298

SHRI DHARMASTHALA MANJUNATHESHWARA LAW COLLEGE

Conference Proceedings of One-Day National Seminar on

ARTIFICIAL INTELLIGENCE AND ITS IMPACTS ON IPR

(Peer Reviewed)

Table of Contents

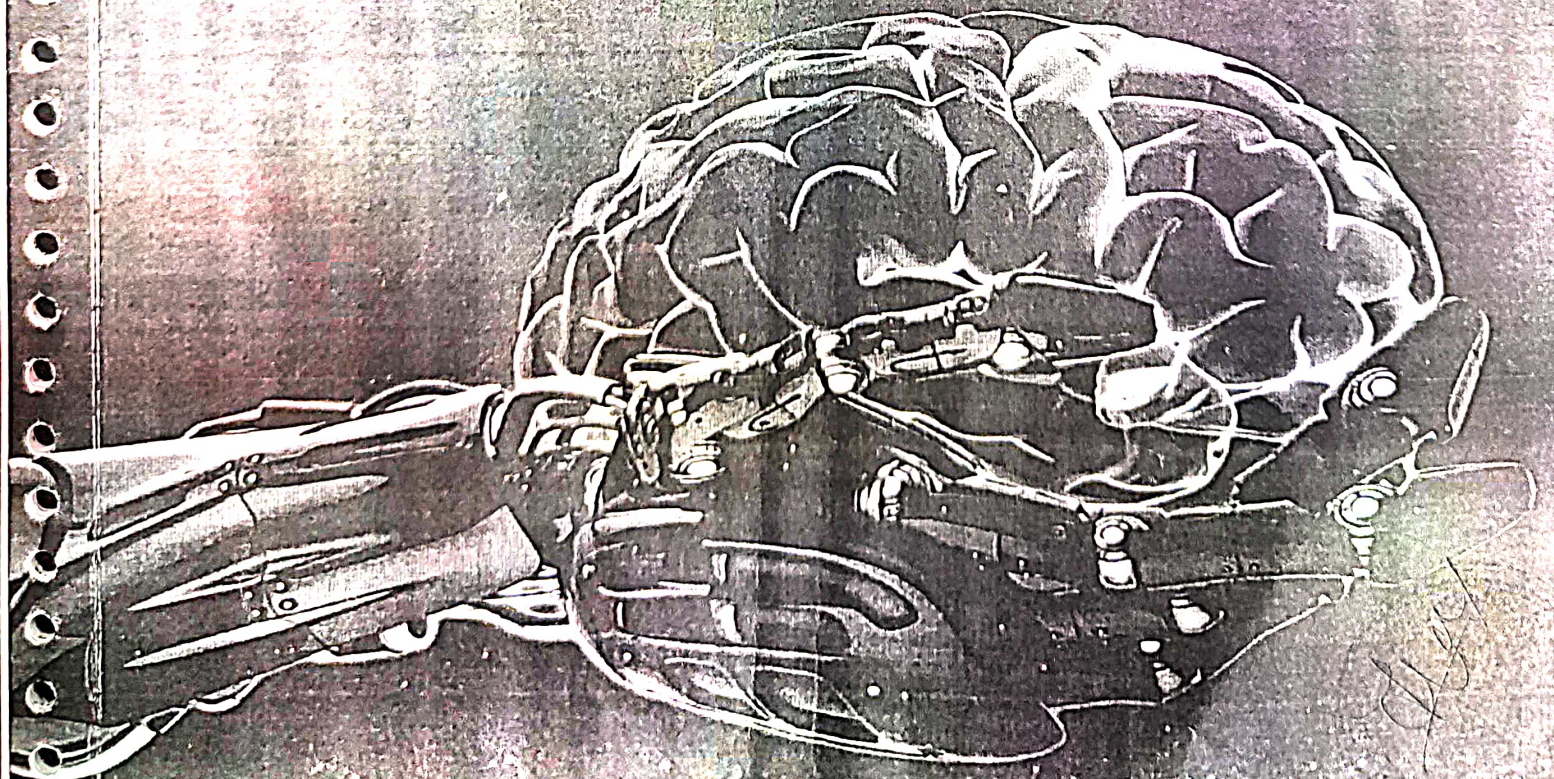| Title of the Article & Authors	Page No

* * * *

ARTIFICIAL INTELLIGENCE:
A GROWING CONCERN FOR HUMANITY'S FUTURE

Dr. Annapoorna Shet *
Mr. Anantha Padmanabha Pai **

Abstract

Concept of Artificial Intelligence, even though the emerging trend in the present generation was practiced in the past in various dimensions. But due to the emerging trend and advancement in technology, it has taken an improved version with several features so as to benefit the user to a large extent. There are various ways in which the artificial intelligence technology is used in various field. The use of AI is increased to such an extent where it sometimes poses a threat to humanities future. Even though the machines have been advanced to the maximum extent, it is a universal truth that human brain cannot be replaced by machines as machines have their own limitations. The authors discuss the history of artificial intelligence, its concept, advantages and disadvantages of using of AI and also to balance between Artificial intelligence and Human intelligence. The authors also discuss the impact of artificial intelligence under the protection of intellectual property rights.

Key Words : *Artificial Intelligence, Human intelligence, IPR, electronic brain.*

Introduction:

Artificial Intelligence (AI) has undoubtedly emerged as one of the most transformative and influential technologies of the 21st century. With its rapid advancements, AI has penetrated various aspects of our lives, from healthcare to finance, education to entertainment. There is no field at present generation which is not dependent on artificial intelligence. It has made the work of human very easier and flawless with less time consumption. While the benefits of AI are undeniable, there is a growing concern about its potential threats to humanity. The human beings are at threat in several ways due to the increased use of artificial intelligence which may turn the life of human miserable in the coming days. This article aims to provide a comprehensive examination of the ethical implications of AI, exploring the various dimensions that pose a threat to humanity. Discussion is also made on how to balance between artificial intelligence and human intelligence and also how to make the best use of AI overcoming its possible threats.

