INTELLECTUAL PROPERTY

A Primer for Academia

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Ms. Mamta Bhardwaj

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Publication Bureau
Panjab University
Chandigarh.

Intellectual Property
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Intellectual Property (IP), Life Sciences, Engineering, Law, Management, Economics, Humanities.

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ISBN: 81-85322-92-9

Edition: 2021

Price: ₹ 280

Publisher: Professor Gurpal Singh Sandhu
Honorary Director
Publication Bureau, Panjab University
Chandigarh-160014, India.

Printer: Jatinder Moudgil
Manager Press
Panjab University, Chandigarh-160014, India.

FOREWORD

Creativity and innovation are two important ingredients for the sustainable growth and development of any nation. The ability to think out of the box and the art of implementing novel ideas distinguishes oneself from the rest of the world. Today is the era where we can't afford to turn our eyes away from inculcating these traits in our youth. Creativity and innovation need to be strongly intertwined in our education system. This book is a step in this direction and makes an attempt to enhance the intellectual capital by sensitizing faculty and students towards IPR and its various forms like patents, copyrights, trademarks, industrial designs, etc.

If we observe the global rankings, we find that India's rank in intellectual property is lower compared to countries like USA, Japan, France, Germany, China, etc. Although there are several factors responsible for that, but one of the major concerns is the lack of required awareness of Indian academia about IPR. Only a handful of Higher Education Institutes file patents or go for other IPR like copyrights, design patents, etc. It is high time that Higher Education Institutes should come forward and uplift the quantity and quality of our intellectual property. It becomes imperative to introduce IPR and related courses at the under-graduate and post-graduate levels in order to make our scholars IPR savvy.

The book introduces various categories of intellectual property like patents, copyrights, trademarks, industrial designs, geographical indications, trade secrets, semi-conductor integrated circuits layout designs, plant varieties, etc. The steps involved in the process of filing patents, copyrights, trademark registrations, etc. are described along with associated forms in a clear and concise manner. The role of the World Intellectual Property Organization (WIPO) and its activities are described along with the discussion on important treaties, conventions and agreements. The chapters on IP Organizations in India and discussion on Indian Web-portals for patents make this book indispensable for any scholar who wants to file patents or go for copyrights, trademarks or other forms of IPR.

The authors have expressed the matter in lucid language. I am sure that the stakeholders will love reading this book and the book will become a benchmark in setting the IPR context in Indian academia.

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PREFACE

From ancient times, mankind has realised that knowledge is power, to do good as well as bad. In recent times, the ownership of new knowledge particularly, the creation of tangible industrial value has caused an "IPR Divide" between the West and the other countries of the world. Fortunately, India, especially after globalisation, has become fully awakened to the creation and capture of intellectual wealth, and is now relatively much advanced in terms of patent protection activity. Indeed, our major research organizations such as the CSIR have been pioneers in IPR protection.

The property created with the ingenuity of mind i.e. Intellectual Property (IP) is thus a fast growing field as it plays an important role in the economic development of a nation. In the 21st century, IP has been acknowledged as an integral component of business sector, as it could be the difference between success and failure of a company. Similarly, the importance of IP is vital for gaining advantage in the domains of academia, agriculture, geographical indications and traditional knowledge. The acquisition of IP (copyrights, patents, trademarks, industrial designs, geographical indications, traditional knowledge, layout designs, biodiversity, etc.) not only boosts the image of the organization/individual but also helps in addressing societal issues, apart from potentially bringing huge revenues.

The universities in the developed countries are well aware of the importance of IPRs, and reaping the harvest from the licensing of IP protected innovations and copyrighted materials. However, developing nations, including India, need to be even more IP savvy, even though they are not far behind developed nations in skill and knowledge.

Also, there have been instances where IP-ignorant companies and entrepreneurs had to face legal action for utilising manufacturing practices (even though sometimes unknowingly)

based on previously protected products and technologies.

Thus, there is dire need to spread IP awareness amongst the teachers, scientists, researchers and students of universities and colleges, in order to avoid unnecessary litigations as well as capturing and protecting innovations. Dedicated credit based IPR courses need to be introduced at undergraduate, postgraduate and pre-PhD programmes and for the same, appropriate resource material is needed as well.

I am happy to learn that Panjab University is publishing a book entitled, 'Intellectual Property: A Primer for Academia'. I am sure this book will be an asset not only for Panjab University, but also for other academic intuitions. I extend my warm wishes and hope more such books will come out from universities.

Dr. Girish Sahni

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INTRODUCTION

Curiosity and creativity are the two traits that separate humans from animals. These two human characteristics are also responsible for the generation of numerous inventions (creation of fire, wheel, printing press, automobiles, airplanes, electric bulbs, radio, television, computers and many more) that have catapulted the human race from an uncivilized state to a cultured, enlightened and refined society in a span of a little over 3000 years.

The last 500 years of the human race have seen unprecedented progress in scientific innovation, publication, literature, architecture, movies, computer programmes, trademarks, industrial designs and so on. These attributes have been created by the perseverance and ingenuity of the human mind and summed up as Intellectual Property (IP). To incentivize the creators of novel inventions and stimulate the desire for creativity in humans, each nation has laid down laws that bestow certain rights - termed Intellectual Property Rights (IPR), on the original creators/inventors and the legal recipients of creations/inventions. These legal rights permit them to exploit their creations/inventions for commercial gains and prevent others from infringing upon their rights.

IP is also one of the important parameters of 'Global Innovation Index' of a Nation. According to the year 2021 report of the US Chamber of Commerce's Global Innovation Policy Center, India has been ranked at the fortieth position out of 53 global economies in the Intellectual Property Index. India is way behind other nations like China, USA, Japan and South Korea in the various categories of IP, i.e. Patents, Copyrights, Trademarks, Trade Secrets, Industrial Designs, Geographical Indicators, Plant Varieties and Semiconductor Integrated Circuits Layout Designs, Traditional Knowledge, etc. For example, in 2020, merely 53,627 Patent applications were filed (residents/non-residents) in India as compared to 1,400,661 in China.

To give a push to IPRs, the Government of India released the 'National IPR Policy-2016', comprising seven objectives. One of the objectives is to enhance the number of Patents and Copyrights

amongst the teaching and research community. India can certainly improve in these parameters, as it has a large pool (over 1600) of universities and research laboratories in which nearly 3.3 lakhs of scientists are engaged in R&D activities. Unfortunately, a vast majority of the students, researchers, scientists and professors are not IP savvy.

To sensitize all the stakeholders of academia towards IPR, we have written this book, entitled, 'Intellectual Property: A Primer for Academia' for the professors, scientists, researchers and students of the higher education institutes (colleges, universities, IITs, NITs, IISERs, NIPERs, etc.). The book dwells upon the basic concepts of all IP categories with special emphasis on 'Patents' and 'Copyrights'. The book has all the information which ought to be known to the stakeholders mentioned earlier, e.g. history of IP, steps involved in the grant/registration of an invention/work, legal rights of an IP holder, exception of legal rights, agencies (national and international) dealing with IP issues, Indian IP regime, IP related courses offered by various institutes/organizations and international Treaties/Conventions to which India is the signatory. The book also throws light on Trade Secrets, Traditional Knowledge and the Biodiversity Act, which are now crucial components of IP.

The authors express their gratitude to the Department for Promotion of Industry and Internal Trade (DPIIT), GoI; Department of Science and Technology (DST), GoI and Panjab University, Chandigarh for their much-needed assistance in the compilation of this book. We are highly grateful to Dr. Aditi Chauhan (Research Assistant to IPR-Chair, Panjab University, Chandigarh) and the staff of DST-Centre for Policy Research at Panjab University, Chandigarh, especially Dr. Radhika Trikha and Ms. Sukriti Paliwal, for rendering their services in compilation of the manuscript. Special thanks are due to Professor Devinder Singh, Panjab University, Chandigarh for his critical inputs pertaining to IPR Laws.

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CHAPTER – 1

INTRODUCTION TO INTELLECTUAL PROPERTY

Intellectual Property (IP) is a special category of property created by human intellect (mind) in the fields of arts, literature, science, trade, etc. Since IP is a novel creation of the mind, it is intangible (i.e. invisible and indivisible) in nature and differs from the tangible property, such as land, house, gold and car with which we are quite familiar. Intellectual Property Rights (IPR) are the privileges accorded to the creator/inventor (of IP) in conformance with the laws. These rights are given to the creator/inventor in exchange for revealing the process of creation/invention in the public domain. The inventor is conferred with the special rights to use, sell, distribute, offering for sale and restricting others from using the invention without his prior permission.The aforementioned rights do not apply to the physical object (e.g. book or computer or mobile phone) in which the creation may be embodied but attributed to the intellectual creativity.

Broadly, IP comprises of two branches i.e. 'Copyrights and Related Rights' and 'Industrial Property Rights'. 'Copyrights and Related Rights' refer to the creative expressions in the fields of literature and art, such as books, publications, architecture, music, wood/stone carvings, pictures, portrays, sculptures, films and computer-based softwares/databases. The 'Industrial Property Rights' refer to the Patents, Trademarks, Trade Services, Industrial Designs and Geographical Indications. The salient features of all the above-mentioned categories are discussed in the ensuing chapters.

1.1. Role of IP in the Economic and Cultural Development of the Society

Creativity being the keystone of progress, no civilized society can afford to ignore the basic requirement of encouraging the same. The economic and social development of a society is largely dependent on creativity. The protection provided by the IPR to the creators/innovators is in fact an act of incentivization for encouraging them to create more and motivates others to create new

and novel things.

