CUET PG 2026 Forensic Science Question Paper with Solutions(Memory Based)

Time Allowed :1 Hour 30 Mins	Maximum Marks :300	Total Questions :75

General Instructions

Read the following instructions very carefully and strictly follow them:

- The exam lasts 90 minutes (1 hour 30 minutes).
- There are 75 Multiple Choice Questions (MCQs) to be answered.
- +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
- For any discrepancy in questions, the English version is considered final (except for language-specific papers).
- Click one of the four options to choose an answer.
- You must click "Save & Next" to confirm your response. Only saved answers are considered for evaluation.
- Use "Mark for Review & Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
- All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

1. Which principle of Forensic Science states that "Every contact leaves a trace"?
(A) Principle of Individuality
(B) Locard's Exchange Principle
(C) Principle of Comparison
(D) Principle of Probability

Correct Answer: (2) Locard's Exchange Principle

Solution:

Concept: Forensic Science applies scientific principles and techniques to investigate crimes and analyze evidence. Various principles guide forensic investigations and help in understanding how evidence is transferred and identified.
Some important principles of forensic science include:

- **Principle of Individuality:** Every object or person is unique.
- **Locard's Exchange Principle:** Every contact results in a transfer of material.
- **Principle of Comparison:** Only similar objects can be compared.

- **Principle of Probability:** Evidence can be evaluated based on probability.

Step 1: Understanding the statement "Every contact leaves a trace."
This statement means that whenever two objects or persons come into contact, there is always a transfer of material between them. For example:

- Hair fibers may transfer between individuals.
- Dust, soil, or fingerprints may remain at the crime scene.
- Clothing fibers may transfer during physical contact.

Step 2: Identifying the principle associated with this idea.
This concept was proposed by the French forensic scientist **Edmond Locard**. It is known as **Locard's Exchange Principle**, which states that any contact between two objects will result in the exchange of traces.
Thus, the correct answer is:

Locard's Exchange Principle

Quick Tip

Locard's Exchange Principle states that *"Every contact leaves a trace."* It means that whenever two objects come into contact, there will always be a transfer of physical evidence.

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2. What is the specific test used to confirm the presence of human blood in a forensic sample?
(A) Kastle–Meyer Test
(B) Benzidine Test
(C) Takayama Crystal Test
(D) Phenolphthalein Test

Correct Answer: (3) Takayama Crystal Test

Solution:

Concept: In forensic science, blood identification is usually carried out in two stages:

- **Presumptive tests** – These tests indicate the possible presence of blood.
- **Confirmatory tests** – These tests confirm that the stain is actually blood.

Presumptive tests are quick screening methods, while confirmatory tests provide reliable proof of blood in a forensic sample.
Step 1: Understanding presumptive blood tests.
Examples of presumptive tests include:

- **Kastle–Meyer Test**
- **Benzidine Test**
- **Phenolphthalein Test**

These tests react with the enzyme-like activity of hemoglobin and give a color change, suggesting the possible presence of blood.
Step 2: Identifying the confirmatory test for blood.
A confirmatory test is required to prove the presence of blood. One such test is the **Takayama Crystal Test**, which produces characteristic **pink hemochromogen crystals** when blood is present.
This microscopic crystal formation confirms the presence of blood in the forensic sample.
Thus, the correct answer is:

Takayama Crystal Test

Quick Tip

Takayama Crystal Test is a confirmatory test for blood in forensic science. It forms distinctive **pink hemochromogen crystals**, confirming the presence of blood in the sample.

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3. Under which section of the Indian Evidence Act is the "Expert Opinion" admissible in court?
(A) Section 24
(B) Section 32
(C) Section 45
(D) Section 73

Correct Answer: (3) Section 45

Solution:

Concept: The **Indian Evidence Act, 1872** lays down the rules regarding admissibility of evidence in courts. In certain cases, courts require specialized knowledge to interpret scientific, medical, or technical matters. For this purpose, the opinion of experts is considered.
Experts may include:

- Forensic scientists
- Medical practitioners
- Handwriting experts
- Fingerprint experts
- Ballistic experts

Step 1: Understanding Expert Opinion in law.
Expert opinion refers to the views given by individuals who have specialized knowledge, skill, or experience in a particular field. Courts rely on such opinions when the subject matter requires scientific or technical expertise.
Step 2: Identifying the relevant section in the Indian Evidence Act.
According to the **Indian Evidence Act, 1872**, the opinions of experts are admissible in court under:

Section 45

This section states that when the court has to form an opinion upon a point of science, art, identity, handwriting, or fingerprints, the opinion of persons specially skilled in these fields is considered relevant.

