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Forensic Use of DNA Profiling in Indian Criminal Justice System: A Critical Analysis

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Abstract

In the recent era of technological development DNA profiling has revolutionised the criminal justice delivery system by providing accurate and authentic methods of identification of individuals. Despite its widespread application in various countries, the use of DNA evidence in the Indian criminal justice system faces several legal, procedural, and ethical challenges. However, with the change in time, the Indian criminal justice system has evolved to the aspect of inclusion of forensics and technology. The legislation has recently introduced three criminal laws governing the area of forensic investigation, whereby under the provision of section 176(3) of Bharatiya Nagarkar Suraksha Sangita, 2023 in all the offences punishable with the imprisonment of seven years or more, it is now mandatory that the crime scene is being examined by the forensic expert. Though the said introduction has led the country towards positive changes however, certain areas are yet to be answered or governed through the specified act. One of which is the concept of DNA profiling. Though the DNA Technology Bill, 2019 has not been able to attend its finality in the Houses of Parliament due to the concerns of right to privacy and right against self-incrimination, the legislature has successfully introduced Criminal Identification Act, 2022 whereby the aspect of collection and storage of DNA data of arrested persons or convicts is indirectly covered. However, the requirement of a detailed Legal framework regarding the same is required. This study revolves around the critical examination of the concept of DNA profiling in India and its future prospect in criminal justice administration.

Key Words: DNA Profiling, Forensic evidence, Right to privacy, Right against Self Incrimination

Introduction

The human genome is considered to be a map of humans, which contains entire information regarding genetic inheritance of human organisms. With the development in the era of science, the scientific progress made in the field of cellular biology falls into four main phases over the four quarters of 20th century.^{1,2} Firstly, the cellular basis of heredity: the chromosome; secondly, the molecular basis of heredity: the DNA double helix; and thirdly, unlocking the informational basis of heredity, with the discovery of the biological mechanism by which cells read the information contained in genes and with the invention of the recombinant DNA technologies of cloning and sequencing by which scientists can do the same. The genesis of Genomic profiling can be traced back in 1984-1986 whereby, attempts were made to use the entire human genome for medicinal, research and other purposes by the US Department of Energy and others.³ The idea which was being incorporated in the scientific meeting held in the year 1984, has been eventually developed and by the end of 1995, not only in the United States but countries like the United Kingdom, China, Germany, Europe, France have also developed the genome projects for the purpose of medical, research and criminal investigations.

India's age-old proficiency in medical science can be traced back from Charak Samhita and Shushrut Samhita dated back to 200 B.C. and 200 A.D respectively, which gave birth to a number of clinical research laws in India.⁴ The use of forensic evidence for the purpose of criminal investigation has its' roots placed in the various legal provisions. Even though the traditional forensic evidences; such as Handwriting, fire arm, bite, fingerprinting, has played tremendous role in the process of criminal administration; presently, the new generation of forensic science is capable of uncovering and inculcating criminal offenders at the greater magnitude than the traditional forensic evidences. DNA profiling is considered to be an inevitable part of new generation forensic evidences. As the need of new generation forensic evidence has been identified some of the provisions of Criminal Procedural Code has been amended to some extent whereby the investigating agency has been allowed to take the DNA samples from the crime scene. Though the procedural law has been amended to the certain extent with intent to accommodate the new generation forensic evidence, the same was not suffice as it failed to provide the detailed process regarding collection, storage as well as usage

² 340th Report on The DNA Technology (Use & Application) Regulation Bill, 2019.

³ *Ibid*

⁴ Asmita Patel, Critical Analysis of DNA Profiling in India: Constitutional Challenges and the Way Ahead, 2021 REV. DR. CONST. 50 (2021).

of the same. With the intent to overcome the shortcomings in the existing legal provisions for identification of victims in mass disaster, missing persons, criminal investigation, etc. in the year 2016, Department of Bio-technology introduced a Bill on DNA technology which permits the investigating authorities to use and create a database of the human genomic. DNA profiling technology which is considered to be one of the most effective scientific technologies, is being found effective in the criminal justice system as such a kind of test of party will be used as corroborative evidence.⁵

The DNA Technology (Use & Application) Regulation Bill, 2019 though failed to attain its finality, the introduction of Criminal Identification Act, 2022 as well as New Criminal Laws more particularly *Bhartiya Nagarik Suraksha Sanhita, 2023* (hereinafter referred as *BNSS,2023*) has made its impact on forensic evidence in the criminal administrative process. Whereby, it is mandatory to collect the forensic evidence in all the cases punishable with seven years' imprisonment or more. However, the issue still revolves around the question of validity of the Criminal Identification Act, 2022, in the circumstance of laps of DNA Technology Bill, 2019.⁶

Though the use of DNA profiling in justice administration has attended its widespread application, the use of the same in India has attached certain legal and ethical issues such as presumption of innocence, right to privacy and right against self-incrimination. The present study aims to examine and evaluate the area of DNA profiling along with the ethical and legal concern attached to the same in the Indian criminal justice system.

