

Criminology

Part - II

Question 6:

What is meant by forensic criminal investigation? What are the hurdles in streamlining the forensic criminal investigation in Pakistan?

Answer:

Introduction:

In the modern criminal justice system, forensic criminal investigation has emerged as a cornerstone of scientific policing and fair trial standards. With the increasing complexity of crime - ranging from terrorism and cybercrime to gender based violence - traditional investigative methods based solely on confessions and eyewitnesses have proven inadequate. Consequently, forensic science bridges the gap between crime and conviction by providing objective, scientific, and reliable evidence.

However, despite its significance, Pakistan faces serious hurdles in streamlining forensic

criminal investigation,
resulting in low conviction
rates, miscarriages of
justice, and public distrust
in law enforcement agencies.

Meaning of Forensic Criminal Investigations

The word **forensia** originates from the Latin term **forensis**, meaning "pertaining to courts or public debate". Forensic criminal investigation refers to the systematic application of scientific knowledge, techniques, and laboratory methods to the investigation of crimes for the purpose of discovering facts and assisting the courts in the administration of justice. It transforms physical traces left at a crime scene into **legally admissible evidence**.

"Forensic Science is the application of science to the law in the search for truth."

Richard Saferstein

Scope and Nature of Forensic Investigation :

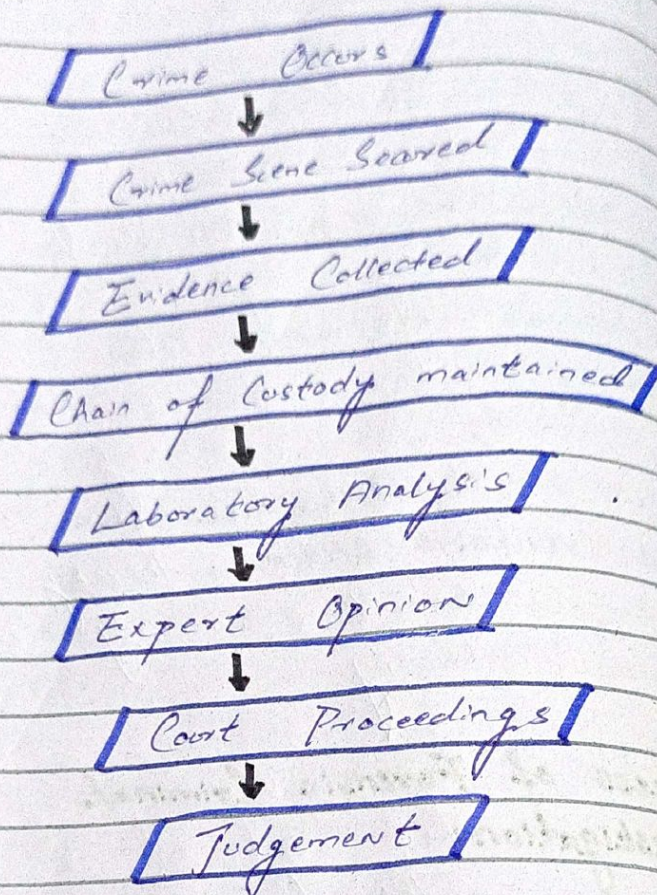
Forensic criminal investigation is multidimensional in nature. It includes crime scene investigation, DNA profiling, fingerprint examination, ballistics, forensic toxicology, digital forensics, and medico-legal examinations. Each discipline contributes to reconstructing the crime by providing **objective, measurable, and verifiable evidence**, thereby reducing dependence on subjective human testimony.

Process of Forensic Criminal Investigation:

The forensic investigation process follows a **logical and sequential scientific framework**.

Initially, the crime scene is secured to prevent contamination. This is followed by documentation through photography and sketching. Physical evidence is then collected, preserved, and labeled to maintain the **chain of custody**. Subsequently, the evidence is analyzed in forensic laboratories, and expert opinions are presented before the court to aid

judicial decision-making



Importance of Forensic Criminal Investigation:

From a criminological perspective, forensic investigation enhances the certainty of **punishment**, which is a key factor in deterrence. It minimizes wrongful convictions, strengthens **rule of law**, and promotes public confidence in the

criminal justice system. Moreover, in sensitive cases such as sexual violence and domestic abuse, forensic evidence plays a crucial role in protecting victims from social stigma and false counter-allegations.

"Physical evidence cannot lie,
it cannot forget, and
it cannot be intimidated"
(Paul L. Kirk)

Hurdles in Streamlining Forensic Criminal Investigation in Pakistan:

Despite its recognized importance, Pakistan faces several hurdles that impede the effective integration of forensic science into criminal investigations.

