



## FORENSIC SCIENCE

**Question Booklet Sl. No.**

Name & Signature of the Invigilator

**PAPER – II** OMR Answer Sheet No. :

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**CODE-27** Roll No. :

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(in figures as in Hall Ticket)

Roll Number in words : .....

**Time : 2 Hours]**

No. of Printed Pages : 16

**[Maximum Marks : 200]**

### **Instructions for the Candidates**

1. Write your Roll Number in the space provided on the top of this page.
2. This paper consists of **one hundred (100)** multiple choice type of questions. **All** questions are compulsory.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
  - (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker seal and do not accept an open booklet.
  - (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
  - (iii) After this verification is over, the Test Booklet Number should be entered on the OMR Answer Sheet and the OMR Answer Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.  
**Example:**  (A)  (B)  (C)  (D) where (B) is the correct response.
5. Your responses to the items are to be indicated on the OMR Answer Sheet under Paper – II only. If you mark your response at any place other than in the oval in the OMR Answer Sheet, it will not be evaluated.
6. Rough Work is to be done in the end of this booklet.
7. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
8. You have to return the original OMR Answer Sheet to the invigilator at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. You are however, allowed to carry original question booklet and duplicate copy of OMR Answer Sheet on conclusion of examination.
9. Use only Blue/Black Ball point pen.
10. Use of any calculator or any electronic devices or log table etc., are prohibited.
11. There shall be no negative marking.

## પરીક્ષાર્થીઓ માટે સુચનાઓ

- आ पानानी टोय पर दृश्यतेली जग्यामां तमारे रोल नंबर लाखे.
- आ प्रमापत्रमां बहुवैकल्पिक उत्तरो प्राप्तवता सो (100) प्रश्नो आपेला छे. बाधा ज प्रश्नो फरजियात छे.
- परीक्षानी शरूआतमां आपने प्रश्नपुस्तिका आपवामां आवशे. प्रथम पांच (4) मिनिट दरम्यान तमारे प्रश्नपुस्तिका खोली अने फरजियातपशे. नीये मुजब परीक्षण करवुँ :
  - प्रश्नपुस्तिकानो वपराश करवा माटे आ कवर पुळनी धार पर आपेल सील स्टीकर फाई नाखो. कोईपश संजोगोमां सील स्टीकर वगरनी के खुल्ली प्रश्नपुस्तिका स्वीकारशो नहीं.
  - कवर पुळ पर छापाएल निर्देशनुसार प्रश्नपुस्तिकाना प्रश्नो, पुळो अने संभ्याने बराबर चकासी लो. खामीयुक्त प्रश्नपुस्तिका के जेमां प्रश्नो/ पुळो ओछां लेय दे वार छापाय होय, अनुक्रममां अथवा अन्य कोई फरक होय अर्थात् कोईपश संजोगोमां खामीयुक्त प्रश्नपुस्तिका स्वीकारशो नहीं. अने जो खामीयुक्त प्रश्नपुस्तिका मली होय तो निरीक्ष पासेथी तुरंत ज बिजु सारी प्रश्नपुस्तिका मेली लेवी. आ माटे उमेदवारने पांच (4) मिनिटो समयगालो आपवामां आवशे. पछीथी, प्रश्नपुस्तिका बदलवामां आवशे नहीं कोई वधारानो समयगालो आपवामां आवशे नहीं.
  - आ चकासाली समाप्त थाय पछी, प्रश्नपुस्तिकानो नंबर OMR जवाब पत्रक पर लाख्यो अने OMR जवाब पत्रकनो नंबर प्रश्नपुस्तिका पर लाख्यो.
- प्रत्येक प्रश्न माटे यार जवाब विकल्प (A), (B), (C) अने (D) आपवामां आवेल छे. तमारे साथा जवाबना घोवल (oval) ने नीये आपेल उदाहरण मुजब पेनथी भरीने संपूर्ण काणुं करवानुं रहेहो.

