

Forensic Document Examination

Answer Key

(Correct Answers are marked in bold letters)

Section-A

Forensic Aptitude

1. Which country won the 2019 Ice Hockey World Championship?
 - a) Russia
 - b) Finland**
 - c) Canada
 - d) Czech Republic

2. Which Indian state shares the longest land border with Bhutan?
 - a) Assam**
 - b) Sikkim
 - c) Arunachal Pradesh
 - d) West Bengal

3. Which of the following is the longest train route in the world?
 - a) Moscow to Vladivostok**
 - b) Toronto to Vancouver
 - c) Shanghai to Lhasa
 - d) Sydney to Perth

4. Identify the southernmost located country amongst these
 - a) Madagascar
 - b) Sri Lanka
 - c) New Zealand**
 - d) Fiji

5. India shares its land borders with how many countries.
 - a) 5
 - b) 7**
 - c) 9
 - d) 4

6. I will write a letter to you tentatively _____ the dates of the program.
 - a) involving
 - b) urging
 - c) guiding
 - d) indicating**

7. 2 16 112 672 3360 13440 ?

- a) 3430
b) 3340
c) **40320**
d) 43240
e)
8. 40% of 210 is same as one third of?
a) 840
b) 280
c) **252**
d) 84
9. QPO, NML, KJI, _____, EDC
a) **HGF**
b) CAB
c) JKM
d) GHD
10. Samantha is your father's mother's grandson's daughter. Therefore, Samantha is your
a) **niece**
b) sister
c) uncle
d) brother
11. The microscope which cannot be used for studying living cells is
a) Compound microscope
b) **Electron microscope**
c) Fluorescence microscope
d) Light microscope
12. What is the primary purpose of accrediting forensic labs?
a) Financial gain
b) Legal compliance
c) **Quality assurance**
d) Employee satisfaction
13. In which country did Sir William Herschel pioneer the use of fingerprints for identification in the 19th century?
a) United States
b) United Kingdom
c) **India**
d) France
14. The development of the Automated Fingerprint Identification System (AFIS) has greatly enhanced:

- a) Bloodstain pattern analysis
 - b) Fingerprints**
 - c) DNA profiling
 - d) Toxicological analysis
15. The concept of "Every contact leaves a trace" is associated with the work of:
- a) Calvin Goddard
 - b) Edmond Locard**
 - c) Alphonse Bertillon
 - d) Sir William Locard
16. Who is "Father of Forensic Entomology"?
- a) Dr. William Bass
 - b) Dr. Clyde Snow
 - c) Dr. Michael Baden
 - d) Dr. Bernard Green Berg**
17. Next number in the series 3,6,8,16,18,.....is
- a) 28
 - b) 36**
 - c) 54
 - d) 34
18. If today is Wednesday, what would be the day after 121 days
- a) Wednesday
 - b) Saturday
 - c) Sunday
 - d) Friday**
19. Which is the correct spelt word
- a) Capricious**
 - b) Cappricious
 - c) Caprisious
 - d) Caprisuos
20. During electrophoresis speed of migration of ions depends on:
- a) Shape and size of molecule
 - b) Magnitude of charge and shape of molecule
 - c) Magnitude of charge, shape and mass of molecule**
 - d) Magnitude of charge and mass of molecule
21. A bullet from scene of crime is collected by means of
- a) Forceps
 - b) Tongs
 - c) Gloved hands**

- d) Spatula
22. Chelioscopy is study of
- Foot
 - Fingers
 - Palate
 - Lips**
23. The electromagnetic spectrum's Visible region stretches from:
- 380-760 nm**
 - 500-1mm
 - 165-525 nm
 - 760-1 mm
24. Which of the following Microscope uses light as a source of illumination
- SEM
 - TEM
 - Stereo microscope**
 - Scanning probe microscope
25. What type of evidence includes tangible items such as weapons, clothing, or documents that are directly related to a crime?
- Circumstantial evidence
 - Physical evidence**
 - Testimonial evidence
 - Documentary evidence
26. A witness testifying about what they personally observed or experienced is providing:
- Circumstantial evidence
 - Hearsay evidence
 - Testimonial evidence**
 - Documentary evidence
27. Which technique involves casting three-dimensional replicas of footwear impressions found at a crime scene?
- Shoeprint analysis
 - Casting**
 - Electrostatic dust print lifting
 - Bloodstain pattern analysis
28. What is the primary purpose of creating a crime scene sketch?

