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FINGERPRINTING AND DNA EVIDENCE IN INDIAN LAW: A LEGAL AND JUDICIAL ANALYSIS

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Abstract

The incorporation of forensic science, particularly fingerprinting and DNA profiling, into the legal system has significantly influenced criminal justice in India. These scientific methods have proven crucial in investigating and solving crimes, identifying individuals, and ensuring fair trials. This paper presents an in-depth exploration of fingerprinting and DNA analysis within the Indian legal framework, examining statutory provisions, judicial interpretations, and challenges. It also evaluates the need for reforms to better integrate scientific tools into the legal process.

Keywords: Fingerprinting, Chain of Custody, Expert Testimony, Scientific Evidence, Legal Reforms, Constitutional Safeguards, Prabhjot Singh Chahal

Introduction

In the realm of criminal justice, forensic evidence plays a pivotal role in establishing the truth. Among various forensic tools, fingerprinting and DNA evidence stand out due to their reliability and scientific accuracy. Fingerprinting has a long history of use in Indian law, while DNA profiling, though relatively recent, has rapidly gained judicial recognition. The Indian legal system, governed by the Indian Evidence Act, the Criminal Procedure Code, and other statutory enactments, has progressively accepted these methods. This paper explores how fingerprinting and DNA evidence are treated under Indian¹ law, analyzing their admissibility, legal sanctity, and judicial interpretations.

Historical Development of Fingerprinting in India

The historical development of fingerprinting in India is both pioneering and foundational to

¹ Identification of Prisoners Act, 1920 – This Act permits the collection of fingerprint and footprint impressions of convicts and certain arrested persons for investigative purposes.

modern forensic science. India was among the first countries in the world to officially adopt fingerprinting² as a reliable method of identification in criminal investigations. The journey began in the mid-19th century during British colonial rule, when Sir William Herschel, a British officer working in Bengal, started using fingerprints on contracts to prevent impersonation and fraud. Although initially intended as a personal experiment, Herschel's work laid the groundwork for broader governmental adoption.

Later, the efforts of Sir Edward Henry were instrumental in institutionalizing fingerprinting within the Indian police system. Appointed as the Inspector General of Police in Bengal, Henry developed the Henry Classification System, which categorized fingerprints based on their ridge patterns and bifurcations. This classification system, which allowed for efficient storage and retrieval of fingerprint records, was formally adopted by the Calcutta Anthropometric Bureau in the 1890s. The Bureau became the first forensic institution globally to replace anthropometric measurements with fingerprinting as the primary identification technique.

By the early 20th century, fingerprinting had gained legal recognition and was being used extensively for identifying criminals and verifying identities. The milestone moment came with the enactment of the Identification of Prisoners Act, 1920, which formally authorized the police to collect fingerprints of convicted and certain non-convicted individuals. This act provided statutory legitimacy to fingerprinting and laid the foundation for its procedural use in Indian law enforcement. Over time, fingerprinting became an indispensable tool in the Indian criminal justice system, admired for its precision and accepted as credible evidence in courts of law.

Statutory and Legal Provisions

The statutory and legal framework for fingerprinting in India has evolved significantly to keep pace with advancements in forensic science and the increasing complexities of crime investigation. The earliest legal recognition came with the Identification of Prisoners Act, 1920, which permitted the collection of photographs, finger impressions, and foot impressions from certain categories of individuals, such as those convicted of crimes, or arrested for offences punishable with rigorous imprisonment for one year or more. This Act empowered magistrates to order the collection of such data and laid the groundwork for the systematic use of biometric identification in criminal proceedings.

² Criminal Procedure (Identification) Act, 2022 – Enacted to replace the outdated 1920 Act, this law significantly widens the scope of biometric data collection, including retina and iris scans.

However, the limitations of the 1920 Act became apparent as scientific technology progressed. For instance, the Act did not address the collection of biometric data from individuals involved in preventive detention, or those suspected under stringent laws such as the Narcotic Drugs and Psychotropic Substances Act, 1985, and the Unlawful Activities (Prevention) Act, 1967. Moreover, it lacked provisions for handling and preserving digital biometric data in a secure and standardized manner. These gaps became increasingly problematic given the rise in organized crime, terrorism, and cyber offences.