Concept of DNA Profiling & Historical Development

Concept of DNA Profiling:

DNA profiling is a scientific technique which is used to analyse specific regions of a human's DNA to create a unique profile which will be later used for the purpose of identification of individuals as the same is having a high degree of accuracy.⁷ The process of DNA profiling involves extracting DNA from biological samples of an individual such as blood, saliva, hair, bone or semen and thereafter analysing specific genetic markers that are highly variable amongst the individuals. It is said to believe that except in the case of the identical twin, the

⁵ Supra 2

⁶ Supra 4

⁷ Dan L. Burk, DNA Identification: Possibilities and Pitfalls Revisited, *Jurimetrics*, Fall 1990, Vol. 31, No. 1 (Fall 1990), pp. 53-85

DNA profile of every individual differs.⁸ These markers, known as short tandem repeats (STRs), are regions of the DNA where a sequence of bases is repeated. The number of repeats varies from person to person, making it possible to distinguish between individuals.

The DNA profiling has various uses and applications in the field of forensic science, criminal investigation, identification of missing persons, paternity testing, whereby the major usage of the same is in the process of criminal investigation. With the change in time the usage of DNA technology and DNA evidence has increased with the intent to link the suspect with the crime scene, or victim.

Historical Development

The development of the concept of DNA profiling in India can be traced back in 200 A.D through its age-old proficiency of character sanhita and shrushrut sanhita whereby the concept of clinical trial has been introduced.⁹ However, at the international level, development of DNA profiling dates back to the 1980s when British geneticist Sir Alec Jeffreys first demonstrated the potential of DNA to uniquely identify individuals. Jeffreys' pioneering work led to the first use of DNA evidence in a criminal case in 1986, when DNA profiling was used to convict Colin Pitchfork for the rape and murder of two girls in England. This case marked the beginning of the widespread use of DNA evidence in criminal investigations.¹⁰

Since then, DNA profiling techniques have evolved significantly. Early methods, such as Restriction Fragment Length Polymorphism (RFLP) analysis, required large amounts of DNA and were time-consuming. The introduction of Polymerase Chain Reaction (PCR) technology in the 1990s revolutionized DNA profiling by enabling the amplification of small amounts of DNA, making it possible to obtain profiles from minute biological samples. The development of STR analysis further improved the accuracy and reliability of DNA profiling, leading to its widespread adoption in forensic laboratories around the world.¹¹

With the change in time, considering the evolution of technology, countries like the United States, United Kingdom, and Australia have adopted the usage of DNA profiling and DNA evidence in the process of criminal investigation by establishing national DNA databases. In

⁸ Paul E. Tracy, Big Brother and His Science Kit: DNA Databases for 21st Century Crime Control?, *The Journal of Criminal Law and Criminology* (1973-), Vol. 90, No. 2 (Winter, 2000), pp. 635-690

⁹ *Supra* 2

¹⁰ Janet C. Hoeffel, The Dark Side of DNA Profiling: Unreliable Scientific Evidence Meets the Criminal Defendant, *Stanford Law Review*, Jan., 1990, Vol. 42, No. 2 (Jan., 1990), pp. 465-538

¹¹ *Ibid*

the United States, the Combined DNA Index System (CODIS) allows the enforcement agencies to maintain the DNA data of each individual residing in the country and further permits the agencies to use the same for the purpose of comparing the evidence collected from the crime scene with the database for the purpose of investigation. On the other hand, in the United Kingdom, the National DNA Database (NDNAD) has been developed which has played a major role in the process of criminal investigation as, through this database, the system is having the DNA data of each individual and thereby it would help the process of identification as and when required.¹²

However, the Indian legal system is far behind in case of adoption of the said technique having fully aware about the benefits attached to the same in the process of administration of justice. The aspect of usage of DNA profiling though was introduced by way of introduction of DNA technology (Use and Application) Regulation Bill, 2019 but the same has failed to attend its finality due to the legality constraint attached to it till date. However, with the help of the introduction of Criminal Procedure (Identification) Act, 2022, the aspect of DNA profiling is covered in an indirect manner, though the usage of the same in the future criminal investigation is yet to be answered.

