foundational work on cholera bacteriophages?**
- Agra**
  - Madras
  - Lahore
  - Bombay
21. **Grammar:Language::Formula: ?**
- Equations
  - Calculations
  - Mathematics**
  - Numeral
22. **Which of the following best explains the role of the sympathetic nervous system?**
- Regulation of digestion during rest
  - Control of voluntary skeletal movements only
  - Activation of the fight-or-flight response**
  - Long-term memory storage
23. **Under the Bharatiya Sakshya Adhiniyam (BSA), 2023, what is the evidentiary status of a video recording that is simultaneously stored on a server and broadcast live?**
- The server recording is primary; the broadcast is secondary
  - Both are considered primary evidence**
  - Only the server recording is admissible
  - Both are secondary evidence requiring 65B certification
24. **Bandura's Social Learning Theory emphasizes the importance of which mechanism in the acquisition of behavior?**
- Genetic predisposition
  - Observational learning and modeling**
  - Unconscious childhood conflicts
  - Direct reinforcement only
25. **Which constitutional amendment reduced the voting age in India from 21 years to 18 years?**
- 42nd Amendment
  - 44th Amendment
  - 61st Amendment**
  - 73rd Amendment
26. **The headquarters of the World Trade Organization (WTO) is situated in:**
- Brussels**

- b. **Geneva**
  - c. Paris
  - d. New York
27. **Which of the following gases is NOT categorized as a greenhouse gas?**
- a. Methane
  - b. **Nitrogen**
  - c. Carbon dioxide
  - d. Nitrous oxide
28. **If observed frequencies and expected frequencies are nearly identical, the Chi-square value will generally be:**
- a. Very high
  - b. Negative
  - c. Equal to one
  - d. **Very low**
29. **Choose the antonym of the word “Ephemeral”:**
- a. Fleeting
  - b. Temporary
  - c. Transient
  - d. **Eternal**
30. **Which of the following correctly matches the typical magnifying powers of microscopes commonly used in forensic science?**
- a. Stereo microscope – up to 1000× magnification
  - b. Compound light microscope – up to 100× magnification
  - c. Comparison microscope – up to 400× magnification
  - d. **Electron microscope – up to 1,000,000× magnification**
31. **Which casting material is most suitable for recovering fine tool marks from a steel surface at a crime scene?**
- a. Plaster of Paris
  - b. Dental stone
  - c. **Mikrosil / Silicone-based casting compound**
  - d. Alginate
32. **In forensic analysis, systematic error produces:**
- a. Random fluctuations
  - b. Increased objectivity
  - c. Greater precision only
  - d. **Consistent deviation from the true value**
33. **McNaughten’s Rule is primarily associated with:**
- a. **Determination of criminal insanity and understanding of the nature of the act**
  - b. Victim compensation mechanisms
  - c. Witness examination procedure
  - d. Police investigation methods
34. **Which search technique is generally considered most appropriate for a large outdoor crime scene with limited investigators?**
- a. Zone search
  - b. Spiral search
  - c. **Strip/Line search**
  - d. Wheel search
35. **The Scheimpflug principle used in forensic photography states that:**
- a. The lens must shift laterally to increase focal depth
  - b. Lens tilt should remain orthogonal to the subject
  - c. Hyperfocal distance determines tilt angle