However, if IPR is practised rigidly, it may have a negative impact on the progress of society. For example, compliance with the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement has affected the farming community as they are unable to store seeds for the next crop. Multinational companies regulate the price of seeds, which is generally beyond the reach of a majority of the farmers.

To circumvent the negative impact of IPR, certain laws, exceptions and limitations associated with IPR have been enacted to maintain a balance between the interests of the creators/inventors and the community. For example, farmers' rights under the Protection of Plant Varieties and Farmers' Rights (PVP&FR) Act, 2001 entitles them to many privileges, such as '*Rights on seeds'* provides rights to the farmers to save seeds, use seeds and share, exchange or sell seeds to other farmers and '*Right to protection against accusations of infringement'* protects the farmers from infringement and other legal accusation levied upon them due to his legal ignorance in using other's plant varieties. The use of copyrighted material for education and religious ceremonies is exempted from the operation of the rights granted in the Copyright Act. Similarly, a patent can be revoked in favour of compulsory licensing by the government during an emergency or a natural calamity. In addition, if an invention/creation is not in the interest of society, it is not registered by the government for grant of any rights associated with IP. For example, cloning of human embryos is banned for IP protection, and so is the creation of super microbial pathogens, which can play havoc with human lives.

In addition, India is enriched with massive biodiversity and genetic resources and their use is embodied in what is referred to as Traditional Knowledge (TK). However, the use of such knowledge and resources are not limited to local contexts as many innovations relate to and draw on them. Therefore, the main issue of concern is to protect TK and genetic resources, which are rapidly coming under the governance of sometimes conflicting IPR policies. To derive maximum benefit from them, the establishment of adequate legal infrastructure and enforcement is required. With initiatives like 'Make in India', 'Atmanirbhar Bharat' and supporting local

homegrown brands, and easy as well as accessible approach to patents and trademarks registration, it is possible to reap the benefits of our resources.

1.2. IP Governance

Since IP is an integral component of human society, each and every nation has dedicated agencies for laying out the guidelines, implementation and enforcement of IP related matters. In India, many organizations/agencies deal with various aspects of IP. The governance of all categories of IP, except the Plant Variety and Farmers' Rights Act, is carried out by the Department for Promotion of Industry & Internal Trade (DPIIT) under the aegis of Ministry of Commerce and Industry, GoI. There are a few other dedicated organizations/departments established by the government to promote patent-ecosystem (patent awareness, patent filing and patent commercialization) in India e.g. Technology Information Forecasting and Assessment Council (TIFAC), National Research Development Corporation (NRDC) and Cell for IPR Promotion and Management (CIPAM), etc.

In order to create a hassle-free exchange of IP related activities amongst all the nations, it is imperative to have minimum standards of rules and regulations pertaining to all aspects of IP including rights, empowerment, exceptions, etc. To achieve this goal, the United Nations (UN) has established an organization called the World Intellectual Property Organization (WIPO). This agency is at the forefront of imparting knowledge about IP and governs international filing and registration of IP through various Conventions and Treaties like Paris Conventions, Patent Cooperation Treaty (PCT), Rome Convention, Berne Convention, etc.

1.3. IP as a Global Indicator of Innovation

IP, especially patents, is considered as one of the important cogs in assessing the innovation index of a nation. The global ranking organizations always have IP or a subset of IP as one of the parameters for understanding and grading the Science, Technology and Innovation (STI) ecosystem of a nation. For example, the Scimago (publically available online portal which ranks journals and countries based on the data taken from Scopus) 2020 report

ranked India at 4th position in the parameter of a number of 'Research Publications', and 50th position in the parameter of 'Intellectual Property Rights'. The global ranking can be improved by sensitizing the teaching and scientific communities about the importance of IP and creating infrastructure for the same in the institutes of higher learning.

1.4. Origin of IP

Though there is no official record of the origin of IP, it is believed that a rudimentary form of IP was being practised around 500 Before the Common Era (BCE) in Sybaris, a state of Greece. The natives of Sybaris were granted a year's protection for using their intellect to create "any new improvement in luxury."

A practical and pragmatic approach for IP governance started taking shape in medieval Europe. In 1623, Britain passed an Intellectual Property Legislation which entitled guilds (association of artisans or merchants) to create innovations and bring them to market for trade purposes. However, this legislation brought a lot of resentment amongst the public, and thus was replaced by the 'Statute of Monopolies', which gave the rights to the original creator/inventor for 14 years. Another legislation, 'Statute of Anne', was passed by the British parliament in 1710. This legislation aimed at strengthening copyrights by providing rights to the authors for recreation and distribution of their work. The work could also be renewed for another 14 years. By the end of the 18th century and the beginning of the 19th century, almost every country started laying down IP legislation to protect their novel inventions and creations.

1.5. History of IP in India

1.5.1. Patents

The history of the Indian patent system dates back to the pre-independence era of British rule. The first patent related legislation in India was Act VI of 1856, adapted from the British Patent Law of 1852. The objective of this legislation was to encourage the inventions of new and useful manufactures. The rights conferred to the inventor were termed as 'Exclusive Privileges'. In 1859, certain amendments were made to the Act, such as:

- Grant of exclusive privileges to useful inventions.
- Increase of priority time from 6 months to 12 months.
- Exclusion of importers from the definition of the inventor.

The world's first patent was granted in 1790 to Samuel Hopkins in USA for the "making of pot ash and pearl ash by a new apparatus and process". In India, the first patent (known as 'Exclusive Privileges' at that time) was awarded in 1856 to a civil engineer, George Alfred DePenning from Calcutta, for his invention, 'An Efficient Punkah Pulling Machine'.

A few years later, it was felt that 'Designs' could also pass the criteria of the invention and thus should be included in the Patent Act. The new Act was rechristened as "The Patterns and Designs Protection Act" under Act XIII of 1872. This Act was further amended in 1883 (XVI of 1883) to include the provision of protection for 'Novelty' in the invention.

At the beginning of the 20th century, all the earlier Acts related to inventions and designs were done away with the introduction of 'The Indian Patents and Designs Act, 1911' (Act II of 1911). As per this Act, the governance of patents was placed under the management of the Controller of Patents. In the next three decades, many amendments were introduced for reciprocal arrangements with other countries for securing priority dates. These amendments dealt with;

- Use of invention by the government.
- Patent of Addition.
- Enhancing the term of the patent from 14 years to 16 years.
- Filing of 'Provisional Application' and submission of 'Complete Application' within 9 months from the date of filing the application.

Priority Date:
The date on which the first application for the invention is filed, whether it is provisional or with complete specifications.

After India got independence in 1947, many patent experts felt the need to review the Indian Patents and Designs Act, 1911,

keeping the national interest (economic and political) in mind. A dedicated committee, chaired by a renowned Justice Bakshi Tek Chand (retired Judge of Lahore High Court), was constituted in 1949 to review the advantages of the patent system. The committee submitted a plethora of recommendations, including:

- Misuse of patents rights needs to be prevented.
- There must be a clear indication in the Act that food, medicine and surgical and curative devices should be made available to the masses at the cheapest rate by giving reasonable compensation to the owner of the patent.
- Amendments in Sections 22, 23 and 23A of the Patent and Design Act, 1911 on the lines of the UK Patent Act.

These recommendations were introduced in the Act XXXII of 1950. Two years later, another amendment (Act LXX of 1952) was made to provide compulsory licencing of patents related to food, drugs and chemicals killing insects and microbes. Based on these amendments, a bill was presented in the parliament in 1953 but was rejected.

In 1957, the central government constituted yet another powerful committee under the chairmanship of Justice N. RajagopalaAyyangar to seek inputs for further strengthening the Indian Patent Law. The committee submitted its report to the government in 1959. It comprised of two segments addressing a) General aspects of the patent laws, and b) Bill rejected back in 1953. The revised patent legislation was submitted to the Lok Sabha in 1965. After many hiccups, clarifications and modifications the Patents Act, 1970 (http://www.ipindia.nic.in/writereaddata/Portal/IPOAct/1_31_1_patent-act-1970-11march2015.pdf) was introduced, superseding all the previous laws related to the patents. However, the Indian Patents and Designs Act of 1911 remained applicable for designs only till 1994.

In 1995, India signed the TRIPS Agreement and got a transition period of 10 years (1995-2005) to make domestic laws compatible with the international treaty. In 1999, The Patents (Amendment) Act, 1999 was introduced providing for the filing of applications for 'Product Patents' in the areas of drugs, pharmaceuticals and agrochemicals (earlier, only 'processes' were protected under the

Patent Act). The new Patent Act also included provisions for the grant of Exclusive Market Rights (EMRs) for the distribution and sale of pharma products on fulfilment of certain conditions.

The second amendment to the 1970 Act was made through the Patents (Amendment) Act, 2002 (Act 38 of 2002). This Act introduced new Patent Rules, 2003, thus replacing the earlier Patents Rules, 1972. The major amendments were:

- The protection term of 20 years for all inventions from the date of filing.
- Scope of non-patentable inventions including Traditional Knowledge expanded.
- Disclosure of source and geographical origin of biological material made compulsory.
- Provisions concerning convention countries simplified.
- Establishment of Appellate Board.
- Compulsory license provisions strengthened.
- Simplification of procedures.
- Harmonization with Patent Cooperation Treaty (PCT) provisions.