- a) To replace photographs
 - b) To provide a visual overview of the crime scene**
 - c) To identify suspects
 - d) To collect physical evidence
29. The immediate surroundings of an area where a crime has been committed is referred to as:
- a) A secondary crime scene
 - b) A primary crime scene**
 - c) An auxiliary crime scene
 - d) A contained crime scene
30. What is the primary purpose of Crime Scene Photography?
- a) To document the Investigator's presence
 - b) To create artistic representations of the crime scene
 - c) To provide a visual record of the entire crime scene**
 - d) To capture only close-up shots of evidence
31. In crime scene reconstruction, what does the term "modus operandi" refer to?
- a) The suspect's motive
 - b) The method of operation used by the suspect**
 - c) The victim's actions at the crime scene
 - d) The legal procedures followed during the investigation
32. What does the term "Integrity of the Chain of Custody" refer to?
- a) Keeping the evidence in pristine condition**
 - b) Ensuring a swift transfer of evidence
 - c) Allowing multiple agencies to handle the evidence
 - d) Sharing evidence with the media
33. Which organization is responsible for accrediting forensic laboratories in India according to ISO/IEC 17025 standards?
- a) FSSAI
 - b) NABH
 - c) NABL**
 - d) BIS
34. To identify the shape of univariate data, what type of graph would be the most useful?
- a) Histogram**
 - b) Scatter plot
 - c) Bar chart
 - d) Pie chart
35. What is the purpose of staining in gel electrophoresis?

- a) To regulate temperature
 - b) To enhance electrical conductivity
 - c) To visualize separated molecules**
 - d) To control pH
36. Sum of deviations will be zero if it is taken from
- a) Mean**
 - b) Mode
 - c) Medium
 - d) Standard Deviation
37. Find the median of the given data set: 5, 8, 12, 17, 2, 14, 6, 8, 13 and 7
- a) 5
 - b) 2
 - c) 8**
 - d) 17
38. The reducing action of developing agents for Black & White film –
- a) Potassium Sulphite
 - b) Potassium Bromide
 - c) Sodium Carbonate
 - d) Sodium Thiosulphate**
39. The Exposure Triangle refer to the three major setting that effect Exposure -
- a) ISO, Aperture, Shutter Speed**
 - b) Aperture, Shutter Speed, Focal Length
 - c) Quality of Camera, Aperture, Shutter Speed
 - d) Film, Lens & Colour
40. As per Section 8 of the Indian Evidence Act, 1872 which of the following is a relevant fact:
- a) Motive
 - b) Preparation
 - c) Subsequent Conduct
 - d) All of the above**
41. Under the PFA Act, when is the food said to be adulterated
- a) if any ingredient is injurious to health
 - b) if it is obtained from a diseased animal
 - c) if spices are sold without their essence
 - d) all of these**
42. Coca, hemp and opium are defined under:
- a) The Narcotic Drugs and Psychotropic Substances Act**

- b) The Pharmacy Act
 - c) The Drugs and Cosmetics Act
 - d) The Poisons Act
43. Which of the following methods is non-destructive technique for ink identification
- a) Solubility test
 - b) Thin layer chromatography
 - c) UV-Vis spectrophotometer
 - d) Videospectral analysis**
44. Milk is deficient of which mineral?
- a) Phosphorus
 - b) Sodium
 - c) Iron**
 - d) Potassium
45. Preservation of footprint on snow can be done by
- a) Plaster of Paris Cast
 - b) Sulphur casting**
 - c) Tracing
 - d) Wax Casting
46. Ridge characteristics can be found in:
- a) Footprint
 - b) Fingerprints
 - c) Palm prints
 - d) All**
47. In which section of the CrPC provision for free legal aid is given:
- a) 314
 - b) 381
 - c) 304**
 - d) 334
48. The image seen through a compound microscope is-
- a) Virtual**
 - b) Real
 - c) False
 - d) Imaginary
49. Which of the following is a non-volatile memory?
- a) RAM
 - b) Hard Disk**
 - c) Cache
 - d) ROM**