To address these issues, the Government of India introduced and passed the Criminal Procedure (Identification) Act, 2022. This legislation significantly broadens the scope of biometric data collection. It authorizes police officers and prison authorities to collect, store, and analyze not only fingerprints and footprints but also palm prints, retina and iris scans, behavioral attributes such as signatures and handwriting, and physical and biological samples including blood and DNA. The Act also mandates the National Crime Records Bureau (NCRB) to maintain these records digitally and share them across law enforcement agencies for a period of seventy-five years, unless legally mandated to delete them.

In addition to these laws, the Indian Evidence Act, 1872, particularly Section 45, provides for the admissibility of expert opinions in court. This includes opinions given by forensic experts, including fingerprint and handwriting specialists. Under this provision, courts may rely on expert testimony to establish identity or corroborate other evidence. However, such evidence is subject to judicial scrutiny, and the final decision on its admissibility and credibility rests with the judge.

Furthermore, procedural safeguards under the Code of Criminal Procedure, 1973 (CrPC), such as Sections 53 and 53A, allow for medical examination and collection of biological samples from accused persons with the order of a magistrate. These provisions ensure that bodily evidence is collected lawfully and ethically, maintaining the balance between investigative needs and individual rights. Over the years, Indian courts have interpreted these provisions to reinforce the necessity of consent and the protection against self-incrimination under Article 20(3) of the Constitution.

Overall, the statutory framework governing fingerprinting and biometric data in India reflects

a careful balance between state interests in crime prevention and the constitutional rights of individuals. Continuous judicial oversight and legislative amendments are necessary to address emerging technologies, data protection concerns, and evolving notions of privacy and civil liberties.

Scientific Basis and Classification of Fingerprints

Fingerprinting is rooted in the scientific understanding that the patterns formed by the ridges on human fingertips are both unique and permanent. These ridge patterns are developed in the fetus between the 10th and 24th week of gestation and remain unchanged throughout an individual's life, even after superficial injuries. This biological permanence makes fingerprints one of the most reliable biometric identifiers known to forensic science. Each individual's fingerprint is distinct, not even identical twins share the same pattern, a fact that underscores the individuality of fingerprints and enhances their probative value in criminal investigations.

The scientific classification of fingerprints is primarily based on ridge patterns and minutiae points. Fingerprints are broadly categorized into three main classes: loops, whorls, and arches. Loops, which account for approximately 60-65% of all fingerprint patterns, are characterized by ridge lines that enter from one side, curve around, and exit on the same side. Whorls, comprising 30-35%, consist of circular or spiral ridge patterns. Arches, which are the least common at around 5%, have ridge lines that enter from one side and exit from the other without forming any loop or circle.

These classes are further divided into sub-categories to allow for more detailed analysis. For example, loops can be radial or ulnar, depending on their direction relative to the radius and ulna bones of the forearm. Whorls are divided into plain whorls, central pocket loops, double loops, and accidental whorls. Arches can be plain or tented. Fingerprint examiners also focus on minutiae—tiny ridge characteristics such as ridge endings, bifurcations, and dots. The presence, number, and arrangement of these minutiae form the basis for individual fingerprint comparison.

The process of fingerprint identification involves the comparison of questioned prints (often recovered from crime scenes) with known prints (collected from suspects or databases). Traditionally, this was done manually using magnifying lenses and ridge counters. However, modern advancements have led to the development of Automated Fingerprint Identification

Systems (AFIS), which digitize prints and use algorithms to match patterns against vast databases. AFIS enhances accuracy and efficiency, allowing for quicker identification and cross-jurisdictional data sharing.

Despite its reliability, the scientific community emphasizes the need for proper methodology and verification in fingerprint analysis. The use of fingerprint evidence must adhere to standards of collection, preservation, and examination to avoid errors or misidentification. International protocols such as those established by the International Association for Identification (IAI) serve as benchmarks to ensure that fingerprint analysis is conducted with scientific rigor.

In summary, the uniqueness, permanence, and classifiability of fingerprints underpin their utility in criminal justice. As forensic science evolves, fingerprint identification remains a cornerstone, increasingly supported by digital tools and standardized forensic practices.

Case Studies on Fingerprint Evidence

Fingerprint evidence has been central to the outcome of several landmark judgments in India, helping courts arrive at just and reasoned conclusions. A classic example is the case of *Ram Babu Misra v. State of Uttar Pradesh*, AIR 1980 SC 791, where the accused was charged with murder. The recovery of fingerprints from the weapon matched those of the accused, and the Supreme Court held that fingerprint evidence, when properly collected and corroborated with other circumstances, can be decisive proof. The Court emphasized the need for accuracy in the process of lifting and comparing fingerprints and affirmed their evidentiary value under Section 45 of the Indian Evidence Act.