With the rapidly changing scenario of IPR at a global level, a need was felt to further amend the Patent Act, 1970. The highlight of the Patents (Amendments) Act 2005 were:

- Product patent for inventions in all fields of technology.
- New forms of known substances excluded to prevent evergreening of the patent.
- Rationalization of the opposition procedure.
- Introduction of pre-grant opposition by representation.
- Introduction of post-grant opposition.
- Compulsory license for export purposes.
- Compulsory license for manufacture.
- Extension of grace period from 6 months to 12 months for filing a patent, if published in government exhibition.

India is a member of all prominent Conventions and Treaties related to the facilitation of the inventors for international filing and

protecting the rights over the inventions globally. The important international agreements to which India is a signatory party are TRIPS Agreement (1995), Paris Convention (1883), PCT (1970) and Budapest Treaty (1977) and many more.

1.5.2. Copyrights and Related Rights

The concept of copyrights started way back in the 15th century. However, the actual need for copyrights law was felt only after the invention of printers and copiers. Before the invention of printers, writing could be created only once. It was highly laborious and the risk of errors was involved in the manual process of copying by a scribe. During the 15th and 16th centuries, printing was invented and widely established in Europe. Copies of 'Bibles' were the first to be printed. The government had allowed the printing of the documents without any restrictions, but this led to the spreading of a lot of governmental information. Subsequently, the government started issuing licenses for printing.

The evolution of copyrights law in India occurred in three phases. First, two phases were enacted during the British Raj. In the first phase, the concept of copyrights was introduced in 1847 through an enactment during the East India Company's regime. The term of copyrights was for the lifetime of the author plus seven years after death. Unlike today, copyrights in work were not automatic. The registration of copyright was mandatory for the enforcement of rights under the Act. The government could grant a compulsory license to publish a book if the owner of the copyright, upon the death of the author, refused to allow its publication.

In the second phase Indian legislature, under the British Raj, enacted the Copyright Act of 1914 based on the Imperial Copyright Act (1911) of the UK. An Act for criminal sanction for an infringement was introduced.

The third phase of the copyrights regime was witnessed post-independence. The Copyright Act 1957 was enacted, superseding the Indian Copyright Act, 1914, in order to suit the provisions of the Berne Convention (1886). The 1957 Act has been amended six times (1983, 1984, 1992, 1994 and 1999, 2012), to comply with WIPO Copyright Treaty (WCT), 1996 and WIPO Performances and Phonograms Treaty (WPPT), 1996.

Most of the amendments in copyright laws were in the digital environment, such as penalties for circumvention of technological protection measures; rights of management information; liability of internet service provider; introduction of statutory licenses for the cover versions (the cover version is re-recording or re-composition of the original song by other artists or composers and is also termed as a remake, cover song, revival, etc.) and broadcasting organizations; ensuring the right to receive royalties for authors and music composers; exclusive economic and moral rights to performers; equal membership rights in copyrights societies for authors and other right owners and exception of copyrights for physically disabled to access any works. India is an active member of nearly all significant international Conventions/Treaties related to Copyright Law e.g. the Berne Convention as modified in Paris in 1971, the Universal Copyright Convention (1951), the Rome Convention (1961), WCT, WPPT and (TRIPS, 1995).

1.5.3. Trademarks

The first statutory law related to Trademarks (TM) in India was the Trade Marks Act, 1940, which was carved out from the Trade Marks Act, 1938 of the UK. It was followed by the incorporation of provisions of TM stated in the Indian Penal Code, Criminal Procedure Code and the Sea Customs Act. Later on, Trade Marks Act, 1940 was rechristened as Trade and Merchandise Marks Act, 1958. Nearly four decades later, this Act was repealed by the Trade Marks Act, 1999. The need for this occurred to comply with the provisions of the TRIPS. It is the current governing law related to registered TM.

1.5.4. Geographical Indications

India, as a member of WTO, enacted the Geographical Indications of Goods (Registration and Protection) Act, 1999. It came into force with effect from 15th September 2003. Geographical Indicators have been defined under Article 22 (1) of the WTO Agreement on TRIPS.

1.5.5. Trade Secrets

Although India has no specific Trade Secrets Laws, Indian courts have upheld Trade Secrets protection under various statutes,

including contract law, Copyright law, the principles of equity and the common law action of breach of confidence (which in effect amounts to a breach of contractual obligation).

1.5.6. Semiconductor Integrated Circuits and Layout Designs

In the 21st century, Information Technology (IT) has revolutionized the economic and societal growth of the world economy. The rapid and tremendous scientific advancements in the field of IT resulted in the creation of a new class of IP called the Layout-Design of the Semiconductor Integrated Circuits. Various organizations, including WTO and TRIPS Agreement laid down rules and regulations regarding the protection of Semiconductor Integrated Circuits and Layout Designs (SICLD) India being a member of the WTO also passed an Act called the SICLD Act, 2000. This Act is TRIPS compliant and fulfils the conditions of the TRIPS agreement (Articles. 35 to 38) concerning the protection of SICLD.

1.5.7. Plant Varieties

Till 1970s, not much emphasis was laid on patentable matter originating from animals and plants. However, microbes and microbial products/processes were patentable. To include all kinds of biological materials under the ambit of patent laws, a decision to enact a new *sui generis* law under the International Convention for the Protection of New Varieties of Plants (UPOV, 1978) and UPOV, 1991 was taken. These decisions were taken to address environmental and public interest concerns.

The Indian Patents Act, 1970 excludes "plants and animals in whole or any part thereof other than microorganisms" from patentability. To comply with the mandate of Article 27.3 (b) of TRIPS, India adopted the PPV&FR Act, 2001 as a *sui generis* regime protecting not only new plant varieties but also farmers' rights.

1.5.8. Traditional Knowledge

It is the ancient and indigenous knowledge held by any community or a group of people. In olden times it was not recorded anywhere and was available only in oral form. So, Traditional Knowledge (TK) was verbally passed on to future generations. TK

is not limited to a particular field. It covers a wide area, such as the use of plants or their extracts for medical treatments, a traditional form of dance, particular techniques used for hunting, craft knowledge/skills and so on. Though there is no official record but some forms of TK find appearance in the culture, stories, legends, folklore, rituals, songs, etc. Previously, there was no mechanism available to protect TK, but now, it has been recognized as IPR under TRIPS Agreement. The Government of India has created a digital library termed as Traditional Knowledge Digital Library (TKDL) as a repository of 2,50,000 formulations of various systems of Indian medicine.

1.5.9. Industrial Designs

A design is a creation of the human mind, which is appealing to the eyes and attracts the attention of the viewers. The need to protect Industrial Designs (ID) was recognized in the 18th century and the Indian legislation enacted the 'Patterns and Designs Act' in 1872 for the first time. The Act was enacted to protect the rights over the creation of the designs and novel patterns by the inventors. The Act was replaced by the British Patents and Designs Act in 1907, which later became the basis for the Indian Patents and Designs Act, 1911. In 1970, a separate Act was enacted for the patent, i.e. the Patent Act, 1970. The Indian Patents and Designs Act, 1911, remained in force for designs only. Finally, in the year 2000, a dedicated Act for the ID was passed, which came into force in 2001.

1.5.10. Biodiversity Conservation

Biodiversity is an inseparable part of human livelihood. The mention of protecting biodiversity can be found in the times of Chandragupta and Ashoka. In those eras, the trees and forest were classified, such as reserved category. In 1927 the 'Indian Forest Act' and later on the 'Wildlife Protection Act, 1972' was enacted to provide legal protection to biodiversity. In 1988, the 'National Forest Policy' was passed, which brought revolutionary changes in the conservation and management of biodiversity. The Acts and policies in force to protect the environment and biodiversity in India include Mining and Mineral Development Regulation Act, 1957; Water (prevention and control of pollution) Act, 1974; Forest Conservation Act, 1980; Biological Diversity Act, 2002; Scheduled

Tribes and other Traditional Forest Dwellers (recognition of rights) Act, 2006; National Biodiversity Action Plan, 2009; National Environment Policy, 2006 and a few more.

1.6. Major Amendments in IP Laws and Acts in India

In order to fill the gaps existing in the IP Laws and Acts and also to introduce new guidelines/directions based on the current scenario (socially and politically), each nation keeps on updating the concerned IP Laws and Acts. Some of the salient amendments made in Indian Laws and Acts on IPR are mentioned below:

Table 1.1: History of Laws and Acts pertaining to intellectual property in India.

S.No.	Year	Historical Proceedings
		Patents
1.	1856	The Act VI of 1856 on the protection of inventions based on the British Patent Law of 1852.
2.	1859	➢ Rights renamed as 'Exclusive Privileges'. ➢ Time for the priority increased from 6 months to 12 months.
3.	1883	➢ The Patterns and Designs Protection Act ➢ Introduction of novelty in the invention. ➢ A grace period of 6 months for the disclosure of the invention.
4.	1911	➢ Renamed as 'The Indian Patent and Design Act' and brought under the management of 'Controller of Patents'.
5.	1930	➢ Introduction of Patent of Addition. ➢ Government can use the invention if required. ➢ The term of patent protection increased from 14 to 16 years.
6.	1945	➢ Filing of the provisional specification to secure the priority date. ➢ Provision of submitting complete specifications within 9 months.