Inadequate Forensic Infrastructure:

One of the primary hurdles is the lack of modern and uniformly distributed forensic infrastructure. Although institutions such as the Punjab Forensic Science Agency (PFSA) exist,

most districts and provinces lack functional forensic laboratories. Consequently, evidence is often transported over long distances, leading to delays, contamination, and loss of evidentiary value.

Shortage of Skilled Forensic Professionals:

Pakistan suffers from a severe shortage of trained forensic scientists and technicians. Limited educational institutions and training programs result in police officers performing forensic duties without adequate scientific expertise. This leads to procedural flaws and weak forensic reports, which are frequently challenged in courts.

Poor Crime Scene Management:

Effective forensic investigation begins

at the crime scene; however, in Pakistan, crime scenes are often poorly secured and improperly handled. Public intrusion, media interference, and lack of awareness among first responders frequently result in contaminated or destroyed evidence, severely undermining prosecution cases.

Weak Chain of Custody Practices:

The chain of custody ensures that evidence remains intact from collection to presentation in court. In Pakistan, inadequate documentation, mishandling, and absence of standardized procedures often create gaps in the chain, allowing defense councils to challenge the authenticity of forensic evidence.

Legal and Judicial Constraints:

Pakistan's criminal justice system traditionally relies more on oral testimony and confessions than scientific evidence. Moreover, many judges and prosecutors lack technical understanding of forensic science, resulting in inconsistent

admissibility standards
and underutilization of
forensic findings.

Financial and Administrative Limitations:

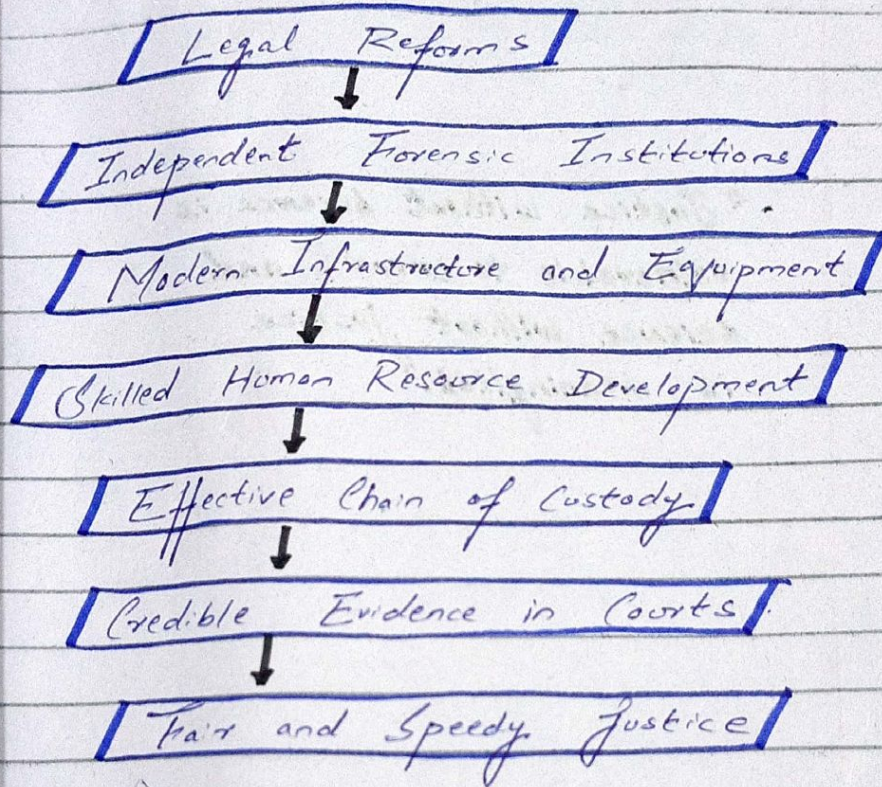
Forensic departments
are chronically underfunded
and administratively
dependent on police
hierarchies, limiting
their institutional
independence. Lack of
modern equipment,
quality assurance mechanisms,
and research facilities
further hampers the
effectiveness of forensic
investigation.

Socio-Cultural and Gender- Related Barriers:

In cases
of rape, honor crimes,
and domestic violence,
forensic investigation is
obstructed by social
stigma, victim reluctance,
and delays in medico-
legal examinations. The
absence of gender-sensitive

forensic protocols discourages victims from reporting crimes, weakening evidentiary foundations.

Strengthening Forensic Criminal Investigation:



Conclusion:

Forensic Criminal Investigation represents the scientific essence of modern criminology. While Pakistan has initiated steps toward forensic development, persistent hurdles such as weak infrastructure, lack of expertise, legal gaps, and socio-cultural constraints

continue to undermine its effectiveness. Comprehensive reforms integrating science, law, and human rights are essential for streamlining forensic investigation and ensuring justice, deterrence, and public trust.

"Justice without science is vulnerable to error, and science without justice is meaningless."