**उदाहरण :** (A) (C) (D) के ज्यां (B) साचो जवाब छे.

- आ प्रश्नपुस्तिकाना प्रश्नोमां जवाब अलगाथी आपवामां आवेल OMR जवाब पत्रकमां पेपर-II लेले विभागमां ज अंकित करवा. जो आप OMR जवाब पत्रकमां आपेल घोवल (oval) सिवाय अन्य स्थाने जवाब अंकित करशो तो ते जवाबनुं मूल्यांकन करवामां आवशे नहीं.
- काणुं काम (Rough work) प्रश्नपुस्तिकाना अंतिम पृष्ठ पर करवुँ.
- जो आप OMR जवाब पत्रक नियत जग्या सिवाय अन्य कोईपश स्थाने, आपनुं नाम, रोल नंबर, झोन नंबर अथवा एवें कोई चिह्नके जेनाथी तमारी घोलप थाई शकै, अंकित करशो अथवा असल लाखानो प्रयोग करो, अथवा असल कोई अनुचित साधनोनो उपयोग करो, ऐमेके अंकित करी दीपेल जवाब लंसी नाख्यो के सहेज शाहीनो उपयोग करी बदलशो तो आपने परीक्षा माटे थायोय जाहेर करवामां आवशे.
- परीक्षा समय पूरी थाई गया बाट ओरीजनल OMR जवाब पत्रक जे ते निरीक्षकने फरजियात सोपी देवु अने कोई पश संजोगोमां ते परीक्षा खंडनी बहार लाई जवुँ नहीं. परीक्षा पूरी थाया बाट उमेदवार ओरीजनल प्रश्नपुस्तिका अने OMR जवाब पत्रकनी उप्लिकेट कोपी पोतानी साथे लाई जाई शकै छे.
- मात्र काणी / भूरी बोल पोइन्ट पेल वापरवी.
- केल्युलेटर, लोग टेबल अने अन्य ईलेक्ट्रोनिक यंत्रोनो उपयोग करवानी मनाई छे.
- घोटा जवाब माटे नकारामक गुणांकन प्राया नवी.



## FORENSIC SCIENCE

### Paper – II

- Death due to the consumption of the illicit liquor is mainly due to the presence of
  - (A) Methanol
  - (B) Carbamates
  - (C) Chloral hydrate
  - (D) Benzene
- Pseudo contusions/false bruises are produced by one of the following
  - (A) Argemone Mexicana
  - (B) Ricinus Communis
  - (C) Semecarpus Anacardium
  - (D) Croton Tiglum
- The specific drug that is re-excreted into the stomach even when it is administered through the intravenous route
  - (A) Pethidine
  - (B) Chloroform
  - (C) Morphine
  - (D) Codeine
- One of the following is NOT preserved generally for the chemical analysis during the autopsy examination
  - (A) Hair
  - (B) Stomach
  - (C) Liver
  - (D) Kidney
- What physical condition allows a liquid accelerant to vaporize and support combustion ?
  - (A) Specific gravity
  - (B) Vapor pressure above flash point
  - (C) Flammable range expansion
  - (D) Moisture absorption
- Endrin is classified under the following type of pesticides
  - (A) Organo chlorines
  - (B) Organo phosphorous
  - (C) Carbamates
  - (D) None of the above
- The term plumbism refers to the poisoning of one of the following
  - (A) Phosphorus
  - (B) Lead
  - (C) Arsenic
  - (D) Mercury
- In one of the following acute poisoning cases, the symptoms resembles the natural disease namely cholera/gastroenteritis
  - (A) Mercury
  - (B) Lead
  - (C) Arsenic
  - (D) Phosphorous
- In bribe trap cases, the chemical used is one of the following
  - (A) Paraldehyde
  - (B) Benzene
  - (C) Phenolphthalein
  - (D) Tartaric acid
- Designer drugs are
  - (A) Brand-name drugs
  - (B) Drugs for epileptic patients
  - (C) Synthetic analogs created to avoid legal restrictions
  - (D) Cosmetic preparations





22. Minimum number of ridge characteristics required for a positive match in fingerprints analysis for the identification of individuals is  
(A) 18 (B) 10 (C) 12 (D) 8

23. One of the most reliable signs of antemortem burns is  
(A) presence of soot particles in the trachea  
(B) blackened appearance of the body  
(C) singeing of the hair  
(D) none of the above

24. A forensic analyst obtains complete male DNA profile from the cigarette butt found at the crime scene. The sample shows two Y STR haplotypes, this suggests  
(A) Female DNA contamination  
(B) Allelic dropout  
(C) Presence of two or more male contributors  
(D) Amplification artefact

25. A degraded DNA samples of a 25 years old murder case yields no nuclear DNA profile but still gives forensic information. Which of the following is most likely the basis for the analysis ?  
(A) Mini STR (B) Touch DNA (C) mt DNA (D) Y – STR