7.	1949	Dedicated Committee formed under the leadership of Justice Bakshi Tek Chand for reviewing patent system as per the national environment.
8.	1950	➢ A working statement needs to be submitted at the Patent Office. ➢ Endorsement of the Patents with the words 'License of Right' on the application made by the government so that the Controller could grant the license.
9.	1952	➢ Provision of 'Compulsory License' in the areas of food, medicine and insecticide germicide. ➢ Process for producing substance or any invention relating to surgical or curative devices.
10.	1965	After incorporation of the recommendation submitted by the committee formed in 1949, a new bill was introduced in Lok Sabha but was not cleared.
11.	1967	➢ Again submitted to Parliamentary Committee. ➢ 1911 Act remained applicable for Designs.
12.	1970	➢ The Patent Act, 1970 passed by the Parliament Committee.
13.	1972	The Patent Act, 1970 came into force with the introduction of patent rules.
14.	1995	TRIPS Agreement was signed by India and got transition period 1995-2005 to make domestic laws compatible with TRIPS.
15.	1999	➢ Introducing the provisions for receiving the applications for the product patent in the field of pharmaceuticals and agro-chemicals (mail box)*. ➢ Provisions for the grant of EMRs for distribution and sale of pharma products on fulfilment of certain conditions. ➢ Grant of EMR subject to certain conditions. * *after the amendments (1999) the product*

		patents related to the pharmaceuticals and agro-chemicals were kept on hold for examination till 2005. It is called a mailbox or black box.
16.	2002	➢ The uniform 20-year term of the patent for all inventions. ➢ Disclosure of source and geographical origin of biological material made compulsory. ➢ Establishment of Appellate Board. ➢ Compulsory License provisions strengthened.
17.	2003	➢ The Patents Rules, 2003 were introduced.
18.	2005	➢ Product patent for inventions in all fields of technology including food, drug, chemicals and microorganisms. ➢ New forms of known substances excluded in order to prevent the ever-greening of the patent. ➢ Introduction of the pre-grant opposition. ➢ Introduction of post-grant opposition. ➢ Extension of grace period to 12 months.
Copyrights and Related Rights		
19.	1847	➢ The concept of Copyrights in India was introduced. ➢ Validity - Lifetime+7 years but not more than 42 years in total.
20.	1914	Copyright Act, 1914 was introduced based on the Imperial Copyright Act, 1911 of UK.
21.	1957	Copyright Act, 1914 was replaced with Copyright Act, 1957 with minor modifications.
22.	1984	Penalty on second and subsequent conviction.
23.	1994	Registration of Copyright Society made mandatory.
24.	2012	➢ To comply with international Treaties for copyrights protection in the digital environment. ➢ Right to receive royalties for authors and music composers. ➢ Exception of copyrights for physically

		disabled persons to access any work.
25.	2013	Copyrights Rules, 2013 introduced.
Trademarks		
26.	1940	Trademarks Registry established in India.
27.	1958	The Trade and Merchandise Marks Act, 1958 enacted as per TRIPS Agreement.
28.	1999	Amended to avoid duplicity and ensure securing proprietors' trade and goodwill.
29.	2002	Trademarks Rules introduced.
30.	2010	➢ Amended to comply with Madrid Protocol for international filing. ➢ Provision for filing opposition of the registration within 4 months.
31.	2013	Trademarks Rules introduced.
Geographical Indications		
32.	1999	Being a member of the World Trade Organization (TRIPS), GI of goods (Registration and Protection) Act was introduced.
33.	2002	The Geographical Indications of Goods (Registration and Protection) Rules, 2002 was introduced.
34.	2003	The Geographical Indications of Goods (Registration & Protection) Act came into force.
Designs		
35.	1872	Patterns and Designs Protection Act introduced for the protection of new patterns and designs.
36.	1888	Amended as Invention and Design Act, 1988 for the protection of new inventions and designs.
37.	1911	Renamed as The Indian Patent and Design Act.
38.	2000	Design Act, 2000 was introduced; separated from the Indian Patent and Design Act.
39.	2001	Design Rules, 2001 introduced.

Semiconductor Integrated Circuits Layout Design (SICLD)		
40.	2000	Semiconductor Integrated Circuits Layout Design (SICLD) Act 2000 introduced as a signatory of WTO.
41.	2001	SICLD Rules introduced.
Protection of Plant Varieties and Farmers' Rights (PPV&FR)		
42.	1970	The Patent Act, 1970 excluded plants and animals in whole or in any part from patentability (in 1999 amendments).
43.	1991	Enactment of protection of new varieties of plants on *sui generis* basis on the lines of UPOV.
44.	2001	In line with TRIPS Agreement enactment of PPV&FR Act was introduced.
Biological Diversity		
45.	2002	The Biological Diversity Act, 2002 introduced on the lines of the Convention on Biological Diversity (CBD, 1992).
46.	2003	➢ Establishment of National Biodiversity Authority. ➢ Designation of repositories under the Biological Diversity Act.
47.	2004	Biological Diversity Rules introduced.

Source: http://www.ipindia.nic.in/history-of-indian-patent-system.htm

CHAPTER-2

CATEGORIES OF INTELLECTUAL PROPERTY

Intellectual Property (IP) is a vast field comprising of technology-led inventions, work of artisans, novel Industrial Designs, unique brands of commercial items, and Traditional Knowledge being practised continuously over centuries for the production of goods (carpets, textiles, food products, etc.). In order to understand the extensive field of IP, it has been divided into various categories. In India, these categories include Patents, Copyright and Related Rights, Trademark, Trade Secrets, Industrial Designs, Geographical Indications and Semiconductor Integrated Circuits Layout Designs. Each of these categories is described in the following sections.

2.1. Patents

A patent is an exclusive right granted for an innovation that generally provides a new way of doing something or offers a new technical solution to a problem. The exclusive right legally protects the invention from being copied or reproduced by others. In return, the invention must be disclosed in an application in a manner sufficiently clear and complete to enable it to be replicated by a person with an ordinary level of skill in the relevant field.

Invention is the creation of a new idea or concept.
Innovation is the process of translating an invention into commercial entity or widespread use.

2.1.1. Conditions for Obtaining a Patent Protection

There is a set criterion, as provided in Section 2(1)(j) of the Patents Act, 1970, which must be fulfilled for a product or a process to qualify for the grant of a patent. The criterion encompasses:

- **Novelty** - *Not part of 'State of the Art'*. The innovation claimed in the patent application is new and not known to anybody in

the world. In other words, the innovation is a) not in the knowledge of the public, b) not published anywhere through any means of publication and c) not be claimed in any other specification by any other applicant.

- **Inventive step** - *Not obvious to the person (s) skilled in the art*. The innovation is a) a technical advancement over the existing knowledge, b) possesses economic significance and, c) not obvious to a person skilled in the concerned subject.
- **Capable of industrial application** - *For the benefit of society*. The invention is capable of being made or used in any industry.

2.1.2. To Patent or Not to Patent an Invention

Once an invention has been developed, the inventor has to decide whether to exploit the invention for personal benefits as provided by the statutory laws of the country or put it in the public domain. By and large, the inventor prefers the former option. Only a miniscule of inventions are placed in the public domain without claiming any benefits. In the latter case, anybody can exploit the innovation for commercial or societal benefit without paying any money to the inventor.

If the owner of an invention wishes to seek monetary gains, he can choose from either of the two options, i.e. patenting or Trade Secret. If the inventor is absolutely sure of maintaining the secrecy of invention for a very long period (maybe 100 years or more) and the probability of reverse engineering of the technology is nil or very low, then the 'Trade Secret' category is preferred. If the invention has a short life span or can be kept secret only for a small period of time (a couple of years or so) or the probability of reverse engineering is high once the invention is in the public domain, then the 'patent' category is preferred.

2.1.3. Rights Associated with Patents

As per the Court of Law, a patent owner has the right to decide who may or may not use the patented invention. In other words, the patent protection provided by the law states that the invention cannot be commercially made, used, distributed, imported, or sold by others without the patent owner's consent. The patent owner may permit other parties to use the invention on mutually agreed terms. As a matter of fact, the patent rights are negative rights as the owner

is restricting others from using the patent in any manner without his prior permission. The patent holder may choose to sue the infringing party to stop illegal use of the patent and also ask for compensation for the unauthorized use.

2.1.4. Enforcement of Patent Rights

Enforcement is the process of ensuring compliance with laws, regulations, rules, standards and social norms. Patent rights are usually enforced by the judicial courts. The Court of Law has the authority to stop patent infringement. However, the main responsibility for monitoring, identifying and taking action against infringers of a patent lies with the patent owner.

2.1.5. Inventions Eligible for Patenting

Patents may be granted for inventions/technologies in any field, ranging from a paper clip or ballpoint pen to a nanotechnology chip or a Harvard mouse (mouse with cancer genes).

It is a general belief that patents are awarded only to major scientific breakthroughs. But, it is not true. In fact, the majority of patents are granted to inventions displaying an improvement over the existing invention. For example, many patents can be awarded to a single molecule e.g. penicillins (an antibiotic that kills microbes) and its derivatives. The derivatives are made by making subtle changes in the structure of the penicillin resulting in new/improved properties, such as acid stability or temperature stability or killing a wide range of microbes (germs). The new antibiotic molecules, known as second, third or fourth generation penicillins can also be patented.

In our daily life, we use many patented items, such as toothbrush, toothpaste, shoes, pen, eyeglasses, textiles, mobile phones, wrist watch, bicycle, scooter, car, television, cold drinks, beverages and many more. It is not uncommon that many products contain several inventions (patents) e.g. the laptop computer involves hundreds of inventions working together. Similarly, cars, mobile phones and televisions have many patented components.