- d. Lens plane, image plane, and subject plane intersect along a common line**
36. **In forensic photogrammetry, which intrinsic camera parameter is essential for extracting accurate three-dimensional measurements?**
- Camera XYZ coordinates
  - Principal point and lens distortion coefficients**
  - Tripod pitch-roll-yaw angles
  - Focal plane distance to evidence marker
37. **The first practical application of fingerprinting in criminal identification in India is associated with:**
- Lord Curzon
  - Sir William Herschel**
  - Lord Dalhousie
  - Lord Cornwallis
38. **Adipocere formation is seen in:**
- Dead body exposed to air
  - Dead body buried in damp, clay soil**
  - Burial in dry hot air
  - All
39. **To accurately photograph bite marks using reflected short-wave ultraviolet radiation (254 nm), the camera lens must be manufactured from which specialized optical material?**
- Extra-low dispersion glass
  - Quartz or fluorite**
  - Polycarbonate-coated optics
  - Barium crown glass
40. **Which of the following is NOT recognized as a metabolite of diazepam?**
- Lorazepam**
  - Temazepam
  - Oxazepam
  - Desmethyldiazepam
41. **The classical confirmatory test for arsenic poisoning is known as:**
- Marquis test
  - Mandelin's test
  - Marsh test**
  - Vitali's test
42. **Which of the following alkaloids belongs to the Isoquinoline group?**
- Morphine
  - Cocaine
  - Papaverine**
  - Reserpine
43. **Which of the following compounds belongs to the class of polychlorinated hydrocarbons?**
- Malathion
  - Parathion
  - Endrin**
  - Diazinon
44. **Which among the following poisons is volatile in nature?**
- Cyanide**
  - Methyl parathion
  - Brucine
  - All of the above
45. **The Bharatiya Nyaya Sanhita primarily governs:**
- Civil disputes

- b. Administrative tribunals
  - c. Rules of evidence
  - d. Substantive criminal law**
46. **"Who propounded the term 'White-Collar Crime'?"**
- a. Cesare Lombroso
  - b. Edwin Sutherland**
  - c. Emile Durkheim
  - d. Karl Marx
47. **For photographing tyre impressions at night, the best lighting technique is:**
- a. Flash directly from above
  - b. Oblique lighting at low angle from multiple sides**
  - c. No light needed
  - d. UV light only
48. **Within the scope of forensic anthropology and pathology, establishing the 'cause' of death is distinct from determining the 'manner' of death. Which of the following represents an accurate limitation regarding the scope of forensic anthropology in this context?**
- a. Forensic anthropology generally cannot definitively establish the physiological cause of death; it only characterizes the skeletal trauma associated with the fatal event.**
  - b. Forensic anthropology can definitively determine a homicide manner of death based solely on the presence of a peri-mortem sharp force trauma lesion.
  - c. Forensic anthropology is uniquely qualified to establish the physiological cause of death when advanced decomposition prevents soft tissue toxicology.
  - d. Forensic anthropology's primary scope is to utilize the Law of Progressive Change to determine the cause of death via isotopic bone analysis.
49. **Arrange the following cannabis preparations in ascending order of tetrahydrocannabinol (THC) concentration: Bhang, Ganja, Charas, Hashish oil.**
- a. Bhang → Ganja → Charas → Hashish oil**
  - b. Ganja → Bhang → Charas → Hashish oil
  - c. Hashish oil → Charas → Bhang → Ganja
  - d. Ganja → Hashish oil → Charas → Bhang
50. **Which factor is MOST important in determining the credibility of an expert witness in court?**
- a. duration of experience in relevant field
  - b. Number of appearances in court
  - c. Scientific qualifications, expertise, and methodology adopted**
  - d. type of evidences collected by the experts