3. Legal Framework for DNA Profiling in India

In India, the use of DNA evidence is governed by a combination of constitutional provisions, statutory laws, and judicial interpretations. However, unlike many developed countries, India is yet to have a specific law exclusively regulating the use of DNA profiling in criminal investigations.

The legal provision governing the aspect of DNA evidence can be traced from section 39¹³ of the Bhartiya Sakshya Sanhita, 2023 which provides the details as to the expert and admissibility of the expert opinion in the court of law. Whereby, the analysis of the forensic DNA evidence of the forensic expert may be admissible by virtue of the deposition of the expert under

¹² L. A. Foreman, Interpreting DNA Evidence: A Review, *International Statistical Review / Revue Internationale de Statistique*, Dec., 2003, Vol. 71, No. 3 (Dec., 2003), pp. 473-495

¹³ Section 39: (1) When the Court has to form an opinion upon a point of foreign law or of science or art, or any other field, or as to identity of handwriting or finger impressions, the opinions upon that point of persons specially skilled in such foreign law, science or art, or any other field, or in questions as to identity of handwriting or finger impressions are relevant facts and such persons are called experts.

(2) When in a proceeding, the court has to form an opinion on any matter relating to any information transmitted or stored in any computer resource or any other electronic or digital form, the opinion of the Examiner of Electronic Evidence referred to in section 79A of the Information Technology Act, 2000, is a relevant fact. Explanation.—For the purposes of this sub-section, an Examiner of Electronic Evidence shall be an expert.

provision of section 39 of the Act. However, the ambiguity is in existence due to the various decisions of the Hon'ble Apex court which clearly establishes that the DNA evidence is not considered as the conclusive proof and the same is required to be backed by the other supportive evidence.¹⁴

However, the admissibility of the evidence as a conclusive proof is in question, however, to facilitate the process of investigation provision of section 51¹⁵ and 53¹⁶ of the Bharatiya Nagarik Suraksha Sanhita, 2023 provides that the medical examination of accused and arrested person through medical practitioner can be requested by the investigating officer. On the other hand, the provision of section 176(3)¹⁷ of the Act, now mandates the examination of crime scenes through the forensic experts where the offence is punishable with imprisonment for the

¹⁴ Amarjit Kaur v. Har Bhajan Singh, (2003) 10 S.C.C. 228

¹⁵ Section 51: (1) When a person is arrested on a charge of committing an offence of such a nature and alleged to have been committed under such circumstances that there are reasonable grounds for believing that an examination of his person will afford evidence as to the commission of an offence, it shall be lawful for a registered medical practitioner, acting at the request of any police officer, and for any person acting in good faith in his aid and under his direction, to make such an examination of the person arrested as is reasonably necessary in order to ascertain the facts which may afford such evidence, and to use such force as is reasonably necessary for that purpose.

(2) Whenever the person of a female is to be examined under this section, the examination shall be made only by, or under the supervision of, a female registered medical practitioner.

(3) The registered medical practitioner shall, without any delay, forward the examination report to the investigating officer.

Explanation.—In this section and sections 52 and 53,—

(a) "examination" shall include the examination of blood, blood stains, semen, swabs in case of sexual offences, sputum and sweat, hair samples and finger nail clippings by the use of modern and scientific techniques including DNA profiling and such other tests which the registered medical practitioner thinks necessary in a particular case;

(b) "registered medical practitioner" means a medical practitioner who possesses any medical qualification recognised under the National Medical Commission Act, 2019 and whose name has been entered in the National Medical Register or a State Medical Register under that Act.

¹⁶ Section 53: (1) When any person is arrested, he shall be examined by a medical officer in the service of the Central Government or a State Government, and in case the medical officer is not available, by a registered medical practitioner soon after the arrest is made:

Provided that if the medical officer or the registered medical practitioner is of the opinion that one more examination of such person is necessary, he may do so: Provided further that where the arrested person is a female, the examination of the body shall be made only by or under the supervision of a female medical officer, and in case the female medical officer is not available, by a female registered medical practitioner.

(2) The medical officer or a registered medical practitioner so examining the arrested person shall prepare the record of such examination, mentioning therein any injuries or marks of violence upon the person arrested, and the approximate time when such injuries or marks may have been inflicted.