2.1.6. Non-Patentable Matters

In the ‘Patent Act, 1970, there are some exclusions (product and processes) that cannot be patented, such as:

- **Invention contrary to public morality -** a method for human cloning, a method for gambling.
- **Mere discovery** - finding a new micro-organism occurring freely in nature, laws of gravity.
- **Mere discovery of a new form of a known substance** - use of aspirin for heart treatment. Aspirin was patented for reducing fever and mild pains.
- **Frivolous invention** - dough supplemented with herbs, merely changing the taste of the dough, 100 years calendar, bus timetable.
- **Arrangement or rearrangement** - an umbrella fitted with a fan, a torch attached to a bucket.
- **Inventions falling within Section 20(1) of the Atomic Energy Act**, **1962** - inventions relating to compounds of Uranium, Beryllium, Thorium, Plutonium, Radium, Graphite, Lithium and more as notified by the Central Government from time to time.
- **Literary, dramatic, musical, artistic work** - books, sculptures, drawings, paintings, computer programmes, mathematical calculations, online chatting method, method of teaching, method of learning a language as they are the subject matter of Copyright Act. 1957.
- **Topography of integrated circuits** - protection of layout designs of integrated circuits is provided separately under the Semiconductor Integrated Circuit Layout Designs Act, 2000.
- **Plants and animals -** plants and animals in whole or any part including seeds, varieties and species and essentially biological processes for the production or propagation of plants and animals are excluded from the scope of protection under patents.
- **Traditional knowledge** - an invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known components are also excluded.

2.1.7. Patent Infringements

Once the patent is granted to the applicant, he owns the right to use or exploit the invention in any capacity. If anyone uses the invention without the prior permission of the owner, that act will be considered an infringement of the invention. Infringements can be classified into two categories:

Direct Infringement - when a product is substantially close to any patented product or in a case where the marketing or commercial use of the invention is carried out without the permission of the owner of the invention.

Indirect Infringement - When some amount of deceit or accidental infringement happens without any intention of infringement.

If such an unlawful act has been committed, the patentee holds the right to sue the infringer through judicial intervention. Every country has certain laws to deal with such unlawful acts. Following reliefs are made available to the patentee:

- Interlocutory/interim injunction.
- Damages or accounts of profits.
- Permanent injunction.

It is pertinent to mention that the Central government always holds the rights (Section 100 of the Patent Act, 1970, Rule 32 of the Patent Rules, 2003) to use the invention in the case of national emergency or other circumstances of extreme urgency after notifying the owner.

2.1.8. Avoid Public Disclosure of an Invention before Patenting

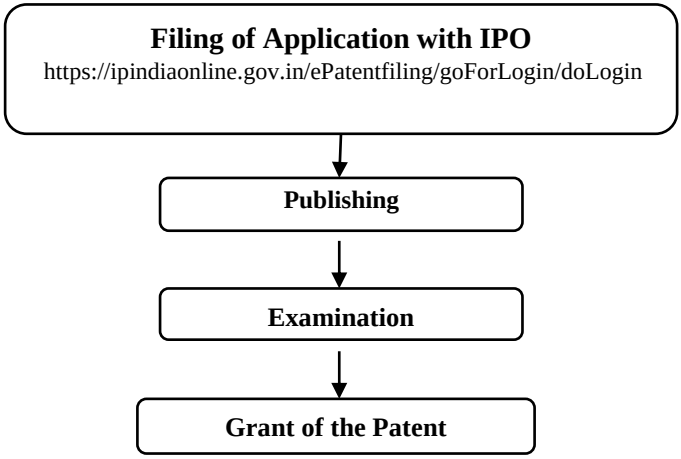
Generally, an invention that has been either published or publicly displayed cannot be patented, as the claimed invention will lose the 'Novelty' criterion. However, under certain circumstances, the Patents Act provides a grace period of 12 months for filing a patent application from the date of its publication in a journal or presentation in a reputed scientific society or exhibition.

Sometimes, disclosure of an invention before filing a patent application is unavoidable, e.g. selling your invention to a potential investor or a business partner who would like to know complete details of the invention in order to judge its commercial value. In such a case, it is advisable to sign a Non-Disclosure Agreement (NDA) or any other confidential agreement to safeguards your interest.

2.1.9. Process of Patenting

In India, the process of grant of a patent is a lengthy procedure that may take anywhere 3-4 years or more. The major steps involved in this process are listed in figure 2.1.

Figure 2.1: Flow chart of major steps involved in the grant of a patent.



2.1.9.1. Prior Art Search **-** Before an inventor embarks upon the patent filing process, he has to ensure that his invention is 'novel' as per the criterion for the grant of a patent. For this, he has to check whether or not his invention already exists in the public domain. For this, he needs to read patent documents and Non-Patent Literature (NPL), scientific journals/reports/magazines, etc. The information lying in the public domain in any form, either before the filing of the patent application or the priority date of the patent application claiming the invention, is termed as Prior Art.

Conducting a prior art search before filing the patent has advantages as it averts infringement, tracks research and development and provides access to detailed information on the invention. The prior art search is carried out on the parameters such as novelty, patentability, state of the art, infringement, validity and freedom to operate. The commonly used databases for prior art search fall in two categories i.e. Patents Databases and NPL.

Patents' Databases

- Indian Patent Advanced Search System (*InPASS*- http://ipindiaservices.gov.in/publicsearch/).
- Patentscope(*WIPO*- https://www.wipo.int/patentscope/en/).
- Espacenet(*EU*- https://worldwide.espacenet.com/patent/).
- USPTO(*USA*- https://www.uspto.gov/).
- Google Patents Advanced Search (*https://patents.google.com/advanced).*

Unpaid

- Orbit Intelligence (https://www.questel.com/business-intelligence-software/orbit-intelligence/).
- Derwent Innovation (https://clarivate.com/derwent/solutions/derwent-innovation/).
- PROQUEST (https://about.proquest.com/search/?searchKeyword=patent+).

Paid

Non-Patent Literature (NPL)

- **Scholarly publications:** Handbooks, Textbooks, Withdrawn Patents, Encyclopedias, Journals (IEEE, Research Gate, Springer, Wiley Online Library, etc.), Dissertations, NCBI's PubMed, Conference Proceedings, Technical Reports, Public Conferences, etc.
- **Industry/trade publications:** Industry reviews and public disclosures (Social media, YouTube, Books, Magazines, Datasheets, Blueprints, etc.).
- **Others**: Newspapers, Websites, Technology blogs, Researchers' websites, etc.

Although, majority of NPL data is available freely on the public forum, some of the journals are paid and can be accessed after paying the subscription. Major Patent Offices such as the United States Patent and Trademark Office's (USPTO), European Patent Office (EPO), Japan Patent Office (JPO), etc. are maintaining in-house NPL databases to make patents examination more effective.

***2.1.9.2. Choice of Application to be Filed* -** Once a decision has been made to patent the invention, the next step is, what kind of application needs to be filed i.e. provisional patent application or complete (Final) patent application - generally, the provisional patent application is preferred for the following reasons:

- It is cheaper, takes less time, and involves fewer formalities.
- Any improvements made in the invention after the filing of the provisional application can be included in the final application. In other words, the provisional application does not require complete specifications of the inventions. The application can be filed even though some data is yet to be collected from pending experiments.
- A provisional application allows you to secure a priority date for the patent applied.

However, it is mandatory to file the complete patent application within one year of the filing of the provisional application; otherwise, the application stands rejected.

2.1.9.3. Patent Application Forms **-** As per the Patent Act, 1970 (Section 39) and the Patents Rules, 2003 (Rule 7, 54, 135 and sub-rule (1) of rule 20, the application for the grant of patent is filed using Form-1 (Fig. 2.2) and Form-2 (Fig. 2.3). The information sought in Form-1 is general in nature i.e. Title of Application, Names of Applicant(s) and Inventor(s), Type of Application (Ordinary, Convention, PCT-NP (PCT- National Phase), Divisional, Patent of Addition, etc.). Whereas Form-2 seeks technical information and whether to file the provisional application or complete the application. For 'Provisional Application', only 'Description of the Invention' and the 'Abstract' is to be furnished. Whereas, 'Complete Application' requires 'Description of the Invention', 'Abstract', 'Claims' and the manner in which invention has to be performed.

The 'Claims' of the patent are a very crucial part of the specifications because they define the actual boundary of the invention. 'Claims' specify what is actually claimed by the invention and what is being sought to be protected. It clearly describes what the patent does and does not cover. The Claims are usually expressed as a declaration of technical particulars articulated in legal terms. Claims can be classified into two types a) Independent Claims (stand alone claim) and b) Dependent Claims (dependent on independent claim). The Claims must be drafted precisely and carefully in order to seek patent protection and also to protect the invention against potential infringers. Below mentioned are two important forms Form-1 and Form-2 for filing the patent application (http://www.ip india.nic.in/writeread data/Portal/IPORule/1_10_1_patents-amend ments-rules-2005.pdf).

Figure 2.2: Form-1 (application for the grant of a patent).