**SECTION-B**

51. **When collecting fractured glass from a window to determine the direction of the impacting force via the 3R rule (Radial cracks form a Right angle on the Reverse side of the force), which fragments are most critical and how must they be handled?**
- The smallest pulverized shards on the floor, marked with the exact time of collection.
  - Fragments remaining securely inside the window frame, clearly marked prior to removal to indicate the 'inside' versus 'outside' surfaces.**
  - All glass must be collected indiscriminately and crushed to ensure uniform chemical comparison testing.
  - The concentric fractures found farthest from the impact zone, left unmarked to prevent chemical contamination.
52. **“Void patterns” in bloodstain interpretation indicate:**
- Presence of diluted blood
  - Obstruction between blood source and target surface**
  - Arterial injury
  - Expirated bloodstain
53. **“Negative evidence” at a crime scene refers to:**
- Fabricated evidence planted by police
  - Absence of expected evidence under given circumstances**
  - Illegally collected evidence
  - Evidence rejected by court
54. **Which of the following is LEAST reliable for individualization in forensic science?**
- DNA profile
  - Fingerprint ridge detail
  - ABO blood grouping**
  - Iris pattern
55. **In 1910, the office of the Imperial Serologist was established in Calcutta to provide expert medico-legal opinion on blood and seminal stains. Who was appointed as the first Imperial Serologist to the Government of India?**
- Major General Sir Leonard Rogers
  - Dr. W.D. Sutherland**
  - Dr. E.H. Hankin
  - Dr. N.K. Sen
56. **The world's first Fingerprint Bureau was established in Calcutta in 1897. This monumental shift from Anthropometry to Fingerprints was officially recommended by an independent two-member committee appointed by the Governor General. Who comprised this specific committee?**
- E.R. Henry and Azizul Haque
  - William Herschel and Francis Galton
  - C. Strahan and A. Pedler**
  - Lord Belper and Charles Troup
57. **The first Government Examiner of Questioned Documents (GEQD) laboratory was established in 1904, initially in Bengal before shifting to Simla. Who was appointed as the first individual to hold this prestigious post?**
- Albert S. Osborn
  - F. Brewster
  - S.N. Sen
  - C.R. Hardless**
58. **Dr. E.H. Hankin served as a renowned Chemical Examiner and Bacteriologist in the late 19th and early 20th century. In which Indian city was his laboratory located, famously known for its rigorous medico-legal analysis and foundational work on cholera bacteriophages?**

- a. **Agra**
  - b. Madras
  - c. Lahore
  - d. Bombay
59. **In crime scene management, “scene contamination” may occur due to:**
- a. Improper PPE usage
  - b. Unauthorized entry
  - c. Environmental exposure
  - d. **All of the above**
60. **Which statement regarding electronic evidence under the new Indian criminal laws is MOST appropriate?**
- a. Electronic evidence is inadmissible without eyewitness support
  - b. Only original hard disks are admissible
  - c. **Metadata, CCTV recordings, emails, and digital records may constitute valid evidence**
  - d. Electronic evidence has lower evidentiary value than oral evidence in all situations
61. **“Touch DNA” analysis refers to:**
- a. **DNA obtained from epithelial cells transferred by handling objects**
  - b. DNA extracted from touchscreen devices only
  - c. DNA recovered from saliva exclusively
  - d. DNA sequencing through nanotechnology chips
62. **Which of the following best reflects the evidentiary significance of forensic crime scene reports under the new criminal law framework of India**
- a. They are merely advisory and scientifically irrelevant
  - b. **They constitute expert evidence capable of corroborating material facts and investigative findings**
  - c. They automatically establish guilt conclusively
  - d. They are admissible only in homicide cases
63. **Under Section 173 of the BNSS, 2023, the provision for an 'e-FIR' is formally integrated, allowing citizens to report cognizable offenses electronically. To legally crystallize this electronic communication into a formal FIR, what subsequent action must the informant take within what strict timeframe?**
- a. The informant must submit a sworn physical affidavit to the Superintendent of Police within 5 days.
  - b. The informant must physically appear before the jurisdictional Magistrate within 7 days to verify the contents.
  - c. The communication is instantly treated as an FIR if authenticated by an Aadhaar OTP within 24 hours.
  - d. **The informant must sign the record, either physically or via digital signature, within 3 days.**
64. **Under the new Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, Section 472 brings strict regulatory timelines to Mercy Petitions in death sentence cases. What is the exact statutory time limit for a convict to file a mercy petition before the President or Governor after the Supreme Court dismisses the appeal or review?**
- a. 60 days.
  - b. 90 days.
  - c. **30 days.**
  - d. 15 days.
65. **The Directorate of Forensic Science Services (DFSS) establishes standardized operational guidelines for all Forensic Science Laboratories in India. Under these stringent norms, which specific division is primarily tasked with the highly complex analysis of accelerants and volatile organic compounds in arson cases?**
- a. The Excise Division.
  - b. The Toxicology Division.