(3) Where an examination is made under sub-section (1), a copy of the report of such examination shall be furnished by the medical officer or registered medical practitioner, as the case may be, to the arrested person or the person nominated by such arrested person.

¹⁷ Section 176(3): On receipt of every information relating to the commission of an offence which is made punishable for seven years or more, the officer in charge of a police station shall, from such date, as may be notified within a period of five years by the State Government in this regard, cause the forensic expert to visit the crime scene to collect forensic evidence in the offence and also cause videography of the process on mobile phone or any other electronic device: Provided that where forensic facility is not available in respect of any such offence, the State Government shall, until the facility in respect of that matter is developed or made in the State, notify the utilisation of such facility of any other State.

term of seven years or more. In addition to the same, provision of section 184 of the Act, further provides the details as to examination of the victim by the medical practitioner in case of sexual assault, which may involve the collection of DNA evidence.

To address the need for a specific legal framework, the Indian government introduced the DNA Technology (Use and Application) Regulation Bill in 2019. The Bill seeks to regulate the use of DNA technology for establishing the identity of individuals in criminal and civil cases. It provides for the establishment of a National DNA Data Bank and State DNA Data Banks, where DNA profiles can be stored and used for identification purposes. The Bill also includes provisions for the protection of privacy and the prevention of misuse of DNA data.

However, the Bill has faced criticism for its lack of adequate safeguards to protect individual rights, particularly the right to privacy. Critics argue that the Bill's provisions for the collection, storage, and use of DNA data are not stringent enough to prevent potential misuse. As of now, the Bill has not been passed into law, leaving a gap in the legal framework for DNA profiling in India.

However, with the introduction of the Criminal Procedure (Identification) Act, 2022 the aspect of DNA profiling has been answered in an indirect manner whereby the provisions of the Act, permits the authorities to take the measurements including the measurements provided under section 53 and 54 of the Code of Criminal Procedure¹⁸ i.e. section 51 and 53 of the *Bhartiya Nagarik Suraksha Sanhita, 2023* of the person convicted and arrested and further empowers National Crime Records Bureau to retain the said data for the period of either seventy five years or till the time of the order passed by the concerned court to remove the data. However, the question remains as to the effect that how far the system of storage of data has been evolved along with the aspect of concerns of privacy and self-incrimination which was attached to the DNA profiling Bill, 2019 which led to the fact of non-enforcement of the same is yet attached with the provisions of Criminal Procedure Identification Act, 2022.

Though, considering the significant role of DNA evidence in the process of criminal justice administration, it is now required for the country to come up with concrete law governing the area.

¹⁸ Section 2 (b): "measurements" includes finger-impressions, palm-print impressions, foot-print impressions, photographs, iris and retina scan, physical, biological samples and their analysis, behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the Code of Criminal Procedure, 1973;

4. Constitutional Challenges attached to the concept of DNA Profiling in India

4.1 Right to Privacy

The right to privacy, recognized as a fundamental right under Article 21 of the Indian Constitution, has significant implications for the use of DNA profiling in criminal investigations. The landmark judgment in *Justice K.S. Puttaswamy (Retd.) v. Union of India*¹⁹ expanded the scope of Article 21, affirming that privacy is intrinsic to the right to life and personal liberty. This judgment has created a legal framework within which the collection, storage, and use of DNA data must be scrutinized.²⁰

DNA profiling, by its nature, involves the collection of highly personal and sensitive information. DNA contains not just identifying information, but also genetic details that could reveal an individual's ancestry, medical history, and even predispositions to certain diseases. The potential for misuse of this information raises significant privacy concerns. For instance, unauthorized access to DNA data could lead to discrimination in areas such as employment and insurance, where individuals might be judged based on their genetic information.

The *Puttaswamy* judgment emphasizes that any state action infringing upon an individual's privacy must satisfy the tests of legality, necessity, and proportionality. In the context of DNA profiling, this means that any law authorizing the collection and use of DNA data must be clear, precise, and limited in scope. It must also serve a legitimate aim, such as the prevention and detection of crime, and must be the least intrusive means of achieving that aim.²¹

The DNA Technology (Use and Application) Regulation Bill, 2019, while attempting to regulate the use of DNA profiling, has been criticized for not adequately addressing these privacy concerns. The Bill allows for the collection of DNA samples from individuals accused of serious crimes without their consent, which could potentially violate the principle of proportionality. Additionally, the Bill does not provide clear guidelines on the retention and deletion of DNA profiles, leaving individuals vulnerable to prolonged surveillance.