<table>
<tr><td colspan="3">"FORM 1
THE PATENTS ACT 1970 (39 of 1970) and
THE PATENTS RULES, 2003
APPLICATION FOR GRANT OF PATENT
(See section 7, 54 and 135 and sub-rule (1) of rule 20)</td><td colspan="3">(FOR OFFICE USE ONLY)</td></tr>
<tr><td colspan="3"></td><td>Application No.</td><td colspan="2"></td></tr>
<tr><td colspan="3"></td><td>Filing date:</td><td colspan="2"></td></tr>
<tr><td colspan="3"></td><td>Amountof Feepaid:</td><td colspan="2"></td></tr>
<tr><td colspan="3"></td><td>CBR No:</td><td colspan="2"></td></tr>
<tr><td colspan="3"></td><td>Signature:</td><td colspan="2"></td></tr>
<tr><td colspan="3">1. APPLICANT'S REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)</td><td colspan="3"></td></tr>
<tr><td colspan="6">2. TYPE OF APPLICATION [Please tick (1) at the appropriate category]</td></tr>
<tr><td colspan="2">Ordinary ( )</td><td colspan="2">Convention ( )</td><td colspan="2">PCT-NP ( )</td></tr>
<tr><td>Divisional ( )</td><td>Patent of Addition ( )</td><td>Divisional ( )</td><td>Patent of Addition ( )</td><td>Divisional ( )</td><td>Patent of Addition ( )</td></tr>
</table>

3A APPLICANT(S)			
Name in Full	Nationality	Countryof Residence	Address of the Applicant

			House No.	
			Street	
			City	
			State	
			Country	
			Pin code	

3B CATEGORY OF APPLICANT [Please tick ( ) at the appropriate category]		
Natural Person ( )	Other than Natural Person	
	Small Entity ( )	Start-up ( ) Others ( )

4. INVENTOR(S) [Please tick (1) at **the appropriate category]**		
Are all the inventor(s) same as the applicant(s) named above?	Yes ( )	No ( )
If "No", furnish the details of the inventor(s)		

Name in Full	Nationality	Country of Residence	Address of the Inventor	
			House No.	
			Street	
			City	
			State	
			Country	
			Pin code	
5. TITLE OF THE INVENTION				
6. AUTHORISED REGISTERED PATENT AGENT(S)			IN/PA No.	
			Name	
			Mobile No.	
7. ADDRESS FOR SERVICE OF APPLICANT IN INDIA			Name	
			Postal Address	
			Telephone No.	
			Mobile No.	
			Fax No.	
			E-mail ID	

8. IN CASE OF APPLICATION CLAIMLNG PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION					
Country	Application number	Filing date	Name of the applicant	Title of the invention	IPC (as classified in the convention country)

9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)	
International application number	International filing date

10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION	
Original (first) application No.	Date of filing of original (first) application

11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT	
Main application/patent No.	Date of filing of main application

12. DECLARATIONS

(i) Declaration by the inventor(s)

(In case the applicant is an assignee: the inventors) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period).

I/We,the above named inventor(s) is/are the true & first inventor(s) for this Invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date
(b) Signature(s)
(c) Name(s)

(ii) Declaration by the applicant(s) in the convention country

(In case the applicant in India is different than the applicant in the convention country: the applicant in the convention country **may** sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/we, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date
(b) Signature(s)
(c) Name(s) of the signatory

Source: http://www.ipindia.nic.in

Figure 2.3: Form-2 (provisional/complete specifications).

FORM 2
THE PATENT ACT 1970
(39 of 1970)
&
The Patents Rules, 2003
PROVISIONAL/COMPLETE SPECIFICATION
(See section 10 and rule 13)

1. TITLE OF THE INVENTION

2. APPLICANT(S)

(a) NAME:

(b) NATIONALITY:

(c) ADDRESS:

3. PREAMBLE TO THE DESCRIPTION

PROVISIONAL	**COMPLETE**
The following specification describes the invention.	The following specification particularly describes the invention and the manner in which it is to be performed.

4. DESCRIPTION (Description shall start from next page)

5. CLAIMS (not applicable for provisional specification. Claims should start with the preamble — 'l/we claim' on separate page)

6. DATE AND SIGNATURE (to be given at the end of last page of specification)

7. ABSTRACT OF THE INVENTION (to be given along with complete specification on separate page)

Note: -

* Repeat boxes in case of more than one entry.
* To be signed by the applicant(s) or by authorized registered patent agent.
* Name of the applicant should be given in full, family name in the beginning.
* Complete address of the applicant should be given stating the postal index no. /code, state and country.
* Strike out the column which is/are not applicable

Source: http://www.ipindia.nic.in

2.1.9.4 Jurisdiction of Filing Patent Application - India has four offices for filing patent applications (Table 2.1). The applications can be filed only in one of the offices based on the applicant's residence or domicile or place of business or origin of the invention. These are termed as jurisdictions to file patents.

Table 2.1: Jurisdiction to file a patent in India.

Region	States	Address
Northern	Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand, Delhi and the Union Territory of Chandigarh, Jammu and Kashmir and Ladakh.	Intellectual Property Office Building Plot No. 32, Sector 14, Dwarka, New Delhi-110078 **Phone:** 011-28032491 **Fax:** 011-28034301 **Email:** delhi-patent@nic.in
Southern	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana and the Union Territories of Pondicherry and Lakshadweep	patent Office Intellectual Property Building G.S.T. Road, Guindy, Chennai-600032 **Phone:** 044-22505242 **Fax:** 044-22502066 **Email:** chennai-patent@nic.in
Western	Maharashtra, Gujarat, Madhya Pradesh, Goa and Chhattisgarh and the Union Territories of Daman and Diu & Dadra and Nagar Haveli	BoudhikSampada Bhawan, Antop Hill,S. M. Road, Mumbai - 400 037. **Phone:** 022- 24153651, 24148165 **Fax:** 022-24130387 **Email:** mumbai-patent@nic.in

Rest of India	Remaining States	Intellectual Property Office Building, CP-2 Sector V, Salt Lake City Kolkata-700091 **Phone:** 033-23679101, 033-23671987 **Fax:** 033-23671988 **Email:** kolkata-patent@nic.in

Source: http://www.ipindia.nic.in/jurisdiction-of-patent-offices.htm

For a foreign applicant, the address for service in India or place of business of his patent agent determines the appropriate Patent Office for filing a patent application. In the case of joint applications, all the applicants are bestowed with equal rights and consideration.

2.1.9.5. Publication **-** Once the patent application has been filed at the Regional Patent Office, the patent application is kept secret for 18 months in the Patent Office. After the expiry of 18 months (from the date of filing of the application or the priority claimed date, whichever is earlier), the application is published in the Official Journal of Patent Office (http://www.ipindia.nic.in/journal-patents.htm). The purpose of publishing the application is to inform the public about the invention. The publication of an application is a mandatory step.

2.1.9.6 Pre-grant Opposition - If anybody has an objection to the invention claimed in the patent application, he can challenge the application by approaching the Controller of Patents within 6 months from the date of publication. It is termed as Pre-grant Opposition. Depending on the outcome of the case, the patent application may be rejected or recommended for the next step, i.e. patent examination.

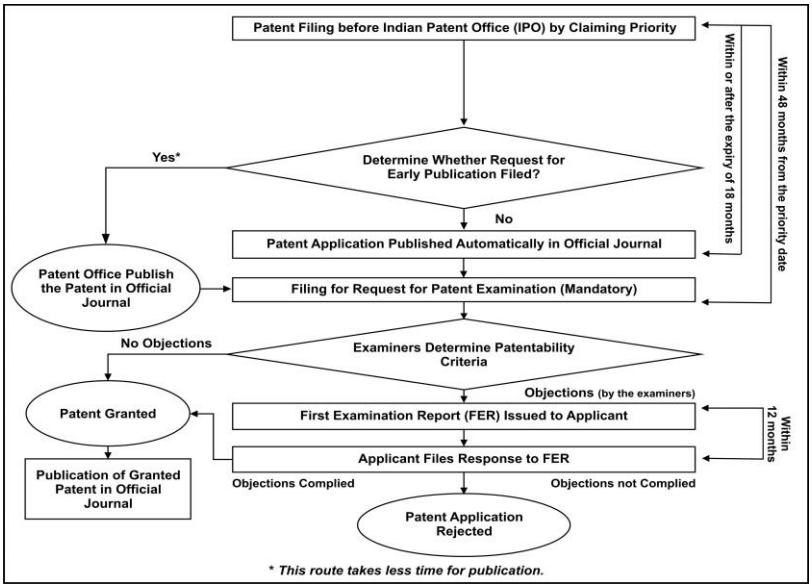
Although the patent application is kept secret for 18 months, but under special circumstances, this period can be reduced when the patentee/applicant plans to sell or license the patent or seek an investor). For this, the applicant has to fill a Form-9 and submit it to the Controller General.

Patentee: A person/ Organization who owns the patent (granted)

2.1.9.7 Examination **-** Patent examination is a critical step in the process of grant of a patent. All the important criteria (novel, inventive step, etc.) are scrutinized by the professionals depending on the content of the invention. Usually, the examiner raises certain queries/doubts which need to be addressed by the inventors. Once the examiner is satisfied with the answers received from the inventors, the application is recommended for the grant of a patent. It is pertinent to mention that a patent application is not examined automatically after clearing the publication stage. The applicant or his representative has to make a request for examination of the patent by filing Form-18A and submitting the same within 48 months from the date of filing of the application.

2.1.9.8. Grant of a Patent - After fulfilling all the requirements for the grant of a patent, including all objections/queries raised by the 'Patent Examiner' and the public at large, the patent is granted to the applicant. The granted patent is published in the Official Journal of the Patent Office. This journal is published every Friday and contains information related to patent applications published under section (u/s) 11A, post-grant publication, restoration of patent, notifications, list of non-working patents and public notices issued by the Patent Office.

Figure 2.4: Flowchart for the process of filing a patent application.



Source: https://www.invntree.com/ *(slightly modified)*

2.1.9.9. Validity of Patent Protection - The patent protection is granted to an applicant for a limited period, generally 20 years, starting from the date of filing of the application. Once a patent is granted for an invention in India, the next vital step is to ensure that it is renewed annually by paying Patent Renewal Fee as per Section 53, Rule 80 of the Indian Patents Act, till the expiry of the patent grant period. Non-payment of Patent Renewal Fee might result in the cancellation of the patent.