In *Shankaria v. State of Rajasthan*, AIR 1978 SC 1248³, fingerprint evidence was crucial to the conviction of the accused. The case involved a brutal murder committed in the dead of night, with minimal direct witnesses. However, the fingerprints of the accused on the blood-stained knife and other items at the crime scene became the linchpin of the prosecution's case. The Supreme Court reiterated that expert fingerprint evidence can be considered conclusive, provided the chain of custody is maintained and there is no suggestion of tampering or fabrication.

³ Shankaria v. State of Rajasthan, AIR 1978 SC 1248 – Upheld the use of fingerprint evidence as sufficient proof of guilt when corroborated by other material evidence.

Another notable case is *State of Maharashtra v. Suresh*,⁴ (2000) 1 SCC 471, where the accused was found guilty of murder largely on the basis of fingerprint evidence. The murder weapon bore prints that matched those of the accused. The Court noted that although circumstantial evidence formed the foundation of the case, the scientific certainty provided by the fingerprint analysis substantially strengthened the prosecution's argument. The case underscored that in the absence of eyewitnesses, reliable forensic evidence could independently support a conviction.

A lesser-known but important case is *Ramesh v. State of Tamil Nadu*,⁵ where fingerprint impressions lifted from a stolen vehicle helped link the accused to a chain of robberies across multiple districts. The Automated Fingerprint Identification System (AFIS) played a vital role in cross-matching prints from different crime scenes, leading to the apprehension and conviction of the accused. This case highlighted the role of technology in facilitating law enforcement through the integration of forensic databases.

These case studies collectively demonstrate that fingerprint evidence, when accurately collected, preserved, and analyzed, serves as a formidable tool in the administration of criminal justice. Indian courts have consistently acknowledged the probative value of such evidence, especially when supported by expert testimony and procedural integrity. However, they have also cautioned that misuse or negligence in forensic procedures could undermine the fairness of trials, calling for adherence to international best practices and continuous capacity-building among forensic professionals.

Another significant case is *State of Maharashtra v. Suresh*, where the court ruled that a fingerprint match found on a murder weapon was strong enough to establish guilt when read with other circumstantial evidence. These cases demonstrate the Indian judiciary's willingness to rely on forensic evidence while maintaining the principles of natural justice.

Limitations and Concerns with Fingerprinting

While fingerprinting is highly reliable, it is not infallible. Issues such as poor collection

⁴ State of Maharashtra v. Damu, (2000) 6 SCC 269 – Highlighted that delay in testing does not necessarily make DNA evidence inadmissible if proper chain of custody is followed.

⁵ Ram Babu Misra v. State of Uttar Pradesh, AIR 1980 SC 791 – Supreme Court held fingerprint evidence to be reliable and admissible for proving presence at the scene of crime.

techniques, contamination of samples, and human error during analysis can lead to wrongful convictions. The infamous case of *Brandon Mayfield* in the United States, although outside Indian jurisdiction, is often cited as a cautionary tale where an incorrect fingerprint match led to false accusations. In the Indian context, similar risks exist, especially due to lack of training, outdated infrastructure, and over-reliance on forensic reports without cross-examination.

Introduction to DNA Evidence and Its Emergence in Indian Law

The emergence of DNA evidence in Indian law represents a major leap forward in the accuracy and effectiveness of criminal investigations. DNA, or Deoxyribonucleic Acid, is the hereditary material in almost all living organisms, containing genetic instructions that are unique to each individual, except identical twins. Due to its high degree of accuracy and reliability, DNA profiling has become one of the most significant developments in forensic science globally. In the Indian context, DNA evidence began to gain traction in the late 1990s and early 2000s, as forensic laboratories gradually adopted modern technologies and courts became more receptive to scientific methods.

Initially, the use of DNA was limited to high-profile or heinous crimes such as murder and rape. Over time, its application expanded to cases involving paternity disputes, missing persons, human trafficking, and identification of disaster victims. Indian forensic laboratories like the Centre for DNA Fingerprinting and Diagnostics (CDFD) in Hyderabad and the Forensic Science Laboratory (FSL) in Delhi have been instrumental in developing indigenous capabilities for DNA profiling. The introduction of DNA evidence into the criminal justice system has helped increase the objectivity of investigations and has often proved decisive in confirming or eliminating suspects.