To align with the principles established in the *Puttaswamy* judgment, it is essential that any legislation governing DNA profiling includes robust safeguards to protect individual privacy. This includes clear limitations on the collection and use of DNA data, strict guidelines for the

¹⁹(2017) 10 SCC 1

²⁰ Ibid

²¹ Supra 4

retention and deletion of DNA profiles, and provisions for independent oversight to prevent misuse.

4.2 Right Against Self-Incrimination

The right against self-incrimination, enshrined in Article 20(3) of the Indian Constitution, provides that no person accused of an offense shall be compelled to be a witness against themselves. This right is a fundamental safeguard in the criminal justice system, ensuring that individuals are not forced to provide evidence that could be used to incriminate them.²²

The use of DNA profiling in criminal investigations raises questions about the applicability of Article 20(3). The collection of DNA samples from an accused person could be seen as a form of self-incrimination, particularly if the DNA evidence is used to establish their guilt. However, the Indian judiciary has generally held that the right against self-incrimination applies to testimonial evidence, such as confessions or statements, and not to physical evidence, such as fingerprints, blood samples, or DNA.²³

In *State of Bombay v. Kathi Kalu Oghad*²⁴ the Supreme Court of India held that obtaining physical evidence from an accused person does not violate Article 20(3), as it does not involve any compulsion to give evidence of a testimonial nature. This reasoning has been extended to DNA evidence, with court's ruling that the collection of DNA samples does not constitute self-incrimination, as it is a form of physical evidence.²⁵

However, this interpretation has been challenged by some legal scholars, who argue that DNA evidence, given its highly personal nature, should be treated differently from other forms of physical evidence. They contend that compelling an accused person to provide a DNA sample is inherently coercive and could lead to self-incrimination. This argument is particularly relevant in cases where DNA evidence is the primary basis for the prosecution's case.²⁶

The debate over whether DNA profiling violates the right against self-incrimination highlights the need for a nuanced approach to the use of DNA evidence in criminal investigations. While the collection of DNA samples may be necessary for the investigation of serious crimes, it is essential that the process is conducted in a manner that respects the rights of the accused. This

²² Article 20(3) : No person accused of any offence shall be compelled to be a witness against himself.

²³ Supra 4

²⁴ 1961 AIR 1808

²⁵ Supra 4

²⁶ Subhash Chandra Singh, DNA Profiling and The Forensic Use Of DNA Evidence In Criminal Proceedings, Journal of the Indian Law Institute , APRIL-JUNE 2011, Vol. 53, No. 2 (APRILJUNE 2011), pp. 195-226

could include obtaining informed consent, providing the accused with the right to challenge the collection of their DNA, and ensuring that DNA evidence is used only in cases where it is necessary and proportionate.²⁷

5. Conclusion

DNA profiling has the potential to revolutionize the Indian criminal justice system by providing a powerful tool for identifying perpetrators of crime and exonerating the innocent. However, the effective use of DNA evidence in India is currently hampered by a number of challenges, including an underdeveloped legal framework, privacy concerns, and infrastructural limitations.

This research has highlighted the need for comprehensive legislative reform to address these challenges. The enactment of the DNA Technology (Use and Application) Regulation Bill, 2019, represents a step in the right direction, but further improvements are necessary to ensure that the Bill adequately protects individual rights and prevents the misuse of DNA data. Drawing lessons from international best practices, particularly those of the United States and the United Kingdom, can help India develop a robust legal framework that balances the need for effective law enforcement with the protection of human rights.

In addition to legislative reforms, significant investments are needed to enhance the forensic infrastructure in India. This includes the development of more forensic laboratories, the standardization of procedures, and the training of personnel involved in the collection and analysis of DNA evidence. Addressing these infrastructural challenges is crucial to ensuring that DNA profiling can be used effectively and reliably in criminal investigations.

The ethical concerns associated with DNA profiling, particularly those related to privacy and consent, must also be addressed. Establishing a comprehensive ethical framework that guides the use of DNA evidence can help ensure that the rights of individuals are respected and that DNA profiling is conducted in a manner that is transparent, accountable, and fair.

Finally, public awareness and engagement are essential to the successful implementation of DNA profiling in India. Educating the public about the benefits and limitations of DNA evidence, and involving them in discussions about its ethical implications, can help build trust

²⁷ Ibid

in the criminal justice system and ensure that the use of DNA profiling is supported by the broader society.

In conclusion, while DNA profiling offers significant potential for improving the administration of justice in India, its successful implementation requires a concerted effort from lawmakers, law enforcement agencies, forensic experts, and the public. By addressing the legal, ethical, and infrastructural challenges associated with DNA profiling, India can harness the power of this technology to create a more just and effective criminal justice system.