In some countries, patent protection may be extended beyond 20 years. The extension aims to compensate for the time expended on the administrative approval procedure before products can be put on the market. The time taken for this procedure means that the patent owner may sometimes not be able to benefit from his right for a considerable period after the grant of the patent.

2.1.9.10. Post-grant Opposition - Once the patent has been granted by the Patent Office, it still can be challenged by anyone within one year from the date of publication of the grant of the patent. The

granted patent can be challenged either via a Patent Office or in a Court of Law. These bodies may invalidate or revoke a patent upon a successful challenge by the interested party on the grounds mentioned below:

- The applicant for the patent wrongfully obtained the invention or any part of the invention.
- The invention claimed has been published before the priority date.
- The invention claimed was publicly known/used before the priority date.
- The invention claimed is obvious and does not involve an inventive step.
- The subject of the claim is not patentable as per Chapter II of the Patent Act, 1970.
- The details/specifications of the invention do not sufficiently and clearly describe the invention.

2.1.10. Commercialization of a Patent

The patent owner may grant permission to an individual/organization/industry to make, use, and sell his patented invention. This takes place according to agreed terms and conditions between the involving parties. A patent owner may grant a license to a third party for the reasons mentioned below:

- The patent owner has a decent job e.g. university professor and has no desire or aptitude to exploit the patent on his own.
- The patent owner may not have the necessary manufacturing facilities.
- The manufacturing facility is not able to meet the market demand.
- The patent owner wishes to concentrate on one geographic market; for other geographical markets, he may choose to license the patent rights.

Once the patent is granted, the patentee (person holding the rights to the patent) enjoys the exclusive rights to use the patented invention. Only the patentee has the right to licence or deal with the

patent for any deliberations. Although, the validity of the granted patent is for 20 years (from the date of filing a patent application), but the patentee is required to furnish information (Form-27), on an annual basis relating to the commercialization/selling of the patent. It is called as 'Working/Licensing of the Patent'.

The licensing of a patent can be exclusive or non-exclusive. In an **Exclusive Licence**, the patent is sold to only one individual/organization for a fixed time period. During this time period, no other person or entity can exploit the relevant IP except the named licensee. In **Non-Exclusive Licence**, a patentee can sell his patent rights to as many individuals/parties as he likes.

If the patentee is not able to commercialize his patent within three years from the date of the grant of a patent, any person may submit an application to the Controller of Patents for grant of **Compulsory Licensing** (of the patent), subject to the fulfilment of following conditions:

- Reasonable requirements of the public concerning the patented invention have not been satisfied.
- The patented invention is not available to the public at a reasonable price.
- The patented invention is not worked in the territory of India.

2.1.11. Need for a Patent Attorney/Agent

In general, applicants can prepare their patent applications and file them without assistance from a patent attorney. However, given the complexity of patent documents, it is advisable to seek legal assistance from a patent attorney/agent when drafting a patent application. Furthermore, the legislation of many countries requires that an applicant, whose ordinary residence or principal place of business is outside the country, be represented by an attorney or agent qualified in the country (which usually means an agent or attorney who resides and practices in that country).

2.1.12. Can a Worldwide Patent be Obtained

There is no such term as 'Universal Patent' or 'World Patent' or 'International Patent' as the patent rights are territorial. An application for a patent must be filed with a Patent Office of the

country in which one wishes to seek patent protection. Unfortunately, this option becomes laborious, cumbersome, time-consuming and expensive if one wishes to file a patent application in many countries. To ease out this issue, many Regional Offices have been established which receive patent applications on behalf of a group of nations e.g. European Patent Office and African Regional Intellectual Property Organization. A single application is sufficient to cover many nations that are members of a particular regional office/organization. However, if one wishes to seek patent protection in several countries worldwide, it is preferred to file an international patent under the Patent Cooperation Treaty (PCT). The only condition is that the applicant's country should be a member of PCT. India, along with over 190 nations, is a member of PCT.

2.1.13. Do I Need First to File a Patent in India

Yes, in general, Indian residents are required to file the patent application first in India. Subsequently, they may file for patent protection in other countries. But for this, prior approval is needed from the Patent Office. However, this approval can be waived off under the following circumstances:

- The applicant is not an Indian resident.
- If 6 weeks have expired since the patent application was filed in India by an Indian resident.
- If two or more inventors are working on an invention in a foreign country and one of the inventors is an Indian resident. The invention does not have a potential market in India and hence does not wish to file the patent in India. In such a scenario, the Indian resident has to seek Foreign Filing Permission **(**FFP) from an Indian Patent Office.
- In case of international collaboration, if one part of the invention originated in India and the inventor is an Indian resident, he has to seek permission to file the patent outside India.
- If the invention is related to defense or atomic energy or utility model, the inventor/s needs to seek permission from the Indian Patent Office because inventions related to these domains are not the subject matter of patentability in India.

2.1.14. Patent Related Forms

There are over 30 patent-related forms. Some of them are mentioned below.

Table 2.2: List of important patent application forms.

Form No.	Title of Form
1	Application for a grant of a patent
2	Provisional/Complete specifications
7	Notice of opposition on grant of a patent
7A	For filing a representation opposing grant of a patent
17	Application for compulsory license
18	Request for examination of the application for patent
21	Request for termination of compulsory license
22	Application for registration of patent agent
27	Statement regarding the working of the patented invention on a commercial scale in India
30	Miscellaneous form to be used when no other form is prescribed

Source: http://www.ipindia.nic.in/writereaddata/Portal/IPORule/1_70_1_The-Patents-Rules-2003-Updated-till-23-June-2017.pdf

2.1.15. Fee Structure

As per the patent Act, 1970 and The Patents Rules (1972), the requisite fee has been specified based on the type of form/s to be submitted to the Office (Table 2.3). Electronically filed applications are 10% cheaper than physical filing.

Table 2.3: Fee for obtaining a patent via electronic filing.

Item	Natural person/ startup (₹)	Small entity alone or with a natural person /startup (₹)	Others alone or with natural person/ startup/ small entity (₹)
Provisional/Complete Specifications	1,600	4,000	8,000
Request for Early Publication	2,500	6,250	12,500
Request for Examination	4,000	10,000	20,000
Express Request For Examination	5,600	14,000	28,000
Renewal Fees (Annually)			
3^{rd} to 6^{th} Year	800	2,000	4,000
6^{th} to 10^{th} Year	2,400	6,000	12,000
11^{th} to 15^{th} Year	4,800	12,000	24,000
16^{th} to 20^{th} year	8,000	20,000	40,000

Source: http://www.ipindia.nic.in/writereaddata/Portal/IPOFormUpload/ 1_11_1/ Fees.pdf

2.1.16. Types of Patent Applications

- **Provisional Application** - A patent application filed when the invention is not fully finalized and some part of the invention is still under experimentation. Such type of application helps to obtain the priority date for the invention.
- **Ordinary Application** - A patent application filed with complete specifications and claims but without claiming any priority date.
- **PCT Application** - An international application filed in accordance with PCT. A single application can be filed to seek patent protection and claim priority in all the member countries of PCT.

- **Divisional Application** - When an application claims more than one invention, the applicant on his own or to meet the official objection on the ground of plurality may divide the application and file two or more applications. This application divided out of the parent one is known as a Divisional Application. The priority date for all the divisional applications will be the same as that of the main (the Parent) Application (Ante-dating).
- **Patent of Addition Application** - When an invention is a slight modification of the earlier invention for which the patentee has already applied for or has obtained a patent, the applicant can go for 'Patent of Addition', if the modification in the invention is new. Benefit - There is no need to pay a separate renewal fee for the 'Patent of Addition', during the term of the main patent. It expires along with the main patent.
- **Convention Application** - If a patent application has been filed in the Indian Patent Office, and the applicant wishes to file the same invention in the one or more Convention countries (e.g. Paris Convention) by claiming the same priority date on which application was filed in India, such an application is known as Convention Application. The applicant has to file Convention Application within 12 months from the date of filing in India to claim the same priority date.

2.1.17. Commonly Used Terms in Patenting

There are certain terms that are commonly used in the field of patenting, as listed in table 2.4.

Table 2.4: Commonly used terms in the domain of patenting.

S. No.	Term	Definition
1.	Inventor	Creator of an invention
2.	Applicant	Organization/individual/industry that files a patent application or applies for a patent
3.	Patentee	A person/organization who owns the patent (granted)
4.	Licensee	Organization/individual/industry which obtains a license of the patent from the Patentee for commercialization purpose

5.	Assignee	A person in whose name patent has been assigned legally
6.	In force	The applicant is paying the annuity (renewal fee) for the patent to keep it alive (Active Patent)
7.	Working of a Patent	The selling of a patent to an individual/party for commercial exploitation is called as working of a patent
8.	Patent Specification	Patent specification is a written description of the invention and the way of representation and process of making and using the same
9.	Priority Right	A 'Priority Right' or 'Right of Priority' is a time-limited right, activated by the first filing of an application for a patent
10.	Priority Date	The claimed date on which the first application for the invention is filed
11.	Patent Claims	Claims can be defined as the scope of the protection conferred by a patent, or the protection sought in a patent application. The purpose of the claims is to define which subject matter is protected by the patent
12.	National Phase Application	An application filed to obtain patents in different countries simultaneously based on a single International/PCT application
13.	Patent Revocation	The revocation means cancellation of the patent due to certain reasons, such as lack of patentability or wrongfully obtaining a patent
14.	Restoration of Patent	Once a patent has been ceased (e.g. due to non-payment of the fee) it can be restored within a permitted period by paying the requisite fee

2.1.18. National Bodies Dealing with Patent Affairs

There are many departments/organizations/bodies dealing with various aspects of patents, namely, the Indian Patent Office (IPO), Department for Promotion for Industry and Internal Trade (DPIIT); Technology Information, Forecasting and Assessment Council (TIFAC) and National Research Development Corporation (NRDC). Above mentioned organizations are discussed in detail in chapter 5.