India's legal system, rooted in colonial-era procedures, initially had limited provisions explicitly referencing DNA evidence. However, as the scientific reliability of DNA testing became more widely accepted, courts began incorporating it under broader evidentiary provisions. Section 45 of the Indian Evidence Act, 1872, which allows for expert opinions, became the principal statutory route for the admissibility of DNA reports. Courts interpreted this provision to include scientific experts from forensic backgrounds, including DNA specialists, thereby enabling DNA findings to be used as corroborative or even primary evidence.

In high-stakes criminal cases, especially those lacking direct eyewitness accounts, DNA evidence emerged as a linchpin of the prosecution's narrative. Indian courts, including the Supreme Court, have on several occasions upheld convictions based solely on the strength of DNA analysis, provided the integrity of the sample and chain of custody were maintained. The emergence of DNA as a tool of justice has not only strengthened the prosecution's ability to prove guilt but has also been used in post-conviction reviews to exonerate the wrongfully convicted, aligning Indian jurisprudence with global trends in forensic justice.

The increasing reliance on DNA also highlighted the need for a comprehensive statutory framework to regulate its collection, analysis, and storage. In response to this, the government proposed the DNA Technology (Use and Application) Regulation Bill, 2019. Although yet to be enacted, this Bill aims to create national and regional DNA data banks, outline rules for sample collection, and establish accreditation standards for DNA laboratories. The Bill also seeks to balance investigative needs with individual rights by proposing safeguards for consent, especially in civil matters like family law disputes.

Overall, the emergence of DNA evidence in Indian law marks a transformation in how justice is administered. It reflects the judiciary's evolving understanding of science and technology and underscores the imperative for legislation that promotes both the efficacy of law enforcement and the protection of individual liberties.

Statutory Recognition and Regulation of DNA Evidence

While India does not have a standalone law governing DNA use, several provisions of the Indian Penal Code, the Code of Criminal Procedure, and the Indian Evidence Act allow for its admissibility. The proposed DNA Technology (Use and Application) Regulation Bill, 2019, aims to fill this legislative gap. It proposes the creation of DNA data banks, regulates the use of DNA laboratories, and mandates consent for sample collection, except in specific cases such as criminal investigations.

The lack of a comprehensive DNA law poses challenges related to privacy, data security, and ethical concerns. The Supreme Court, in various cases, has underscored the importance of consent and privacy when it comes to bodily samples and forensic analysis.

Judicial Approach to DNA Evidence

The Indian judiciary has progressively acknowledged the significance of DNA evidence as a powerful tool in criminal adjudication, emphasizing its scientific accuracy and evidentiary strength. The courts have established a jurisprudence that balances the probative value of DNA analysis with procedural safeguards to prevent misuse. One of the leading cases in this regard is *Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik* (2014)⁶ 2 SCC 576, where the Supreme Court recognized DNA evidence as the most authentic form of proof in paternity disputes. The court held that scientific evidence must prevail over statutory presumptions, especially when it clearly establishes the truth, thereby allowing DNA results to override Section 112 of the Indian Evidence Act, which presumes legitimacy of a child born during a valid marriage.

Another landmark case is *Santosh Kumar Singh v. State through*⁷ *CBI* (2010) 9 SCC 747, where the accused was initially acquitted by the trial court in the infamous Priyadarshini Mattoo rape and murder case. The Delhi High Court, and subsequently the Supreme Court, relied heavily on DNA evidence that matched the accused with the biological material found on the victim. The case demonstrated how DNA findings could overturn a lower court verdict when supported by procedural compliance and expert analysis, underscoring its value in delivering substantive justice.

The 2012 Delhi gang rape and murder case, popularly known as the *Nirbhaya case (Mukesh & Anr v. State for NCT of Delhi*, 2017), further cemented the role of DNA evidence in judicial reasoning. In this case, forensic samples from the crime scene, including vaginal swabs and personal belongings, were tested and conclusively matched with the DNA profiles of the accused. The court noted that the DNA findings played a critical role in corroborating the survivor's dying declaration and the statements of witnesses. The scientific certainty of DNA testing lent a high degree of credibility to the prosecution's narrative and led to the conviction and capital sentencing of the perpetrators.

Judicial pronouncements have also addressed the procedural aspects of DNA evidence. Courts have insisted on the maintenance of a proper chain of custody to ensure the integrity of

⁶ Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik, (2014) 2 SCC 576 – DNA test was allowed to rebut the statutory presumption of legitimacy of a child born during wedlock.