Quick Tip

Section 45 of the Indian Evidence Act, 1872 deals with **Expert Opinion**. It allows courts to consider opinions of experts in fields such as **science, medicine, handwriting, fingerprints, and forensic analysis**.

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4. Which chemical is most commonly used for the development of latent fingerprints on porous surfaces like paper?
(A) Silver Nitrate
(B) Iodine
(C) Ninhydrin
(D) Cyanoacrylate

Correct Answer: (3) Ninhydrin

Solution:

Concept: Latent fingerprints are invisible or barely visible prints left on surfaces by the natural oils and sweat from the skin. These prints often require chemical methods to become visible. Different chemicals are used depending on the type of surface:

- **Powder methods** – for non-porous surfaces like glass or metal.
- **Cyanoacrylate (super glue)** – for plastic and smooth surfaces.
- **Chemical reagents** – for porous surfaces such as paper.

Step 1: Understanding porous surfaces.
Porous surfaces include materials that absorb liquids, such as:

- Paper
- Cardboard

- Raw wood

Fingerprints on these surfaces are absorbed into the material and cannot be easily developed using normal powder techniques.
Step 2: Identifying the chemical used for development.
The chemical **Ninhydrin** reacts with amino acids present in sweat residues of fingerprints. This reaction produces a deep purple color known as **Ruhemann's Purple**, which makes the latent fingerprint visible.
Thus, the correct answer is:

Ninhydrin

Quick Tip

Ninhydrin is the most commonly used chemical for developing latent fingerprints on **porous surfaces like paper**. It reacts with amino acids in sweat and produces a **purple-colored print**.

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5. What is the full form of 'CODIS' in the context of forensic DNA databases?
(A) Combined Offender DNA Identification System
(B) Combined DNA Index System
(C) Central Offender DNA Information System
(D) Computerized DNA Identification System

Correct Answer: (2) Combined DNA Index System

Solution:

Concept: Forensic DNA databases are used to store DNA profiles obtained from crime scenes and individuals. These databases help investigators compare DNA evidence and identify suspects in criminal investigations.
One of the most widely known DNA database systems is **CODIS**.
Step 1: Understanding CODIS.
CODIS is a computerized database system used in forensic science to store and compare DNA profiles. It helps law enforcement agencies match DNA evidence from crime scenes with profiles stored in the database.
Step 2: Identifying the full form of CODIS.
The full form of CODIS is:

Combined DNA Index System

It allows forensic laboratories to exchange and compare DNA information, thereby assisting in solving crimes and identifying offenders.

Quick Tip

CODIS stands for **Combined DNA Index System**. It is a forensic DNA database used to store and compare DNA profiles from crime scenes and offenders.

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6. Which poison is commonly known as "the king of poisons" due to its historical use and potency?
(A) Arsenic
(B) Cyanide
(C) Mercury
(D) Strychnine

Correct Answer: (1) Arsenic

Solution:

Concept: Poisons are substances that can cause injury, illness, or death when introduced into the body. In forensic toxicology, certain poisons are historically significant because of their frequent use in crimes.
Step 1: Understanding the historical importance of arsenic.
Arsenic has been widely used as a poison throughout history due to several reasons:

- It is **colorless, tasteless, and odorless**.
- It can be easily mixed with food or drink.
- Symptoms often resemble common illnesses, making detection difficult in earlier times.

Step 2: Why it is called the "King of Poisons".
Because of its frequent use in historical poisoning cases and its high toxicity, arsenic became known as the:

King of Poisons

Thus, the correct answer is **Arsenic**.

Quick Tip

Arsenic is historically known as the **"King of Poisons"** because it is highly toxic, difficult to detect in earlier times, and was frequently used in criminal poisonings.

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7. What is the primary objective of "Chain of Custody" in handling physical evidence?
(A) To increase the quantity of evidence
(B) To maintain a documented history of evidence handling

(C) To analyze the chemical composition of evidence
(D) To destroy contaminated evidence

Correct Answer: (2) To maintain a documented history of evidence handling

Solution:

Concept: In forensic investigations, physical evidence must be handled carefully to ensure that it remains authentic and admissible in court. The **Chain of Custody** is a systematic process used to track the collection, handling, transfer, and storage of evidence.
Key elements of Chain of Custody include:

- Proper labeling and packaging of evidence
- Documentation of every person who handles the evidence
- Recording the date, time, and purpose of transfer
- Secure storage of the evidence

Step 1: Understanding the meaning of Chain of Custody.
Chain of Custody refers to the **chronological documentation** that records the sequence of custody, control, transfer, analysis, and disposition of physical evidence.
Step 2: Identifying its primary objective.
The main objective of maintaining a Chain of Custody is to ensure that:

- The evidence has not been tampered with.
- The integrity and authenticity of the evidence are preserved.
- The evidence remains legally admissible in court.