- c. The Physics Division.  
d. **The Chemistry Division.**
66. **Buccal swabs are primarily used in genetic testing and forensics to collect DNA from which of the following areas?**  
a. **The inner cheek lining**  
b. The surface of the tongue  
c. The deep nasal cavity  
d. The bloodstream
67. **When providing instructions for a patient-collected vaginal swab for Nucleic Acid Amplification Testing (NAAT), what is the recommended depth of insertion?**  
a. 1 cm (0.4 inches)  
b. **5 cm (2 inches)**  
c. 10 cm (4 inches)  
d. The entire length of the swab shaft
68. **For determining sex from an adult human skeleton, which single bone gives the highest accuracy?**  
a. Femur  
b. Skull  
c. **Pelvis**  
d. Sternum
69. **An unknown skeleton is recovered. For maximum DNA yield, the best sample to collect is:**  
a. Rib  
b. Vertebra  
c. **Petrous part of temporal bone**  
d. Pelvis
70. **Which artificial light is most commonly used in forensic photography due to its balanced spectrum?**  
a. Tungsten lamp  
b. Fluorescent light  
c. **LED light source**  
d. Sodium vapour lamp
71. **World Photography Day is celebrated annually on \_\_\_\_\_.**  
a. 29 August  
b. **19 August**  
c. 29 September  
d. 19 July
72. **Electrostatic Detection Apparatus (ESDA) is used to analyse:**  
a. For Ink analysis.  
b. For forgery analysis.  
c. **To find indented impressions.**  
d. For printing questioned document analysis.
73. **Under Robert Merton's Strain Theory, an individual who completely abandons both the culturally approved goals of financial success and the institutionalised means of achieving them, yet remains physically within society (e.g., a chronic vagrant In establishing legal causation (actus reus), which of the following scenarios most accurately severs the chain of causation (novus actus interveniens) according to established common law principles?**  
a. The victim refuses life-saving medical treatment on strict religious grounds, leading directly to their death.  
b. Subsequent medical treatment is demonstrably negligent, but the defendant's original wound remains an operating and substantial cause of death.  
c. **Medical treatment is so independent, potent, and palpably wrong in causing death that the defendant's original acts become merely part of the history.**

- d. The victim attempts to escape the defendant's assault and suffers fatal injuries in a manner that was reasonably foreseeable.
74. **When documenting bloodstains on a heavily patterned, dark red fabric, infrared (IR) photography is highly effective. What is the optical mechanism that allows the blood to be distinctly visualized against this specific background?**
- Blood highly reflects IR wavelengths, appearing stark white, while the dark red fabric absorbs them entirely.
  - Both the dark fabric and the blood absorb IR completely, but the liquid blood causes a measurable phase shift in the returning light waves.
  - The IR radiation causes the iron in hemoglobin to emit a secondary heat signature captured by the camera's CMOS sensor.
  - Blood absorbs IR wavelengths appearing dark, while many dark synthetic dyes transmit or reflect IR, appearing unusually light.**
75. **When collecting debris soaked with a highly volatile accelerant (e.g., gasoline) from an arson scene, which of the following packaging materials is strictly contraindicated due to molecular permeation?**
- A heat-sealed, specialized nylon evidence bag.
  - A glass jar equipped with a Teflon-lined lid.
  - A clean, unlined metal paint can with a friction-fit lid.
  - A heavy-duty polyethylene plastic bag.**
76. **Which of the following is not considered a discipline of forensic science?**
- Forensic toxicology
  - Forensic anthropology
  - Forensic astrology**
  - Forensic odontology
77. **Which Indian scientist is known as the “Father of DNA fingerprinting in India”?**
- Hem Chandra Bose
  - Lalji Singh**
  - P.C. Mahalanobis
  - B.N. Mullick
78. **Who developed the Brain Electrical Oscillation Signature (BEOS) instrument used in forensic investigations?**
- Dr. C.R. Mukundan**
  - Dr. Edmond Locard
  - Dr. Hans Gross
  - Dr. Farwell
79. **Which principle in forensic science ensures that evidence must be capable of scientific testing?**
- Principle of analysis
  - Principle of individuality
  - Principle of probability
  - Principle of falsifiability**
80. **Which chemical reagent is most commonly used to develop latent fingerprints on paper?**
- Iodine
  - Ninhydrin**
  - Cyanoacrylate
  - Silver nitrate
81. **When recovering micro-level toolmark impressions from a compromised surface using a silicone casting material, what is the critical curing mechanism that ensures dimensional stability without causing exothermic damage to the substrate?**
- A thermal-set process that requires the application of an external heat source to polymerize the liquid silicone into a solid.