26. Why is DNA considered a “gold standard” in forensic science today ?  
(A) It is cheaper than other forensic tests  
(B) It is easy to collect from any surface  
(C) It has undergone extensive validation and holds strong in court  
(D) It does not require expert interpretation

27. What is the primary goal of Bloodstain Pattern Analysis in forensic investigations ?  
(A) To determine the blood type of the victim  
(B) To detect hidden fingerprints in blood  
(C) To interpret physical events leading to the bloodshed  
(D) To extract DNA from bloodstains

28. In which context did the use of potassium levels in ocular fluid is forensically relevant ?  
(A) DNA profiling (B) Blood typing  
(C) Time of death (D) Arson investigation

29. What is the primary function of a flash hider attached to the muzzle of a firearm ?  
(A) To increase the velocity of the bullet as it exits the barrel  
(B) To physically cool the propellant gases to prevent ignition  
(C) To suppress the visible muzzle flash and reduce recoil during firing  
(D) To enhance the shooter's aim by narrowing the bullet's trajectory



30. Which of the following statements correctly distinguishes between different types of firearms ?

- A revolver is a self-loading handgun that uses recoil energy to chamber the next round.
- A machine gun fires only one round per trigger pull and is designed for pistol-calibre ammunition.
- A semi-automatic pistol uses some of the energy from firing to cycle the action and prepare the next shot.
- None of the above

31. How should soot deposits be collected and preserved for forensic analysis ?

- On cotton swabs and sealed in plastic wrap
- Using a wet cloth and stored in paper envelope
- By scraping and packing in an airtight glass container
- Brushed off onto a cardboard surface

32. Which is the court in which the death sentence is to be ascertained by the High Court ?

- Sessions Court
- Metropolitan Court
- Supreme Court
- None of the above

33. CCTNS refers to

- Criminal and Crime Testing Nodal Service
- Crime and Criminal Tracking Network and System
- Crime and Criminal Tracing Network System
- None of the above

34. Lie detection/Polygraph examination does not involve one of the following parameters

- Galvanic skin response
- Blood pressure
- Pulse rate
- Brain activity

35. The drug used in the Narco analysis for the detection of deception is

- Pentathol sodium
- Diazepam
- Chloroform
- Pethidine

36. Cephalic index is useful to determine \_\_\_\_\_ of an individual.

- age
- stature
- gender
- race

37. Accident reconstruction involves the following parameters except

- velocity/speed of the vehicle
- vehicle condition
- road condition
- drivers physical condition



38. Under which Section of the Cr PC the scientific experts report is admissible as evidence in the court proceedings ?

(A) 193 Cr PC (B) 393 Cr PC  
(C) 293 Cr PC (D) 176 Cr PC

39. Who is credited with introducing DNA profiling in Forensic Science ?

(A) James Watson (B) Rosalind Franklin  
(C) Alec Jeffreys (D) Francis Crick

40. Which of the following materials is most suitable for collecting liquid blood at a crime scene ?

(A) Airtight plastic bags (B) Cotton gauze cloth or FTA card  
(C) Glass beaker (D) Aluminium foil

41. Which of the following is NOT a commonly used method for sealing forensic evidence ?

(A) Heat seal (B) Vacuum seal  
(C) Tape seal (D) Lock seal

42. Which search pattern involves covering the area from two different angles, helping ensure no evidence is missed ?

(A) Spiral method (B) Grid method  
(C) Zone method (D) Pie method

43. Cadaveric spasm is also known as

(A) Rigor mortis (B) Livor mortis  
(C) Algor mortis (D) Instantaneous rigor

44. What does a colour space represent in a digital image like JPEG ?

(A) The brightness level of an image  
(B) The specific resolution used to store the image  
(C) A range of colours that can be represented in the image  
(D) The compression ratio applied to reduce image size

45. In optical microscopy, what does resolution refer to ?

(A) The maximum magnification achievable by the objective lens  
(B) The ability to enhance the brightness of the specimen  
(C) The shortest distance at which two points can be distinguished as separate  
(D) The range of wavelengths used to illuminate the specimen



46. Which of the following statements best describes the cone fracture pattern caused by a high-velocity projectile impacting glass ?