Thus, the correct answer is:

To maintain a documented history of evidence handling

Quick Tip

Chain of Custody ensures the **integrity and authenticity of physical evidence** by maintaining a complete documented record of everyone who handled the evidence from collection to presentation in court.

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8. The study of insects in relation to a criminal investigation is known as what?
(A) Forensic Anthropology
(B) Forensic Entomology
(C) Forensic Toxicology
(D) Forensic Odontology

Correct Answer: (2) Forensic Entomology

Solution:

Concept: Forensic science consists of various specialized branches that help investigators analyze evidence and reconstruct crime scenes. One such branch focuses on insects found on or near decomposing bodies.
Step 1: Understanding the role of insects in investigations.
After death, insects such as flies and beetles are often attracted to a body. Their life cycles and patterns of development can provide valuable information in criminal investigations.
These observations help forensic experts determine:

- Time since death (postmortem interval)
- Movement of the body
- Environmental conditions at the crime scene

Step 2: Identifying the field of study.
The scientific study of insects and their developmental stages in relation to criminal investigations is called:

Forensic Entomology

Quick Tip

Forensic Entomology is the study of insects in criminal investigations. It is commonly used to estimate the **postmortem interval (PMI)**, which helps determine the approximate time of death.

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9. Which type of microscope is typically used for the comparison of two fired bullets?
(A) Compound Microscope
(B) Comparison Microscope
(C) Electron Microscope
(D) Stereo Microscope

Correct Answer: (2) Comparison Microscope

Solution:

Concept: In forensic ballistics, firearms examiners analyze bullets and cartridge cases to determine whether they were fired from a particular weapon. When a bullet travels through a gun barrel, it acquires unique markings caused by the rifling of the barrel.
These markings include:

- Striations on the bullet surface

- Land and groove impressions

These characteristics help forensic experts match a bullet to the firearm that fired it.
Step 1: Understanding the need for bullet comparison.
To determine whether two bullets were fired from the same firearm, investigators must compare the microscopic markings present on the bullets.
Step 2: Identifying the microscope used.
A **Comparison Microscope** is specifically designed to view two objects simultaneously side by side. It allows forensic examiners to compare the microscopic striations on bullets and determine whether they match.
Thus, the correct answer is:

Comparison Microscope

Quick Tip

A **Comparison Microscope** is widely used in **forensic ballistics** to compare two bullets or cartridge cases simultaneously and determine whether they were fired from the same firearm.

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10. What is the main component found in the "grey" powder used for fingerprint dusting?
(A) Carbon black
(B) Aluminum powder
(C) Zinc oxide
(D) Graphite

Correct Answer: (4) Graphite

Solution:

Concept: Fingerprint powders are used in forensic investigations to develop latent fingerprints on smooth, non-porous surfaces such as glass, metal, or plastic. These powders adhere to the moisture and oily residues left by the friction ridges of the fingers.
Different types of fingerprint powders include:

- Black powder
- Grey powder
- Magnetic powder
- Fluorescent powder

Step 1: Understanding grey fingerprint powder.
Grey powder is commonly used on darker surfaces where black powder may not provide sufficient contrast.

Step 2: Identifying the main component.
The main component of grey fingerprint powder is **graphite**. Graphite particles adhere to the oily residues in latent fingerprints, making the ridge patterns visible for examination.
Thus, the correct answer is:

Graphite

Quick Tip

Grey fingerprint powder mainly contains **graphite**. It is commonly used to develop latent fingerprints on dark-colored, non-porous surfaces.

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11. In handwriting analysis, what is the term for the tiny flourishes or decorative strokes at the ends of letters?
(A) Loops
(B) Serifs
(C) Strokes
(D) Baselines

Correct Answer: (2) Serifs

Solution:

Concept: Handwriting analysis (forensic document examination) studies the characteristics of writing to determine authenticity or authorship of a document. Experts examine various features such as letter formation, spacing, slant, strokes, and decorative elements.
Important handwriting features include:

- Letter formation and size
- Pen pressure and stroke direction
- Spacing between words and letters
- Decorative features at the ends of strokes

Step 1: Understanding decorative strokes in writing.
In handwriting and typography, small finishing strokes or decorative extensions at the ends of letters are known as **serifs**. These tiny projections appear at the ends of the main strokes of characters.
Step 2: Identifying the correct term.
Serifs are used to enhance readability in many writing styles and typefaces. In forensic handwriting analysis, the presence or style of serifs can help identify an individual's writing habits.
Thus, the correct answer is:

Serifs

Quick Tip

Serifs are small decorative strokes or flourishes found at the ends of letters. In forensic document examination, such features can help in identifying the characteristics of a person's handwriting.