- b. **An addition-cure (polyaddition) silicone vulcanization process, which produces no volatile byproducts and exhibits negligible shrinkage.**
  - c. A specialized UV-curing process that requires the application of an alternate light source for rapid hardening.
  - d. A condensation-cure process that relies on atmospheric moisture, releasing alcohol or acetic acid as a curing byproduct.
82. **Which Indian forensic scientist is remembered for fingerprint classification in India?**
- a. Lalji Singh
  - b. **Hem Chandra Bose**
  - c. P.C. Mahalanobis
  - d. B.N. Mullick
83. **Which Indian criminal case is considered the first conviction based on DNA fingerprinting evidence?**
- a. Nirbhaya case
  - b. Priyadarshini Mattoo case
  - c. **Tandoor murder case**
  - d. Jessica Lal case
84. **Under which section of Indian law provision have been made that the Court can form an opinion by an expert upon a point of science**
- a. **Section 39 of BSA**
  - b. Section 47 of BSA
  - c. Section 329 of BNSS
  - d. Section 45 of BSA
85. **The Digital Personal Data Protection Act (DPDP), 2023 emphasizes which principle?**
- a. **Consent-based data processing**
  - b. Unlimited government access
  - c. Elimination of privacy rights
  - d. Mandatory biometric storage
86. **Which principle in forensic science asserts that while individuals may lie, the evidence and facts themselves remain truthful?**
- a. Locard's Exchange Principle
  - b. Law of Individuality
  - c. Principle of Analysis
  - d. **Law of Circumstantial Evidence**
87. **The investigator's approach to knowledge building and Problem solving based on discussion and debate in the process of crime scene reconstruction is known as:**
- a. Debate Method
  - b. **Socratic method**
  - c. Scientific Method
  - d. None of the above
88. **Anything that defines that happened during the Commission of Crime is:**
- a. **Action Evidence**
  - b. Consequential evidence
  - c. Inferred Evidence
  - d. Ownership evidence
89. **EO and SAR imagery is used in**
- a. Digital Photography of underwater scenes
  - b. Reconstruction of Crime scenes
  - c. A type of photogrammetric System
  - d. **Satellite Imaging system**
90. **A man voluntarily throws acid on the face of a girl. The girl sustained severe painful burn over her face and was admitted in hospital. All of the statements are correct except:**