*   Assistant Professor, SDM Law College, Mangaluru
** V LLB, SDM Law College, Mangaluru

History of Artificial Intelligence:

Humans have always been interested in making machines that display intelligence.It dates to ancient times, but the modern era of AI began in the mid-20th century.

The history of Artificial Intelligence (AI) began in antiquity, with myths, stories andrumors of artificial beings endowed with intelligence or consciousness by mastercraftsmen. The seeds of modern AI were planted by classical philosophers whoattempted to describe the process of human thinking as the mechanical manipulation ofsymbols. This work culminated in the invention of the programmable digitalcomputer in the 1940s, a machine based on the abstract essence of mathematicalreasoning. This device and the ideas behind it inspired a handful of scientists tobegin seriously discussing the possibility of building an electronic brain.

The field of AI research was founded at a workshop held on the campus of Dartmouth College during the summer of 1956. Those who attended would become theleaders of AI research for decades. Many of them predicted that amachine as intelligent as a human being would exist in no more than ageneration andthey were given millions of dollars to make this vision come true.[1]

Eventually, it became obvious that they had grossly underestimated the difficulty ofthe project. In 1973, in response to the criticism from James Lighthill and ongoingpressure from congress, the U.S. and British Governments stopped fundingundirected research into artificial intelligence, and the difficult years that followedwould later be known as an "AI winter". Seven years later, a visionary initiative bythe Japanese Government inspired governments and industry to provide AI withbillions of dollars, but by the late 80s the investors became disillusioned by theabsence of the needed computer power and withdrew funding again.

In the 1980s a form of AI program called "expert systems" was adopted bycorporations around the world and knowledge became the focus of mainstream for AIresearch. In those same years, the Japanese government aggressively funded AIwith its fifth-generation computer project. Another encouraging event in the early1980s was the revival of connectionism in the work of John Hopfield and DavidRumelhart. Once again, AI had achieved success.