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6. Supra 2
7. Supra 4
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10. Janet C. Hoefel, The Dark Side of DNA Profiling: Unreliable Scientific Evidence Meets the Criminal Defendant, *Stanford Law Review*, Jan., 1990, Vol. 42, No. 2 (Jan., 1990), pp. 465-538
11. Ibid
12. L. A. Foreman, Interpreting DNA Evidence: A Review, *International Statistical Review / Revue Internationale de Statistique*, Dec., 2003, Vol. 71, No. 3 (Dec., 2003), pp. 473-495

13. Section 39: (1) When the Court has to form an opinion upon a point of foreign law or of science or art, or any other field, or as to identity of handwriting or finger impressions, the opinions upon that point of persons specially skilled in such foreign law, science or art, or any other field, or in questions as to identity of handwriting or finger impressions are relevant facts and such persons are called experts.
14. (2) When in a proceeding, the court has to form an opinion on any matter relating to any information transmitted or stored in any computer resource or any other electronic or digital form, the opinion of the Examiner of Electronic Evidence referred to in section 79A of the Information Technology Act, 2000, is a relevant fact. Explanation.— For the purposes of this sub-section, an Examiner of Electronic Evidence shall be an expert.
15. *Amarjit Kaur v. Har Bhajan Singh*, (2003) 10 S.C.C. 228
16. Section 51: (1) When a person is arrested on a charge of committing an offence of such a nature and alleged to have been committed under such circumstances that there are reasonable grounds for believing that an examination of his person will afford evidence as to the commission of an offence, it shall be lawful for a registered medical practitioner, acting at the request of any police officer, and for any person acting in good faith in his aid and under his direction, to make such an examination of the person arrested as is reasonably necessary in order to ascertain the facts which may afford such evidence, and to use such force as is reasonably necessary for that purpose. (2) Whenever the person of a female is to be examined under this section, the examination shall be made only by, or under the supervision of, a female registered medical practitioner. The registered medical practitioner shall, without any delay, forward the examination report to the investigating officer. Explanation.— In this section and sections 52 and 53,— (a) "examination" shall include the examination of blood, blood stains, semen, swabs in case of sexual offences, sputum and sweat, hair samples and finger nail clippings by the use of modern and scientific techniques including DNA profiling and such other tests which the registered medical practitioner thinks necessary in a particular case; (b) "registered medical practitioner" means a medical practitioner who possesses any medical qualification recognised under the National Medical Commission Act, 2019 and whose name has been entered in the National Medical Register or a State Medical Register under that Act. Section 53: (1) When any person is arrested, he shall be examined by a medical officer in the service of the Central Government or a State Government, and in case the medical officer is not available, by

a registered medical practitioner soon after the arrest is made: Provided that if the medical officer or the registered medical practitioner is of the opinion that one more examination of such person is necessary, he may do so: Provided further that where the arrested person is a female, the examination of the body shall be made only by or under the supervision of a female medical officer, and in case the female medical officer is not available, by a female registered medical practitioner.

(2) The medical officer or a registered medical practitioner so examining the arrested person shall prepare the record of such examination, mentioning therein any injuries or marks of violence upon the person arrested, and the approximate time when such injuries or marks may have been inflicted.

(3) Where an examination is made under sub-section (1), a copy of the report of such examination shall be furnished by the medical officer or registered medical practitioner, as the case may be, to the arrested person or the person nominated by such arrested person.

17. Section 176(3): On receipt of every information relating to the commission of an offence which is made punishable for seven years or more, the officer in charge of a police station shall, from such date, as may be notified within a period of five years by the State Government in this regard, cause the forensic expert to visit the crime scene to collect forensic evidence in the offence and also cause videography of the process on mobile phone or any other electronic device: Provided that where forensic facility is not available in respect of any such offence, the State Government shall, until the facility in respect of that matter is developed or made in the State, notify the utilisation of such facility of any other State.
18. Section 2 (b): "measurements" includes finger-impressions, palm-print impressions, foot-print impressions, photographs, iris and retina scan, physical, biological samples and their analysis, behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the Code of Criminal Procedure, 1973;
19. (2017) 10 SCC 1
20. Ibid
21. Supra 4
22. Article 20(3) : No person accused of any offence shall be compelled to be a witness against himself.
23. Supra 4

24. 1961 AIR 1808
25. Supra 4
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27. Ibid