- a. The doctor should inform police
  - b. The accused is punished with imprisonment of 3 years**
  - c. The doctor should treat her free of cost
  - d. State would pay compensation to the victim for rehabilitation, over and above the fine which is to be paid by the convicted person
91. **Which statement is correct?**
- a. A child below 12 years of age is not required to take oath
  - b. A person with mental illness cannot testify in the court of law and intoxicated person
  - c. Dumb witness can also testify by writing**
  - d. All of the above
92. **Chromodacryorrhoea is a feature of poisoning by:**
- a. Lead
  - b. Copper
  - c. Organophosphorus**
  - d. Iron
93. **Which one is correct?**
- a. Ligature mark is horizontal in hanging
  - b. Ligature mark is oblique in strangulation
  - c. Inward compression fracture of hyoid bone is found in hanging
  - d. Death is earlier in fresh water drowning as compared to salt water drowning**
94. **A forensic trace examiner recovers a glass fragment from a hit-and-run and determines its Refractive Index (RI). If this fragment is subsequently subjected to a controlled laboratory annealing protocol and its RI is re-measured, what specific change validates that the fragment originally derived from a tempered automotive window?**
- a. The structural integrity will fail, causing the glass to undergo catastrophic dicing during the heating phase.
  - b. The RI will increase by approximately 0.002 to 0.003 as the atomic structure relaxes and compacts.**
  - c. The RI will decrease significantly due to the rapid release of locked-in surface tension.
  - d. The RI will remain mathematically unchanged, confirming the silicate matrix integrity.
95. **During the chemical restoration of an obliterated serial number on a cold-rolled steel firearm frame, Fry's Reagent is applied. What is the fundamental electrochemical principle governing this restoration?**
- a. The cold-worked area beneath the stamped number becomes cathodic relative to the surrounding metal, causing the surrounding metal to dissolve faster.
  - b. The acid uniformly etches the surface, but the differing refractive index of the cold-worked grain boundaries creates a visual contrast.
  - c. The plastic deformation disrupts the crystal lattice, increasing the internal energy and making the stamped area anodic, leading to preferential oxidation.**
  - d. The reagent selectively reacts with the carbon deposits forced into the micro-fissures during the stamping process.
96. **To recover ear prints from a crime scene, standard fingerprint powders often fail due to the distinct biochemical composition of the print. Which chemical class dominates the secretions forming an ear print, necessitating alternative enhancement like Sudan Black?**
- a. Apocrine proteins and complex polysaccharides.
  - b. Aqueous eccrine secretions, heavily laden with chloride ions.
  - c. Sebaceous lipids, including wax esters, squalene, and triglycerides.**
  - d. Uric acid and high concentrations of free amino acids.
97. **During the collection of mobile devices at a scene, Faraday bags are utilized. What specific physical phenomenon does the metallic mesh within the bag exploit to block RF signals?**
- a. It physically alters the wavelength of the incoming signals, rendering them unrecognizable to the device's antenna.

- b. It generates a low-level active jamming signal that overpowers the device's ability to connect to cellular towers.
  - c. **It creates a conductive enclosure that cancels out external electromagnetic fields via the redistribution of electrical charges.**
  - d. It acts as a sponge, permanently absorbing RF waves and converting them into harmless thermal energy.
98. **In an air-crash investigation, which of the following methods of crime scene search will be most useful?**
- a. Line
  - b. **Zonal**
  - c. Grid
  - d. Spiral
99. **Blood being collected for DNA analysis has to be preserved in which of the following?**
- a. Sodium fluoride
  - b. Sodium citrate
  - c. **EDTA**
  - d. Potassium Oxalate
100. **To enhance the recovery of fibrous material from a suspect's hair, what modification to the traditional combing method is suggested?**
- a. Using a comb with wider teeth.
  - b. Wetting the hair with a specialized solvent before combing
  - c. **Inserting cotton wool or lint-like material between the teeth of the comb**
  - d. Shaving the head completely for a more thorough analysis
101. **Which recovery technique is best suited for recovering loose particulate material like glass fragments from a garment**
- a. **Gently shaking the garment over a clean surface**
  - b. Vacuuming
  - c. Hand picking with tweezers
  - d. Swabbing with a wet cotton bud
102. **Which of the following is considered an "intervening object" in a shooting incident reconstruction?**
- a. The firearm itself.
  - b. **A window or wall the bullet passed through before hitting the target**
  - c. The victim's clothing.
  - d. The holster
103. **What is the primary purpose of a "stinker test" in a forensic laboratory?**
- a. To test for the presence of malodorous decomposition gases.
  - b. To identify flammable accelerants in arson cases.
  - c. To verify the purity of toxicological samples.
  - d. **To serve as an extremely difficult proficiency test that prepares analysts for complex cases.**
104. **Which legal concept establishes that a photograph is admissible if it is a "fair and accurate representation" of the scene?**
- a. The Best Evidence Rule.
  - b. **The Pictorial Testimony Theory.**
  - c. The Silent Witness Theory.
  - d. The Daubert Standard.
105. **"Reciprocity Failure" in forensic photography most commonly occurs during:**
- a. High-speed action shots of a moving vehicle.
  - b. **Extremely long exposures in low-light conditions**
  - c. Mid-day overview shots in bright sunlight.
  - d. Close-up macro photography of fingerprints