50. What is the full form of ALU?
- a) Arithmetic Logical Unit
 - b) Arithmetic Local Unit
 - c) Arithmetic Logic Unit**
 - d) Arithmetic Logic Unity

Section-B

Forensic Document Examination

51. Which section of “Indian Evidence Act” defines “Expert” and which sections of IPC deals with Counterfeiting of Currency Notes?
- (a) Section 54 & 489A to 489E
 - (b) Section 54 & 489 to 489
 - (c) Section 45 & 479A to 479E
 - (d) Section 45 & 489A to 489E**
52. The term Disguise leads to inferior quality of hand writings and is used to define Forgery:
- (a) Disguise is due to natural variations
 - (b) False statement**
 - (c) True statement
 - (d) Depends upon the health of writer
53. “A writer can exceed and achieve other’s writing skills to an undetectable level by serious effort and training applied over a period of time:
- (a) A hypothetical statement
 - (b) False statement**
 - (c) A partially correct statement
 - (d) A true statement
54. Ball points inks are made up of essentially three main constituents:
- (a) An organic solvent, an alkaloid and resin
 - (b) A resinous thickener, an organic solvent and heavy metal salt
 - (c) An Inorganic salt, solvent and resin thickener
 - (d) An organic colouring pigment an organic solvent and resinous thickener**
55. ‘Shading’ is an important hand writing feature but getting its importance & relevance lost due to change in the:
- (a) Ink composition
 - (b) Digital pad & Stylus use
 - (c) Writing instrument Technology**
 - (d) Use of synthetic dyes in writing ink

56. “Line quality” is one of the important & elusive parameter to be looked into during the examination of:
- (a) **Forged signatures**
 - (b) Photo static reproduction of signature
 - (c) Printed text
 - (d) None of the above
57. Terms ‘Sequence of strokes’ means:
- (a) Order of two parallel strokes of any written character
 - (b) Order of two curved strokes of any written character
 - (c) **Order of two Intersecting strokes of any written character**
 - (d) Order of two vertically aligned strokes of any written character
58. A Book titled “Detecting Forgery-Forensic Investigation of Documents” is authored by:
- (a) Ordway Hilton
 - (b) A. S. Osborn
 - (c) **Joe Nickell**
 - (d) W. R. Harrison
59. What is “Stair-Step Effect”?
- (a) A typing defect causing vertical misalignment
 - (b) **A ‘reproduction defect’ wherein the pixels of a low-resolution image start appearing as ‘steps on a stair’ upon zooming.**
 - (c) A printing defect in impact printing causing horizontal misalignment
 - (d) A Thermal printing defects
60. First Typewriter patent was issued to:
- (a) George Kyle (1723)
 - (b) Miller Stephan (1738)
 - (c) Kary Mullis (1718)
 - (d) **Henry Mills (1713)**
61. “Ambidextrous” writer means that who can write with:
- (a) **Both hands-left & right**
 - (b) Only with left hand
 - (c) Only with right hand
 - (d) With other body parts
62. Which renowned author coined the term ‘Style Characteristics’
- (a) J. Newton Baker
 - (b) Ordway Hilton
 - (c) **Wilson R. Harrison**
 - (d) David Ellen