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12. Which test is specifically used to detect the presence of semen by identifying acid phosphatase?
(A) Kastle–Meyer Test
(B) Acid Phosphatase Test
(C) Takayama Test
(D) Benzidine Test

Correct Answer: (2) Acid Phosphatase Test

Solution:

Concept: In forensic biology, identifying biological fluids such as blood, semen, and saliva is important for criminal investigations. Various biochemical tests are used to detect these fluids based on specific enzymes or chemical reactions.
Step 1: Understanding semen detection in forensic science.
Semen contains a high concentration of the enzyme **acid phosphatase**, which originates from the prostate gland. This enzyme is commonly used as an indicator for the presence of semen in forensic samples.
Step 2: Identifying the appropriate test.
The **Acid Phosphatase Test** is used as a presumptive test for semen detection. When the reagent reacts with acid phosphatase, it produces a rapid color change, indicating the possible presence of semen.
Thus, the correct answer is:

$$\boxed{\text{Acid Phosphatase Test}}$$

Quick Tip

The **Acid Phosphatase Test** is widely used in forensic investigations to detect semen stains because semen contains a high concentration of the enzyme **acid phosphatase**.

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13. What is the term for the stiffening of the body's joints and muscles after death?
(A) Algor Mortis
(B) Livor Mortis
(C) Rigor Mortis
(D) Putrefaction

Correct Answer: (3) Rigor Mortis

Solution:

Concept: After death, the human body undergoes several predictable physical and chemical changes. These postmortem changes help forensic experts estimate the time since death. Important postmortem changes include:

- **Algor Mortis** – Cooling of the body after death.
- **Livor Mortis** – Settling of blood in the lower parts of the body causing discoloration.
- **Rigor Mortis** – Stiffening of muscles after death.
- **Putrefaction** – Decomposition of body tissues due to bacterial activity.

Step 1: Understanding stiffening after death.
After death, chemical changes occur in the muscles due to depletion of ATP. As a result, the muscles become rigid and stiff.
Step 2: Identifying the correct term.
This postmortem stiffening of the body's joints and muscles is known as:

Rigor Mortis

Quick Tip

Rigor Mortis refers to the stiffening of muscles after death due to biochemical changes in muscle fibers. It is an important indicator used in estimating the **postmortem interval**.

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14. A 'Questioned Document' is defined as any document whose what is in doubt?
(A) Size
(B) Authenticity
(C) Color
(D) Thickness

Correct Answer: (2) Authenticity

Solution:

Concept: In forensic document examination, experts analyze documents to determine whether they are genuine or forged. Such documents are called **questioned documents**.
These documents may include:

- Handwritten notes
- Signatures
- Contracts

- Printed documents
- Cheques and legal papers

Step 1: Understanding the meaning of a questioned document.
A **questioned document** refers to any document whose origin, authorship, or genuineness is disputed or uncertain during an investigation.
Step 2: Identifying what is in doubt.
In forensic science, the main reason a document becomes questioned is because its **authenticity** is doubtful. Experts analyze handwriting, ink, paper, printing methods, and alterations to determine whether the document is genuine.
Thus, the correct answer is:

Authenticity

Quick Tip

A **Questioned Document** is any document whose **authenticity or genuineness is in doubt**. Forensic document examiners analyze handwriting, ink, paper, and printing techniques to determine its validity.

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15. Which schedule of the Narcotic Drugs and Psychotropic Substances (NDPS) Act lists prohibited drugs?
(A) Schedule I
(B) Schedule II
(C) Schedule III
(D) Schedule IV

Correct Answer: (1) Schedule I

Solution:

Concept: The **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985** is the primary legislation in India that regulates the control and prohibition of narcotic drugs and psychotropic substances. The Act aims to prevent drug abuse and illegal trafficking of narcotic substances.
Under the NDPS Act, different schedules classify drugs and substances based on their legal status and regulation.

- Certain substances are strictly prohibited for manufacture, possession, sale, and use.
- Others may be allowed under strict medical or scientific regulations.

Step 1: Understanding the purpose of schedules in the NDPS Act.
Schedules under the NDPS Act list specific narcotic drugs and psychotropic substances and define the level of restriction or prohibition applied to them.

Step 2: Identifying the schedule containing prohibited substances.
Schedule I of the NDPS Act lists substances that are **completely prohibited** except for scientific or very limited authorized purposes. These substances are considered highly dangerous and have strict legal restrictions.
Thus, the correct answer is:

Schedule I

Quick Tip

Under the **NDPS Act, 1985**, **Schedule I** contains drugs and psychotropic substances that are **prohibited** except for limited scientific or medical purposes.