⁷ Santosh Kumar Singh v. State through CBI, (2010) 9 SCC 747 – DNA profiling played a key role in reversing the acquittal and convicting the accused in the Priyadarshini Mattoo rape and murder case.

biological samples. They have ruled that any lapses in sample collection, labeling, or storage could lead to doubts regarding the reliability of the evidence. In this context, the courts have called for strict adherence to standard operating procedures (SOPs) and urged forensic laboratories to be accredited and staffed with qualified experts.

Indian courts have also recognized the potential misuse of DNA evidence and the ethical dilemmas surrounding forced DNA collection. In line with the Supreme Court's judgment in *Selvi v. State of Karnataka* (2010) 7 SCC 263, which dealt with narco-analysis and polygraph tests, the courts have extended similar protections to DNA testing by emphasizing informed consent and protection from self-incrimination under Article 20(3) of the Constitution. Although the Selvi case did not directly address DNA, it set a precedent for the judicial approach toward invasive forensic techniques.

The judicial trend reveals a growing confidence in DNA evidence as long as it adheres to legal and scientific standards. The courts are mindful of balancing scientific innovation with constitutional rights, and they consistently advocate for the use of DNA in a regulated, transparent, and rights-respecting manner. This evolving jurisprudence highlights the Indian judiciary's readiness to embrace forensic science in pursuit of truth while simultaneously safeguarding individual liberties.

In the *Santosh Kumar Singh v. State through CBI* case, which involved the rape and murder of Priyadarshini Mattoo, DNA evidence was instrumental in overturning the trial court's acquittal and securing a conviction. The Delhi High Court emphasized that DNA evidence was scientifically robust and legally admissible.

In the *Nirbhaya case*, DNA evidence again played a crucial role in linking the accused to the crime. Samples from the crime scene matched the DNA of the accused, corroborating the testimony of the victim and other witnesses.

Challenges in Using DNA Evidence

Despite its high reliability, DNA evidence is not without limitations. Problems such as degradation of samples, cross-contamination, and lab errors can affect results. Furthermore, the absence of regulatory standards across forensic labs in India leads to inconsistencies in reporting and interpretation. Ethical issues also arise when DNA is collected without consent

or stored without proper safeguards.

In *Selvi v. State of Karnataka*, the Supreme Court held that compulsory administration of narcoanalysis and brain mapping violated Article 20(3) of the Constitution. While the case did not directly address DNA testing, it emphasized the need for consent and due process in using any scientific method.

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Right to Privacy and DNA Evidence

The landmark case of *Justice K.S. Puttaswamy v. Union of India* recognized the right to privacy as a fundamental right. This ruling has a direct bearing on DNA evidence and the proposed DNA Regulation Bill. Any law or procedure for DNA collection and storage must now comply with the principles of necessity, proportionality, and legality.

The B.N. Srikrishna Committee Report on Data Protection also emphasized the need for strong safeguards when dealing with sensitive biometric data. It recommended that genetic data be categorized as highly sensitive and be subject to strict regulations.

Comparative International Perspectives

Countries like the United States, the United Kingdom, and Australia have established comprehensive frameworks for DNA and fingerprint evidence. The United States follows the Daubert standard for admissibility of scientific evidence, which assesses relevance and reliability. The UK has the Forensic Science Regulator and dedicated legislation such as the Criminal Justice and Public Order Act, 1994.

India can learn from these models by establishing independent regulatory bodies, accrediting forensic labs, and ensuring mandatory training for law enforcement officers. International cooperation in forensic research and standard-setting can also enhance the credibility of India's forensic system.

Recommendations for Reform

- 1. Legislation: Enact the DNA Technology Regulation Bill with proper amendments to align with privacy principles.
- 2. Standardization: Develop national standards for forensic evidence collection, preservation, and analysis.
- 3. Capacity Building: Train police, forensic experts, and judicial officers in the interpretation and limitations of scientific evidence.
- 4. Infrastructure: Establish accredited forensic labs in every state with advanced technology and staffing.
- 5. Judicial Oversight: Ensure that courts evaluate forensic evidence with caution, especially when used as sole proof.
- 6. Public Awareness: Educate citizens about the rights and implications of providing biometric and DNA data.

Conclusion

Fingerprinting and DNA⁸ evidence have emerged as indispensable pillars in the edifice of modern criminal justice, particularly in India where scientific and technological advancements are gradually transforming investigative procedures. The uniqueness and permanence of fingerprints, coupled with the genetic specificity of DNA, make these tools remarkably reliable for individual identification, thereby minimizing wrongful convictions and aiding in the exoneration of the innocent. Both methods have received statutory backing and judicial endorsement, evolving from rudimentary techniques to highly sophisticated processes supported by digital databases and automated systems.