63. Which chemical used for stabilization of charred documents?
(a) 10% poly-butyl acetaldehyde solution
(b) 8% Acetic anhydride and poly ethylene solution
(c) **3% poly vinyl acetate solution**
(d) Cellulose and poly glycerine solution
64. In which Printing the term NLQ is used for quality of character?
(a) **Dot matrix Printing**
(b) Letter press Printing
(c) Screen Printing
(d) Intaglio Printing
65. Common loading material in paper is:
(a) Calcium carbonate
(b) **Kaolin**
(c) Sodium carbonate and magnesium sulphate
(d) Gum Arabic with calcium
66. 'IR Luminescence' is a very good technique to examine and discriminate between:
(a) Two paper samples appearing similar to eyes
(b) Two similar types of inks in colour & composition
(c) **Two inks similar in colour but different in composition**
(d) Two inks similar in composition but different in colour & lustre
67. Most of the forensic labs in India are accredited by NABL under the standards of:
(a) ISO17015:2005
(b) **ISO/IEC 17025:2017**
(c) NAC 9001
(d) ISO 9000
68. The necessity of invention of SEM came out of following issue:
(a) Photography
(b) **Magnification**
(c) Optical Resolution
(d) Optical aberrations
69. The book titled "Evidential Documents" is authored by:
(a) J. Newton Baker
(b) Ordway Hilton
(c) Huber and Headrick
(d) **V P Conway**
70. Which book is authored by A. S. Osborn?
(a) Questioned Documents and their examination
(b) Scientific examination of documents-methods and techniques

- (c) Suspect Documents
- (d) Problems of Proof**

71. Which spectrum of the compound is referred as “finger print of the molecule?”
- (a) UV Spectrum
 - (b) Atomic absorption spectrum
 - (c) IR Spectrum**
 - (d) Mass spectrum
72. I) “Avoidance of own writing characteristics without following others writing habits”
II) “Avoidance of own writings characteristics and efforts of following others writings habits”
Statement I & II are two statements refer to:
- (a) Forgery of signatures/ writings
 - (b) Traced forgery of signatures
 - (c) Forgery and disguise respectively
 - (d) Disguise and forgery respectively**
73. Ink examination under IR luminescence uses which range of wavelength of light?
- (a) 290 nm to 300 nm
 - (b) 450 nm to 560 nm**
 - (c) 790 nm to 990
 - (d) 660 nm to 700 nm
74. “Striations” produced in a writing stroke are characteristic of:
- (a) Split Nib pen
 - (b) Ball point pen**
 - (c) Felt Pen
 - (d) None of the above
75. Which of the following statements is not true?
- (a) Damage defects and misalignments of typeface of a manual typewriter may help to identify it as a source of a particular typed document.
 - (b) In laser printers, it may be possible to link a particular printed document with a suspect printer, if there are faults present on the drum that are transferred to the printed page.
 - (c) It is usually possible to link a printed word-processed document to the computer that was used to compose it.**
 - (d) The typeface of a single element electric typewriter is not fixed as its single element can easily be replaced
76. When a ray of light is incident on a surface:

- (a) Incident ray, Refracted ray and normal to the surface lie in the same plane
 - (b) Incident ray, reflected ray and normal to the surface lie in the same plane**
 - (c) Incident ray, Refracted ray and Transmitted ray lie in the same plane
 - (d) Incident ray, Transmitted ray and normal to the surface lie in the same plane
77. Watermark in paper appears due to:
- (a) Deposition of Fluorescent pulp around the pattern or image design
 - (b) Deposition of extra mesh of pulp on the pattern or image design
 - (c) Thickness or density variations in the pattern or image design**
 - (d) Increased thickness of pulp on the pattern or image design
78. 'Elite' is terms referring to the:
- (a) 12 characters per inch respectively in typewriting**
 - (b) 10 characters per inch respectively in typewriting
 - (c) 11 characters per inch respectively in typewriting
 - (d) 14 characters per inch respectively in typewriting
79. The absorption of ink by blotting paper involves:
- (a) Viscosity of ink
 - (b) Capillary action phenomenon**
 - (c) Diffusion of ink through the blotting
 - (d) Siphon action
80. The primary colors in photography are:
- (a) red, blue, yellow
 - (b) red, yellow, green
 - (c) red, blue, green**
 - (d) blue, yellow, green
81. Up to how much potential difference in Corona unit is used in the ESDA for creating electric charge in the examination of indentations?
- (a) 6 Kilo Volts
 - (b) 9 Kilo Volts
 - (c) 8 Kilo Volts**
 - (d) 5 Kilo Volts
82. Ultra Violet Radiations are good for examination of:
- (a) Watermarks in Passport
 - (b) Surface features of Passport
 - (c) MRZ codes of Passport
 - (d) Page number and stitching thread of passport**
83. The following is an impact printing technique:

