SWAMINARAYAN UNIVERSITY

THE RESERVOIR OF ALL KNOWLEDGE

(Established under Gujarat Private Universities Act, 2009)

**FACULTY OF LAW**

**REPORT ON**

**ACADEMIC VISIT**

**FORESIC SCIENCE LABORATORY, SEC 18, GANDHINAGAR**

**EVENT DETAILS: -**

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| FACULTY | : | Dr. Satnam Tuteja (Dean-Faculty of Law) |
| | | Ms. Krina Shah (Assistant Professor) |
| STUDENTS | : | Students participated |
| DATE | : | 27th March 2025 |
| TIME | : | 10:30 am to 3:00 pm |
| PLATFORM | : | Offline |
| VENUE | | FORESIC SCIENCE LABORATORY, SEC 18, GANDHINAGAR |
| FEES | : | Free of Cost |

PROGRAMME INITIAVE BY: Faculty of Law, Swaminarayan University.

## INTRODUCTION

Forensic Science Laboratories (FSLs) play a crucial role in the criminal justice system. They apply scientific techniques to analyze evidence and assist in legal investigations. They serve as a bridge between science and law, providing objective findings that help solve crimes and administer justice.

## OBJECTIVES OF FORENSIC SCIENCE LABORATORY

The primary objectives of an FSL are:

- Analyze physical, chemical, and biological evidence.
- Assist law enforcement agencies in criminal investigations.
- To provide expert testimony in courts.
- To enhance the use of scientific methods in crime detection and prevention.

## STRUCTURE AND DIVISIONS OF THE FORENSIC SCIENCE LABORATORY

A typical forensic laboratory consists of various specialized divisions, each handling specific types of evidence:

- **Biology and DNA Division:** Examines biological samples such as blood, semen, saliva, and hair to establish identity and relationships.
- **Toxicology Division:** Analyzes poisons, drugs, and chemical substances in biological fluids and tissues.
- **Ballistics Division:** Studies firearms, ammunition, and related materials to determine weapon usage in crimes.
- **Fingerprints and Questioned Documents Division:** Deals with fingerprint analysis and authentication of signatures and documents.
- **Cyber Forensics Division:** Investigates digital evidence, cybercrimes, and electronic fraud.
- **Physical Evidence Division:** Examines fibers, paint, glass, soil, and tool marks found at crime scenes.

## WORKING OF A FORENSIC SCIENCE LABORATORY

The forensic examination process involves:

1. **Collection of Evidence:** Proper collection, packaging, and transportation of physical evidence from crime scenes.
2. **Preservation:** Ensuring the integrity of evidence through secure storage and chain-of-custody documentation.

**3. Analysis and Testing:** Using advanced scientific techniques like chromatography, spectroscopy, and DNA profiling to analyze evidence.
**4. Interpretation and Reporting:** Preparing detailed forensic reports based on findings.
**5. Presentation in Court:** Forensic experts may testify in court as expert witnesses.

## IMPORTANCE OF FORENSIC SCIENCE IN CRIMINAL JUSTICE

- Helps in identifying perpetrators and exonerating the innocent.
- Strengthening legal proceedings through scientific validation.
- Assists in reconstructing crime scenes.
- Provides irrefutable evidence to support law enforcement agencies.

## CHALLENGES IN FORENSIC SCIENCE LABORATORIES

Despite its effectiveness, forensic science faces several challenges:

- **Backlog of Cases:** Delays due to an overwhelming number of cases.
- **Technological Limitations:** Need for continuous advancement in forensic techniques.
- **Ethical and Legal Issues:** Maintaining accuracy, avoiding bias, and ensuring proper evidence handling.
- **Lack of Skilled Personnel:** Shortage of trained forensic experts.

## CONCLUSION

Forensic Science Laboratories play a vital role in modern criminal investigations. The integration of science with law enhances the accuracy of evidence interpretation, leading to fair trials and just verdicts. With advancements in forensic technologies and improved laboratory facilities, the reliability of forensic evidence continues to grow, making it an indispensable tool in the legal system.

## *Glimpses of the Event*






