In the first decades of the 21st century, access to large amounts of data[2] cheaper and faster computers and advanced machine learningtechniques were successfully applied to many problems throughout the economy. Infact, McKinsey Global Institute estimated in their famous paper "Big data: Thenext frontier for innovation, competition, and productivity" that "by 2009, nearly allsectors in the US economy had at least an average of 200 terabytes of stored data".[3]

---

[1] Rockwell anyoha, *The history of artificial intelligence*, https://sitn.hms.harvard.edu/flash/2017/ history-artificial-intelligence/ (visited on 1ˢᵗ February 2024)

[2] Known as big data

[3] *Supra* note 1
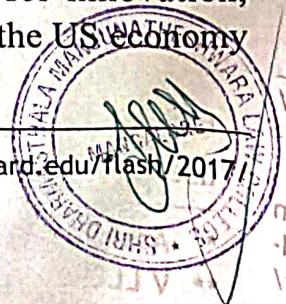
By 2016, the market for AI-related products, hardware, and software reached morethan 8 billion dollars, and the New York Times reported that interest in AI hadreached a "frenzy". The applications of big data began to reach into other fields aswell, such as training models in ecology and for various applications in economics. Advances in deep learning[4] drove progress and research in image andvideo processing, text analysis, and even speech recognition.

Investment and interest in AI boomed in the first decades of the 21st century, whenmachine learning was successfully applied to many problems in academia andindustry due to new methods, the application of powerful computer hardware, andthe collection of immense data sets.[5]

Concept of Artificial Intelligence:

Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence. These tasks include learning, reasoning, problem-solving, perception, speech recognition, and language understandingand others. AI can be categorized into two main types: Narrow AI or Weak AI and General AI or Strong AI.

1. Narrow AI : This type of AI is designed and trained for a specific task. It excels in performing a particular function but lacks the broad cognitive abilities of humans. Examples include virtual personal assistants like Siri or Alexa, image and speech recognition software, and recommendation systems.

2. General AI : This is a hypothetical form of AI that possesses the ability to understand, learn, and apply knowledge across a wide range of tasks, similar to human intelligence. General AI is still largely a concept and hasn't been achieved till date.

The concept of AI is widely used and applied in various fields and techniquesviz

(i) Machine Learning (ML): A subset of AI that focuses on the development of algorithms that enable systems to learn and make predictions or decisions based on data.

(ii) Deep Learning: A subfield of machine learning that involves neural networks with many layers. Deep learning has been particularly successful in tasks such as image and speech recognition.

(iii) Natural Language Processing (NLP): A branch of AI that enables machines to understand, interpret, and generate human language. Applications include language translation, sentiment analysis, and chatbots.

(iv) Computer Vision: The field that enables machines to interpret and make decisions based on visual data such as images or videos. It is used in facial recognition, object detection, and autonomous vehicles.

---

4   particularly deep convolutional neural networks and recurrent neural networks
5   GoelLavika, 2021, *Artificial intelligence: concepts and applications*, Wiley publication, P.134

(v) Robotics: Integrating AI with robots to enable them to perceive, learn, and interact with their environment.

(vi) Reinforcement Learning: A type of machine learning where an agent learns to make decisions by receiving feedback in the form of rewards or penalties.[6]

Advantages of Artificial Intelligence:

AI enables the automation of repetitive tasks, allowing human resources to focus on more creative and strategic work. This boosts efficiency and productivity by completing tasks quickly and accurately. These AI systems can analyse large amounts of data rapidly, uncovering patterns and insights that may be difficult for humans to identify. This helps in making data-driven decisions and predictions.

AI algorithms can process information, evaluate scenarios, and make decisions based on rules or data learning. They also provide valuable recommendations to support decision-making processes. Also, the AI systems are available 24/7, ensuring continuous operation without the need for breaks, which is beneficial for tasks that demand constant attention or monitoring.[7]

The implementation of AI can result in substantial cost savings by optimizing processes, minimizing errors, and decreasing the necessity for human involvement in routine activities. With technologies like generative models, have the potential to support and stimulate human creativity in areas such as art, music, and design, fostering the creation of innovative solutions and concepts.

AI-driven systems have the capability to analyse user behaviour and preferences to deliver personalized experiences, whether in e-commerce, content suggestions, or marketing, thereby enhancing user satisfaction through tailored services. The integration of AI in healthcare, including diagnostic tools and predictive analytics, can aid in early disease detection and the development of personalized treatment strategies, assisting medical professionals in making more precise diagnoses.