- (A) It results in an elliptical aperture due to torsional shear, with the narrow end pointing toward the projectile's origin.
- (B) The entrance side shows a conical expansion due to stress risers, while the exit side remains relatively intact.
- (C) A crater-like perforation with radial and concentric fractures forms and the wider diameter on the exit side resembles a cone due to tensile failure.
- (D) The impact induces a heat-driven expansion ring, causing uniform thickness loss and symmetric hole formation on both sides.

47. Which of the following best characterizes the scope of forensic engineering in the context of multidisciplinary litigation support ?

- (A) Employing biomechanical feedback systems to simulate neuromuscular strain in pre-existing personal injury cases
- (B) Reconstructing failure scenarios via finite element analysis and metallurgical forensics to determine liability in structural and mechanical breakdowns
- (C) Using forensic limnology to trace environmental negligence in industrial effluent discharge cases
- (D) None of the above

48. Which properties of handwriting makes it more reliable and unique in terms of individualization ?

- (A) Spelling patterns
- (B) Use of uppercase letters
- (C) Habitual shapes and movements
- (D) Ink composition

49. Which of the following best describes the effective range of a firearm ?

- (A) The range at which the bullet exits the barrel of a firearm
- (B) The distance at which a firearm and cartridge consistently hit a target
- (C) The maximum distance at which a bullet can hit and hit a target accurately
- (D) The distance beyond which a bullet cannot travel

50. Which of the following statements best defines an assault rifle ?

- (A) A rifle used only for long-range sniping in military operations
- (B) A fully automatic heavy machine gun used by multiple personnel
- (C) A military rifle designed for one-man operation, capable of semi-automatic or full-automatic fire
- (D) A hunting rifle modified for civilian use

51. Which of the following chemicals is commonly used as an oxidizer in priming compounds ?

- (A) Lead styphnate
- (B) Barium nitrate
- (C) Aluminium powder
- (D) Mercury fulminate



52. What is the correct relationship between ammunition and a firearm ?

- (A) A firearm generates power which ignites the ammunition
- (B) Ammunition is used to clean and maintain firearms
- (C) Ammunition supplies power and the firearm uses it to discharge a projectile
- (D) A firearm stores ammunition as a long-term energy source

53. Which of the following best describes the role of a firearm as a thermodynamic device ?

- (A) It converts the mechanical energy of the hammer into chemical energy
- (B) It stores kinetic energy until a trigger is pulled
- (C) It converts thermal energy from burning propellant into kinetic energy of the projectile(s)
- (D) It converts the sound energy of explosion into projectile movement

54. Which of the following is NOT an advantage of nitro-based propellants compared to black powder ?

- (A) Requires a smaller quantity for effective propulsion
- (B) Leaves minimal combustion residues in the barrel
- (C) Can be easily modified for different applications
- (D) Produces more smoke and fouling than black powder

55. In the context of internal ballistics, what is the fundamental role of the propellant used in modern firearms ?

- (A) It generates a flash that aids in tracer visibility during night operations
- (B) It initiates ignition of the primer compound to detonate the explosive filling
- (C) It produces expanding gases upon combustion, providing the force needed to propel the missile down the barrel
- (D) It controls recoil by balancing backward pressure with counteractive gas release from muzzle brakes

56. Which of the following statements best explains why a 12-bore shotgun has a larger barrel diameter than a 20-bore shotgun ?

- (A) Because the number in the bore size refers to the barrel length
- (B) Because fewer lead balls of 12-bore diameter are needed to make up 1 lb compared to 20-bore
- (C) Because the 12-bore uses higher pressure loads than the 20-bore
- (D) Because the 12-bore shotgun uses larger cartridge cases than the 20-bore

57. What is the primary use of forensic entomology in criminal investigations ?

- (A) Identifying fingerprints left on a weapon
- (B) Determining the genetic profile of a suspect
- (C) Estimating the time of death by studying insect activity on a cadaver
- (D) Analyzing blood spatter patterns at a crime scene



58. What component in seminal fluid is most indicative of recent sexual activity within 24 hours ?  
(A) Spermatozoa (B) Acid phosphatase  
(C) p30 protein (D) Alkaline phosphatase

59. Which of the following pairs correctly matches the abbreviation with its primary role or function in Forensic Science ?  
(A) AAFS – Maintains DNA databases and conducts firearms regulation  
(B) LIMS – An analytical technique used to amplify short tandem repeats in DNA  
(C) BATF – Regulates explosives, firearms and arson investigations in the U.S.  
(D) PCR – A system for managing evidence documentation and laboratory