- (a) Inkjet printing
 - (b) Photocopying
 - (c) Letter press printing**
 - (d) 'a', 'b' & 'c' are correct
84. Multicolour globules of ink are visible in which printing technique?
- (a) Colour laser printing
 - (b) Colour photocopying
 - (c) Dot Matrix printing
 - (d) Ink Jet printing**
85. The high print quality is obtained by which of the following printing technique?
- (a) Lithography
 - (b) Laser Printing
 - (c) Gravure printing**
 - (d) Letter press printing
86. 'Age of documents' cannot at all be determined, which one is correct?
- (a) Absolute age of documents can be determined by examination of document in totality
 - (b) To determine relative age of document, its material, change in it and its comparison should be looked into**
 - (c) Term 'age of document' is a misnomer no such term exists
 - (d) None of the above
87. Obliteration in writings is?
- (a) Addition of words
 - (b) Secretly written writings
 - (c) Masking**
 - (d) Embellishments
88. The emission of infrared light after exposure to blue-green light is characteristic of:
- (a) Infrared luminescence**
 - (b) Infrared illumination
 - (c) Fluorescence
 - (d) Infrared excitation
89. Visible light's wavelength range?
- (a) 0.39 – 0.77 mm
 - (b) 0.39 – 0.77 μm**
 - (c) 0.39 – 0.77 nm
 - (d) 0.39 – 0.77 cm

90. What is line quality?
(a) Continuity of stroke
(b) oscillation of line
(c) **Visible record of written stroke**
(d) None of the above
91. What is skill in handwriting?
(a) Calligraphic quality of writing
(b) Neuromuscular ability of writing
(c) Hand-wrist combined writing
(d) **Relative innate ability of writing**
92. What is hand-lettering?
(a) Semitic writing
(b) **Disconnected style of writing**
(c) Writings made with lower case letters
(d) Writings made with upper case letters
93. Writings on a charred document can be deciphered with:
(a) **IR**
(b) UV
(c) Short wave UV light
(d) Stereo Microscope
94. 'Escapement' in typing is?
(a) **The basic letter spacing in typewriting**
(b) The basic letter spacing in computer print out
(c) The basic letter spacing in daisy wheel
(d) Term used in photo copying
95. The term transitory defects are used in case of:
(a) Defects of disguised handwriting
(b) Defects of normal handwriting
(c) Defects of semi charred documents
(d) **Defects of typewriting**
96. The Pica Pitch in millimetres is:
(a) less than 2.0mm
(b) 2.35mm to 2.50mm
(c) **2.54mm to 2.84mm**
(d) 2.85mm
97. The ballpoint pen can be recognized by:
(a) the flat colour of the ink and the way it absorbs into the high Fibers of the paper

- (b) the shading of the upstrokes
 - (c) the gloss of the ink and the way it catches the edges of the high fibers of the paper**
 - (d) the lack of any indication of pressure
98. Which ONE of the following examination procedures would be performed on graphite pencil traces?
- (a) Microscopic analysis**
 - (b) Spot testing
 - (c) Thin Layer Chromatography
 - (d) Chemical analysis
99. Which ONE of the following is NOT typically included in the document examiner's report?
- (a) A description of the items examined
 - (b) The results of the examination
 - (c) Synopsis of the document's history**
 - (d) The date the report was typed
100. Inkjet and Laser printers fall in which of the following category?
- (a) Impact Printer
 - (b) Line Printer
 - (c) Non-impact Printer**
 - (d) Page Printer
101. Which type of the writing movement is prominently observed in skilled writers?
- (a) Whole Arm Movement
 - (b) Wrist-Forearm combined**
 - (c) Finger Movement
 - (d) Forearm- Finger Movement
102. Line quality is relevant during examination of:
- (a) Optically transferred signatures
 - (b) Photocopied signatures
 - (c) Spurious signatures**
 - (d) Signatures executed with Digital pen /stylus
103. Attempting to alter the writing characteristics so that it cannot be traced back to the writer easily:
- (a) Erasure
 - (b) Tracing
 - (c) Alterations
 - (d) Disguise**