AI-powered chatbots and virtual assistants can manage customer inquiries, provide information, and offer assistance around the clock, enhancing overall customer satisfaction by streamlining interactions and reducing response times. The systems can be utilized for surveillance, threat detection, and monitoring in various sectors to improve safety and security by identifying and responding to potential risks more efficiently.[8]

AI-driven language translation tools facilitate communication across different languages, promoting global collaboration by breaking down language barriers. By analysing data from sensors and equipment, AI can predict when machinery or

6 PurviPokhriyal and ors, 2020, *Artificial intelligence: law and policy implication*, Eastern book company, Lucknow, P. 36

7 Supra Note 5

8 P Mohan Chandran, 2021, *Artificial intelligence and intellectual property rights : role impact challenges and legal implications*, Gurucool publishing, Hyderabad, p.87.
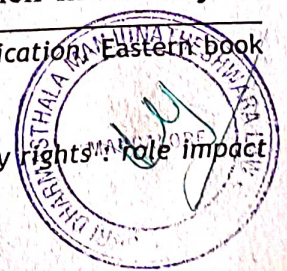
infrastructure may require maintenance, ultimately reducing downtime and prolonging the lifespan of assets. Despite the numerous benefits of AI, it is crucial to address ethical considerations.[9]

Disadvantages of Artificial Intelligence:

As machines and algorithms take over repetitive and routine tasks, automation through AI may result in job displacement. There may be less of a demand for particular job types in some industries. AI systems have the potential to unintentionally reinforce or magnify pre-existing biases in the data they are trained on, producing unfair and discriminatory results. Significant societal issues are raised by the ethical application of AI, privacy issues, and the possibility of misuse.

AI systems are incapable of human-level intuition, creativity, or the capacity to think beyond preconceived notions. They function according to pre-programmed guidelines and patterns discovered via data. The training and decision-making processes mainly rely on data. Inaccurate forecasts and biased results can be produced by biased or incomplete datasets, which may serve to confirm preconceived notions already held.[10]

Putting AI systems into place and keeping them maintained can be difficult tasks requiring specific knowledge. Due to resource limitations, small and medium-sized businesses may have difficulty implementing AI. These systems are susceptible to cyber-attacks, and bad actors may take advantage of holes in AI algorithms to change results or obtain unauthorized access to private information.

It might be difficult to assign blame for judgments made by AI systems. It could be challenging to assign blame for mistakes made by users, developers, or the technology itself. The Research, development, and the purchase of cutting-edge computer resources can all come with a hefty price tag when it comes to creating and deploying AI technology.

As of deep learning models' decision-making processes are difficult to understand, they are frequently referred to as "black boxes"[11] in particular. This lack of openness may make it difficult to comprehend and have faith in AI systems.

Artificial intelligence has the potential to eliminate some professions, but it also increases the need for new abilities. Some people may experience unemployment and skill shortages as a result of a mismatch between the skills required for emerging AI-related occupations and the skills held by the workforce. Also, as human relationships are supplanted by interactions with computers, the growing reliance on AI-driven communication and virtual assistants may exacerbate social isolation.Being relying too much on AI to make crucial decisions without human supervision can breed complacency and overconfidence, possibly causing contextual elements to be overlooked.[12]

---

9   Ibid
10 Ibid
11 A system whose inputs and operations are not visible to the user or to the interested parties
12 *Supra* note 8

The disadvantages mentioned above requires careful consideration, ethical guidelines, and responsible development practices to ensure that AI technologies are used in ways that benefit society as a whole.

Balancing Between Artificial Intelligence and Human Intelligence:

Balancing artificial intelligence (AI) and human intelligence involves leveraging the strengths of both while mitigating potential risks and challenges. It is a need at the present society to balance between Artificial intelligence and human intelligence. There are several steps that can be taken to achieve this balance

1. *Ethical Guidelines and Regulation:* Establishing clear ethical guidelines and regulations governing the development, deployment, and use of AI technologies helps ensure that AI systems operate in a manner that aligns with societal values and priorities.

2. *Transparency and Accountability:* Promoting transparency in AI systems by making their decision-making processes understandable and interpretable fosters trust and accountability. Developers should document and disclose how AI systems make decisions and handle sensitive data.[13]

3. *Human-in-the-Loop Approaches:* Implementing human-in-the-loop approaches, where human oversight is integrated into AI systems, allows for human intervention when necessary, particularly in critical decision-making processes or situations where AI may lack context or understanding.

4. *Responsible Data Practices:* Adhering to responsible data practices, such as ensuring data privacy, security, and fairness, helps mitigate biases and risks associated with AI systems trained on biased or incomplete datasets.[14]

5. *Education and Skill Development:* Investing in education and skill development programs to equip individuals with the knowledge and skills needed to work alongside AI technologies prepares the workforce for the evolving job market and promotes lifelong learning.