60. Why is maintaining a proper chain of custody critical in forensic investigations ?  
(A) It ensures the evidence is scientifically valid and meets ISO laboratory standards  
(B) It prevents unauthorized individuals from viewing confidential crime scene information  
(C) It allows forensic analysts to determine the origin of trace evidence through comparative microscopy  
(D) It establishes the integrity and admissibility of the evidence by documenting its handling from collection to court presentation

61. What is the significance of indented writings in document analysis ?  
(A) Reveal erased content  
(B) Detect tampered ink  
(C) Show pressure impressions from previous pages  
(D) Measure handwriting angle

62. In forensic evidence handling, what is the primary rationale for using a druggist's fold when collecting small trace evidence such as hair or powders ?  
(A) To chemically stabilize the evidence during long-term storage  
(B) To prevent the evidence from being contaminated by external air  
(C) To meet chain of custody documentation requirements during courtroom presentation  
(D) To secure minute evidence without loss or spillage before it is sealed in standard packaging

63. Why is the use of tamper-evident packaging essential in forensic evidence management ?  
(A) It ensures the evidence remains dry and protected from environmental damage  
(B) It provides a visible indication if evidence has been accessed or compromised  
(C) It allows evidence to be reused for further forensic testing without contamination  
(D) It helps to reduce the need for maintaining a formal chain of custody record



**64.** Which of the following is an acceptable method for preserving wet biological evidence such as blood at a crime scene ?

- (A) Immediately sealing it in a vacuum-sealed plastic pouch
- (B) Allowing it to dry or placing it in a breathable container
- (C) Storing it in airtight metal cans to prevent drying
- (D) Mixing it with EDTA and freezing it in paper bags

**65.** Why must fire residue evidence be stored in airtight containers such as unused paint cans ?

- (A) To prevent the loss of volatile accelerants through evaporation
- (B) To neutralize chemical reactions that occur post-collection
- (C) To allow oxygen circulation and preserve soot
- (D) To avoid contamination from metallic evidence

**66.** Which of the following is NOT recommended for collecting trace evidence such as hair or fibers ?

- (A) Using a druggist's fold followed by tamper-evident packaging
- (B) Sealing it in a plastic bag after proper folding
- (C) Using adhesive tape to collect and preserve the evidence
- (D) Placing it directly into a paper envelope and sealing it

**67.** What is the correct packaging method for fresh plant material like marijuana to prevent decomposition ?

- (A) Store it in sealed glass jars
- (B) Freeze it immediately in zip-lock plastic bags
- (C) Vacuum-seal in plastic and refrigerate
- (D) Place it in breathable containers like paper bags

**68.** Which of the following best reflects the correct sequence and legal priority during a crime scene investigation ?

- (A) Evidence collection, documentation, systematic search, reconstruction
- (B) Preliminary scene examination, discovery of the crime, evidence collection, protocol
- (C) Discovery of the crime, first officer response, documentation, evidence collection, maintaining chain of custody
- (D) Reconstructing the crime, systematic search, crime scene protocol, court presentation



69. In the context of Thin Layer Chromatography (TLC), which of the following statements is most accurate regarding analyte separation ?

- (A) The retention factor (Rf) is determined by the type of detector used to visualize the analyte on the plate
- (B) The stationary phase is a solid adsorbent coated on a plate that interacts differently with components of the analyte, allowing separation
- (C) In solid phase extraction, analyte components separate based on molecular weight differences only
- (D) None of the above

70. Ninhydrin is commonly used in Forensic Science to develop latent fingerprints by reacting with which component of fingerprint residue ?

- (A) Lipid oils in sebaceous secretions
- (B) Amino acids present in sweat residues
- (C) Inorganic salts deposited from the skin
- (D) Fatty acids found in epidermal cells

71. When AFIS (Automated Fingerprint Identification System) searches its database of fingerprints, it primarily looks for which types of characteristics ?