106. **When creating a "rough sketch" at a crime scene, which of the following is NOT a mandatory requirement?**
- An accurate compass heading designating North.
  - Dimensions of the room or scene.
  - Scaling to a precise ratio.**
  - A legend or list of symbols for identified objects.
107. **When recovering trace evidence such as hair or fibres from a large surface, which method is discouraged due to the potential for recovering too much "background" material?**
- Hand picking with forceps.
  - Using adhesive tape lifts.
  - Vacuuming.**
  - Using the "druggist fold" for small items
108. **Which postmortem condition is characterized by the settling of blood in the areas of the body closest to the ground, and can indicate if a body has been moved?**
- Rigor mortis.
  - Livor mortis.
  - Autolysis.**
  - Putrefaction.
109. **A First-Class Magistrate can pass a sentence of imprisonment not exceeding \_\_\_\_\_ years.**
- 5**
  - 7
  - 10
  - 20
110. **Nysten's Law is used in relation to:**
- Rigor mortis**
  - Adipocere formation
  - Mummification
  - Embalming
111. **Appearance of a bruise at a site away from the site of impact is called:**
- Artificial bruise
  - True bruise
  - Chemical bruise
  - Ectopic bruise**
112. **The 'Pugilistic Attitude' in burn victims is due to:**
- Muscle contraction from heat.**
  - Rigor mortis.
  - Dehydration of the body.
  - Presence of carbon monoxide.
113. **Wife gave birth to twins. The suspicious husband underwent DNA typing, where he found that he was the father of one of the twins. Such a case is known as:**
- Superfetation
  - Superfecundation**
  - Papyraceous child
  - Supposititious child
114. **Two friends consumed alcohol, after which they fought for a common girlfriend. One of them pushes the other onto the floor and covers his face/nose preventing him from breathing while sitting on his chest. This is known as:**
- Traumatic asphyxia
  - Smothering
  - Burking**
  - Overlying

115. **In case of death in police custody, the inquest is held by:**
- Jail superintendent
  - Executive magistrate
  - Police inspector
  - Judicial magistrate**
116. **Which of the following is the best result showing the application of the doctrine of *corpus delicti* in a homicide case?**
- Conviction based solely on the accused's confession
  - Proof of death and that it resulted from a criminal act**
  - Establishing motive and opportunity of the accused
  - Recovery of the weapon used in the crime
117. **In a hit-and-run case, the original skid mark length (Lc) is 40 m. A test skid mark (Lt) of 20 m is produced at a speed (St) of 50 km/h under similar conditions. What would be the estimated speed of the original vehicle?**
- 50 km/h
  - 75 km/h
  - 100 km/h**
  - 120 km/h
118. **In the composition of traditional black powder, which component acts as the oxidizing agent responsible for supporting rapid combustion?**
- Sulfur
  - Charcoal
  - Potassium nitrate**
  - Antimony sulfide
119. **The Modified Griess Test is used in the examination of gunshot residue to detect:**
- Nitrites**
  - Lead
  - Barium
  - Antimony
120. **In the context of 'Criminal Liability' the term *Mens Rea* refers to:**
- Guilty Mind**
  - Legal Justification
  - Witness Credibility
  - Physical Act