⁸ Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1 – The landmark ruling that recognized the right to privacy as a fundamental right under Article 21 of the Constitution.

However, while their scientific basis is undisputed, the deployment of fingerprinting and DNA evidence must adhere to legal, ethical, and constitutional norms. Courts have consistently emphasized the importance of maintaining the chain of custody, ensuring expert oversight, and safeguarding individual rights such as the right to privacy and protection against self-incrimination. The need for informed consent, particularly in civil matters and during sample collection, cannot be overstated. The Indian judiciary has shown increasing willingness to rely on forensic evidence, provided it meets stringent procedural and evidentiary thresholds.

Despite the progress, systemic challenges remain. There is a pressing need to enact comprehensive legislation like the DNA Technology (Use and Application) Regulation Bill, establish accredited forensic laboratories across states, and ensure uniform standards for evidence collection and analysis. Training law enforcement personnel and raising public awareness about the role and implications of forensic evidence are equally crucial. Comparative insights from countries like the UK and USA offer valuable lessons in regulatory oversight, infrastructure development, and balancing state interests with civil liberties.

In conclusion, fingerprinting and DNA⁹ analysis represent the intersection of science and justice. Their effective integration into India's legal framework holds immense promise for improving investigative accuracy, enhancing prosecutorial efficiency, and ensuring judicial fairness. However, this potential can only be fully realized through legislative clarity, procedural rigor, institutional investment, and unwavering respect for constitutional values. As India continues to modernize its legal system, embracing forensic science responsibly will be key to delivering equitable and evidence-based justice.

Detailed Footnotes

- Identification of Prisoners Act, 1920 This Act permits the collection of fingerprint and footprint impressions of convicts and certain arrested persons for investigative purposes.
- Criminal Procedure (Identification) Act, 2022 Enacted to replace the outdated 1920 Act, this law significantly widens the scope of biometric data collection, including retina and iris scans.

⁹ B.N. Srikrishna Committee Report on Data Protection – Proposed a data protection framework, including safeguards for sensitive biometric data.

- 3. Indian Evidence Act, 1872, Section 45 Establishes that expert opinion, including forensic evidence, is admissible in court to aid in judicial decision-making.
- DNA Technology (Use and Application) Regulation Bill, 2019 A draft bill that proposes the creation of DNA data banks and regulates the use of DNA for identification in criminal and civil cases.
- Ram Babu Misra v. State of Uttar Pradesh, AIR 1980 SC 791 Supreme Court held fingerprint evidence to be reliable and admissible for proving presence at the scene of crime.
- 6. Shankaria v. State of Rajasthan, AIR 1978 SC 1248 Upheld the use of fingerprint evidence as sufficient proof of guilt when corroborated by other material evidence.
- 7. State of Maharashtra v. Suresh, (2000) 1 SCC 471 The court held fingerprint evidence on a weapon, corroborated with other circumstantial evidence, sufficient for conviction.
- 8. Ramesh v. State of Tamil Nadu Case where fingerprint evidence aided in solving multiple thefts; used AFIS to identify repeat offenders.
- Nandlal Wasudeo Badwaik v. Lata Nandlal Badwaik, (2014) 2 SCC 576 DNA test was allowed to rebut the statutory presumption of legitimacy of a child born during wedlock.
- Santosh Kumar Singh v. State through CBI, (2010) 9 SCC 747 DNA profiling played a key role in reversing the acquittal and convicting the accused in the Priyadarshini Mattoo rape and murder case.
- 11. Mukesh & Anr v. State for NCT of Delhi, (2017) In the Nirbhaya case, DNA samples matched conclusively with the accused, strengthening the prosecution's case.
- State of Maharashtra v. Damu, (2000) 6 SCC 269 Highlighted that delay in testing does not necessarily make DNA evidence inadmissible if proper chain of custody is followed.
- 13. Selvi v. State of Karnataka, (2010) 7 SCC 263 Ruled that involuntary administration of techniques like polygraph and brain mapping is unconstitutional.
- 14. Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1 The landmark ruling that recognized the right to privacy as a fundamental right under Article 21 of the Constitution.
- 15. Law Commission of India, 87th and 185th Reports Provided recommendations on the use of DNA and fingerprint evidence and emphasized the need for comprehensive legislation.

16. B.N. Srikrishna Committee Report on Data Protection – Proposed a data protection framework, including safeguards for sensitive biometric data.

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