104. Bleed lines in new Rs 200 denomination consists of:
- (a) 4 lines with one circle
 - (b) 2 lines with four circles
 - (c) 3 lines two circles
 - (d) **4 lines with two circles**
105. Gerald R. McMennaminl has given a new term in his book called:
- (a) Forensic Statistics
 - (b) Forensic Documents
 - (c) Forensic Graphometrics
 - (d) **Forensic Stylistics**
106. The traditional printing method of letterpress printing is also known as:
- (a) Gravure printing
 - (b) Intaglio printing
 - (c) **Relief printing**
 - (d) Lithography
107. Which sections of Indian Evidence Act defines “DOCUMENT”?
- (a) Section 2
 - (b) Section 7
 - (c) Section 4
 - (d) **Section 3**
108. What is used to stop feathering of ink on the paper?
- (a) Loading agent
 - (b) **Sizing agent**
 - (c) Fillers
 - (d) Bleaching agent
109. In which city the oldest Forensic Document Lab Named as GEQD exists in India?
- (a) Kolkata
 - (b) Hyderabad
 - (c) Delhi
 - (d) **Shimla**
110. Which one is most suitable statement for ‘initials’-
- (a) Authorship cannot be determined by initials
 - (b) True reflection of all writing habits of a person
 - (c) Most Difficult to copy or simulate
 - (d) **Due to Brevity more liable for deceptive simulation**

111. Name the chemical which is not commonly used for carrying out erasures on documents, from the given choices-
- (a) Sodium Hypochlorite
 - (b) Oxalic Acid
 - (c) Potassium Permanganate
 - (d) Potassium Dichromate**
112. Which of the International agency brings out the Standards for Document examination:
- (a) AAFS
 - (b) CASQDE
 - (c) SWGDOC**
 - (d) ABFDE
113. The Book titled 'Disputed Documents' is authored by:
- (a) J S Kelly and B S Lindblom
 - (b) Hana F Sulner**
 - (c) Heidi Harlson and Larry S Miller
 - (d) Jane Lewis
114. Photocopying technique was invented by-
- (a) Daniel Carlton
 - (b) Chester Carlson**
 - (c) Herald Carver
 - (d) Reid Haloid
115. The sender and receiver details are coded on the FAX message printouts and the same are abbreviated as:
- (a) ITT/TTI
 - (b) TTI/RTI**
 - (c) SIT/TRI
 - (d) PTI/RIT
116. The study of defects of Ball pens can be useful in their differentiation and identification on the basis of:
- (a) Gooping only
 - (b) Skipping only
 - (c) Striations & burr striations only
 - (d) All of the above**
117. LSI security feature is generally present in:
- (a) Bank Notes
 - (b) Credit Cards
 - (c) Plastic Bank Notes
 - (d) Passports**

118. Subsequent writing on the erased surface, with a fluid ink may result in
- (a) **Spreading and Feathering of Ink**
 - (b) Gooping and Blobbing of Ink
 - (c) Thinning of Paper
 - (d) Obliteration of Document
119. What happens to the paper as it ages?
Select the correct answer from the options given below:
- (a) **Becomes brittle and discoloured**
 - (b) Its strength increases
 - (c) Its thickness changes
 - (d) Its watermarks become clear and transparent
120. Every object, whether natural or manmade has uniqueness of its own which is not duplicated in any other object. Select the relevant law or principle which is consistent with the above statement from the options given below:
- (a) Locard's Exchange principle
 - (b) Law of Mathematical Probability
 - (c) **Law of Individuality**
 - (d) Law of Natural Variations

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