6. *Collaborative Research and Development:* Encouraging collaboration between AI researchers, industry stakeholders, policymakers, and ethicists facilitates the development of AI technologies that address societal needs, prioritize human well-being, and consider ethical implications.

7. *Human-Centric Design:* Adopting a human-centric approach to AI design ensures that AI technologies are developed with the end user in mind, taking into account user preferences, needs, and values to enhance usability and user experience.

8. *Diverse and Inclusive Teams :* Building diverse and inclusive teams fosters

---

[13] Abott Ryan,2022, *Research handbook on intellectual property*, Edward elgar publishing ltd, Cheltenham Glos, U.K., p,70.

[14] Harsh parikh, *The Future of AI and Intellectual Property Rights (IPR)* , https://excelonip.com/the-future-of-ai-and-intellectual-property-rights-ipr/ (visited on 30/01/2024)

innovation and creativity by incorporating diverse perspectives, experiences, and backgrounds in the development and deployment of AI technologies.

9. *Continuous Evaluation and Improvement:* Implementing mechanisms for continuous evaluation, monitoring, and improvement of AI systems helps identify and address biases, errors, and unintended consequences over time.

10. *Public Engagement and Dialogue:* Engaging the public in discussions about AI, its potential impacts, and ethical considerations fosters awareness, understanding, and informed decision-making, ensuring that AI technologies reflect societal values and priorities.

11. *Supporting Human-Centered AI Applications:* Prioritizing the development and deployment of AI applications that enhance human well-being, promote social good, and address pressing societal challenges contributes to a more balanced integration of AI and human intelligence.[15]

By following these steps, stakeholders can work towards achieving a balance between artificial intelligence and human intelligence that maximizes the benefits of AI while minimizing potential risks and ensuring that AI serves the broader interests of humanity.

AI has applications across various industries, including healthcare, finance, education, transportation, and entertainment. However, ethical considerations, transparency, and responsible AI development are important factors as the technology continues to advance.

Artificial Intelligence: A Growing Concern for Humanity's Future:

No doubt AI has played an important role in the present computer generation. It has its own merits and advantages which is explained above, but at the same time if it is not used in a proper manner, there is a chance of adverse effect caused because of the use of AI tools and techniques. Even though the machine works faster than the human brain, still it is not in a position to think and react to the situation unlike human brain. It is very easy to produce AI tools in the present scenario, but if it is not maintained in a proper manner, it will pose a threat to human beings which will be difficult to repair it in a given point of time. These machines and tools should be used in a proper and wise manner and for the benefit of the society. Otherwise, it will pose a threat to humanity's future.[16] There are several instances where artificial intelligence is used to commit illegal activities and crime like cyber stalking, identity theft, and alike which will be a great challenge for the State to overcome the problem. There is also as need to include provisions in the IPR with regard to management of AI in the manner beneficial to the interest of the mankind. The provisions should be framed in the legislation so as to regulate the use of artificial intelligence in an apt