- (A) Arches and loops
- (B) Accidental whorls
- (C) Whorls and loops
- (D) Ridge endings and bifurcation

72. What is a major limitation of urine drug testing in living individuals ?

- (A) Too expensive to be practical
- (B) Drugs in urine may persist long after impairment ends
- (C) Urine collection is invasive
- (D) No controlled cutoff values

73. Which important factor has the greatest effect on the rate of algor mortis ?

- (A) Skin color
- (B) Stomach contents
- (C) Clothing and ambient temperature
- (D) Cause of death

74. What postmortem process involves the gravitational pooling of blood and can reveal if a body was moved after death ?

- (A) Algor mortis
- (B) Rigor mortis
- (C) Livor mortis
- (D) Putrefaction

75. What forensic software ensures integrity of a hard drive image using hashing ?

- (A) EnCase
- (B) BitLocker
- (C) Recuva
- (D) WinHex



76. Why are deleted files recoverable during forensic imaging ?  
(A) Rewritten data erases older ones  
(B) Deletion only removes file pointers not data  
(C) Hidden logs record deleted content  
(D) Deletion triggers backup script

77. In a cyber forensic investigation, what is the significance of the index.dat file ?  
(A) Records BIOS version  
(B) Stores deleted registry entries  
(C) Maintains encrypted password hashes  
(D) Stores browser history URLs, date and time accessed

78. What evidence is most critical in establishing an IP address used during a cyber crime ?  
(A) Hostname string  
(B) Router model  
(C) Internet Service Provider logs  
(D) Keyboard metadata

79. Which online artifact is most helpful in reconstructing web browsing behaviour ?  
(A) Browser cookies  
(B) Internet cache  
(C) Email header  
(D) Antivirus logs

80. What is the primary goal of a forensic computer investigation ?  
(A) Protect user privacy during trials  
(B) Obtain encrypted passwords  
(C) Recover and interpret digital evidence  
(D) Clone hard drives for resale

81. Which pigment types are increasingly replacing heavy metals in modern car paints ?  
(A) Iron oxides  
(B) Inorganic clays  
(C) Organic-based pigments  
(D) Carbon black

82. Which microscopy technique permits the highest magnification (upto 100,000x) ?  
(A) Stereomicroscopy  
(B) Polarized microscopy  
(C) SEM/Scanning Electron Microscopy  
(D) Phase-contrast microscopy

83. Which substance is best for etching steel surfaces in serial number restoration ?  
(A)  $\text{HNO}_3$   
(B)  $\text{CuCl} + \text{HCl}$   
(C)  $\text{NaOH} + \text{ethanol}$   
(D)  $\text{AgNO}_3$  solution



84. Which element is most often identified with primer residue using SEM-EDX ?  
(A) Copper      (B) Potassium      (C) Lead      (D) Zinc

85. Which microscope enables visualization of polarized light properties in crystals ?  
(A) Compound microscope      (B) Polarizing microscope  
(C) Comparison microscope      (D) Electron microscope

86. What microscopic technique provides both visual and spectrophotometric data for fibers ?  
(A) Scanning Electron Microscopy      (B) Stereomicroscopy  
(C) Micro spectrophotometry      (D) Polarized light microscopy

87. Which analytical method is most effective in distinguishing chemically similar paint binders ?  
(A) Polarizing light microscopy      (B) X-ray fluorescence  
(C) Pyrolysis gas chromatography      (D) Thin-layer chromatography

88. A follicular tag is most valuable for  
(A) Estimating hair diameter      (B) Identifying medullary index  
(C) Retrieving nuclear DNA      (D) Measuring melanin concentration

89. What is the primary function of the comparison microscope in firearms analysis ?  
(A) To magnify trace biological evidence      (B) To view paint stratigraphy  
(C) To simultaneously compare striation markings on bullets      (D) To align barrel rifling with caliber markings

90. What term describes a drug's potential to produce strong withdrawal symptoms upon cessation ?  
(A) Psychotropic risk      (B) Psychological dependence  
(C) Physical dependence      (D) Pharmacodynamic reactivity

91. What is the active component detected in the Duquenois-Levine test ?  
(A) Atropine      (B) Tetrahydrocannabinol  
(C) Morphine      (D) Papaverine

92. Which method combines separation and identification in drug mixtures with high specificity ?  
(A) Thin layer chromatography with UV detection  
(B) Paper chromatography  
(C) LC-MS  
(D) NMR





### Space for Rough Work

1. The layer of soil which is the best for growing plants is (A) Top layer (B) Middle layer (C) Deep layer (D) None of these

2. The layer of soil which is best for growing plants is (A) Top layer (B) Middle layer (C) Deep layer (D) None of these

3. The layer of soil which is best for growing plants is (A) Top layer (B) Middle layer (C) Deep layer (D) None of these

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