---

[15] Kevin D'ashes, 2017, *Artificial intelligence and legal analytics: New tools for law practice in the digital age,* Cambridge university press, England, p.68.
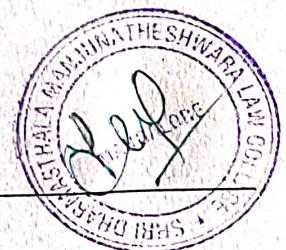
[16] *Ibid*
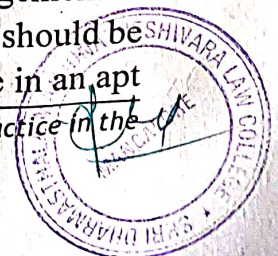
manner without effecting the intellectual property rights in any manner. As Artificial intelligence technology is advancing in the present generation, there are chances of making advanced use of IPR which will lead to more complicated issues and problems. One of the major problem and challenges posed by AI on IP is the issue of ownership and authorship of AI generated works.[17] Hence it is a need of an hour to bring amendments to include necessary provisions to resolve the problems related to artificial intelligence.
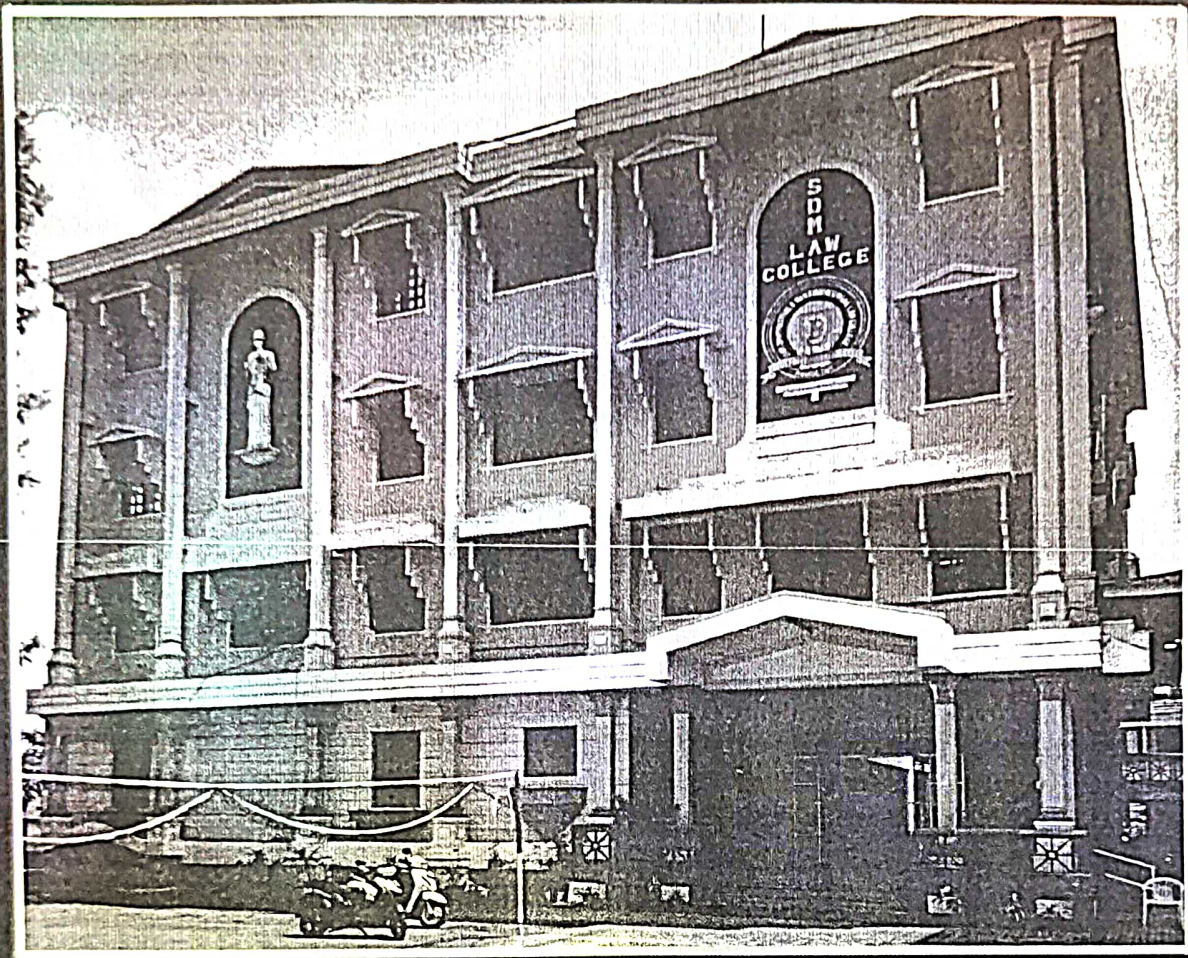
Conclusion:

In conclusion, while AI brings immense potential for positive change, it is crucial to address the ethical implications and potential threats it poses to humanity. This article has explored various dimensions, including unintended consequences, bias, job displacement, military applications, privacy concerns, existential risks, and the importance of accountability and transparency. As we continue to advance in AI technology, a thoughtful and ethical approach is essential to harness its benefits while mitigating the risks and ensuring a future where AI serves humanity rather than poses a threat. It is a wait and watch period for us to know the consequences of the use of artificial intelligence in the future.

* * * *

---

[17]   *Ibid*

309

SDM LAW COLLEGE

Price: Rs. 250/