2.1.19. Utility Models

In many cases, a new invention involves an incremental improvement over the existing products, but this technical improvement is not sufficient enough to pass the stringent criterion of 'Novelty' and 'Non-obviousness' set aside for the grant of a patent. Such small innovations can still be legally protected in some countries and termed as **'Utility Models'** or **'Petty Patents'** or **'Innovation Patents'.** In this case, the criterion of 'Novelty' and 'Non-obviousness' are diluted or relinquished. But the requirement of industrial application or utility is the same as that for patents.

Utility Model is a helpful tool for Micro, Small and Medium Enterprises (MSME) since the grant of a 'Utility Model' is usually less rigorous and involves minimal cost. MSMEs do not have deep pockets to carry out intensive R&D leading to the grant of patents. But their innovations are good enough for improving their products/processes and bringing more financial rewards. Such inventions pass the requirements set aside for Utility Models but not for patents. The life of the Utility Model is less as compared to the patents. It varies from 7-15 years in different countries.

Nearly 80 countries, including France, Germany, Japan, South Korea, China, Finland, Russian Federation and Spain, provide protection for Utility Models under their IPR laws. India till date does not recognize utility patents. If these small patents are recognised under IP protection in India, it will catapult the number of patents (filed and granted) on annual basis.

2.1.20. Additional Information

- The patent system in India is governed by the Patents Act, 1970 (No.39 of 1970) as amended by the Patents (Amendment) Act,

2005 and the Patents Rules, 2003. The Patent Rules are regularly amended in accordance with the changing environment, the most recent being in 2020.

- **First patent filed in India -** On 3rd March 1856, a civil engineer and inventor named George Alfred DePenning of Calcutta, India, filed the first petition for grant of Exclusive Privileges (term used for patents at that time) under this Act for his invention called **'An Efficient Punkah-Pulling Machine'.** This patent was also first ever granted in India.
- As per the Budapest Treaty (1977), microorganisms, which are a part of the patent disclosure procedure, must be deposited with units of the **International Depositary Authority (IDA).**

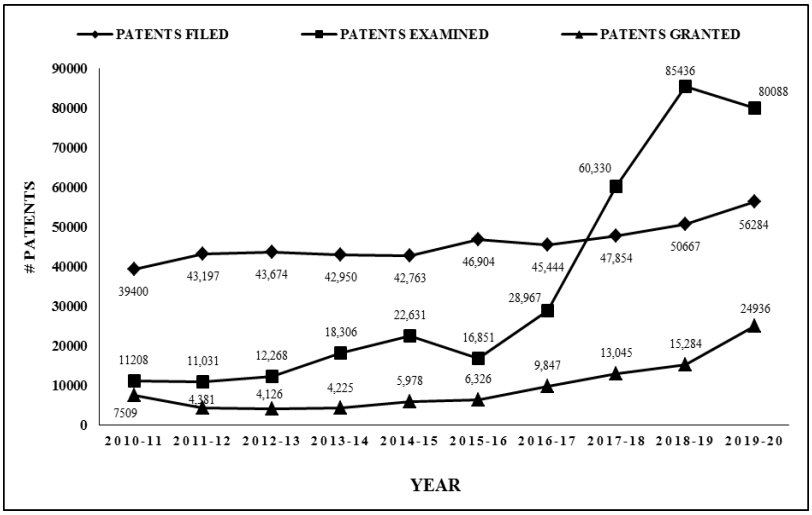
Patents that have changed the world:

- Patent number: US 223 898. Edison's electric bulb (1880).
- The telephone (US 174 465): The first telephone was invented and patented by Alexander Graham Bell in 1876. Bell went on to cofound the American Telephone & Telegraph Company (AT&T). Later, the company expanded to control all telecommunications and became the world's most significant industry.
- **Maximum number of patents (9700)** have been granted to a Japanese **Shunpei Yamazaki** in a span of 49 years (1972-December, 2020) at the rate of 196 patents per year.
- **Maximum number of Patents (1299)** granted to a person of **Indian origin** is **Gurtej Sandhu** in a span of 30 years (1991-December, 2020) at the rate of 43 patents per year.

Patent Status (India): The number of patent applications filed in India is considerably low *vis a vis* many countries. However, during 10 years period (2010-20) an increase of nearly 30% and 86% was observed in the number of patent applications filed and examined respectively (Fig. 2.5). In case of patents granted, data of first three years (2010-13) showed a dip in the numbers followed by a significant rise (nearly six folds) in the ensuing years (2013-20). It could be attributed to the increase in the number of patent applications processed as the government hired more patent

examiners. The number of patent examined rose to 80,088 in 2019-20 as compared to 11,208 in 2010-11.

Figure 2.5: Patents profile (India) for the period 2010-20.



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20) (https://dipp.gov.in/sites/default/files/annualReport-English2020-21.pdf)

2.2 Copyrights and Related Rights 

'Copyrights' refer to the legal rights provided by law to the original creator of the work in the fields of literature and computer software. The 'Related Rights' encompass the author's work in the fields of dramatics, sound recording, film/video recordings, paintings, architecture, etc. Copyrights and Related Rights are one of the categories of IP and governed by the Copyright Act, 1957 of India. This Act provides rights of reproduction, communication to the masses, adaptation and translation of the work.

The words 'author' and 'work' need to be understood from the perspective of Copyrights. The term **'author'** refers to an individual who develops the content (of work). The author can be a writer (literary work), computer programmer (software), composer (musical work), producer (cinema films, sound recording), photographer (photos). The term **'work'** is a task undertaken in the fields of literature, dramas, music, artistic, cinematograph film and sound recording.

2.2.1. Classes of Copyrights

In India, following classes of Copyrights exist:

- **Literature:** Books, Essays, Research articles, Oral speeches, Lectures, Compilations, Computer programme, Software, Databases.
- **Dramatics:** Screenplays, Dramas.
- **Sound Recordings:** Recording of sounds regardless of the medium on which such recording is made e.g. a Phonogram and a CD-ROM.
- **Artistic:** Drawing, Painting, Logo, Map, Chart, Photographs, Work of Architecture, Engravings, and Craftsmanship.
- **Musical:** Musical notations, excluding any words or any action intended to be sung, spoken or performed with the music. A musical work need not be written down to enjoy Copyright protection.
- **Cinematograph Films:** 'Cinematograph Film' is a visual recording performed by any medium, formed through a process

and includes a sound recording. For example, Motion Pictures, TV Programmes, Visual Recording, Sound Recording, etc.

2.2.2. Criteria for Copyright

To qualify for Copyright protection, a work must exist in some **physical (or tangible)** form. The duration of the existence of the physical form may vary from a very short period to many years. Virtually any form of expression which can be viewed or listened to is eligible to qualify as Copyright. Even hurriedly scribbled notes for an impromptu speech are considered copyrightable material.

The Copyright work has to be expressed by the creator in his frame of thought. In other words, the work has to be **original** i.e. the author created it from independent thinking void of duplication. This type of work is termed as an Original Work of Authorship (OWA). It may appear similar to already existing works but should not be the same. The original work may lack quality or quantity or aesthetic merit or all these parameters; still, it will pass the test of copyrightable work.

In addition to originality for the work, Copyright protection also requires at least some **creative effort** on the part of the author. There is no minimum limit for the extent of creativeness. It is a subjective matter. The minimal level of creativity needed for Copyright protection depends on the judgment of the evaluator (adjudicated by the Office of Registrar of Copyright). As an example, mere changing the dimensions of a book will not be granted Copyright protection. Similarly, an address book of alphabetically arranged telephone numbers does not qualify for Copyright protection as it involves a straightforward alphabetical listing of phone numbers rather than a creative selection of listings.

2.2.3. Ownership of Copyright

The Copyright laws clearly state the ownership of Copyright.

- The person who created the work is considered as the first (original) holder (owner) of the Copyright.
- In case the author is an employee and has been contracted to do the work by a proprietor (of the company/firm/society /organization, etc.), the owner of the Copyright shall be the proprietor.

- The government will be the primary owner of the government work in the absence of any kind of arrangement.
- The person delivering a speech is the first owner of the Copyright.

To obtain permission to use copyrighted material, a request for the same should be made to the legal owner (of the copyrighted material), which could be the original author, the legal heir (in case of the death of the author), publisher, etc. The request must mention the following:

- Title, author and/or editor, and edition.
- Precise material to be used.
- The number of copies.
- The purpose of the material e.g. educational, research, etc.
- Form of distribution e.g. hard copy to classroom, posted on the internet.
- Whether the material is to be sold e.g. as part of a course pack.

2.2.4. Copyrights of the Author

The Copyrights of the creator/author are legally protected under Section 14 of the Copyright Act, 1957. The content (i.e. work) created by the author cannot be used or published by anyone without the author's consent. Copyrights provide exclusive rights to the author in the areas of publication, distribution, and usage. A Copyright owner enjoys two types of rights i.e. **Economic Rights** (or Proprietary Rights) and **Moral Rights** (or Personal Rights).

Economic Rights are associated with financial benefits accruing from the sale of copyrights. As per the Act, Copyright owners can authorize or prohibit:

- Reproduction of the work in any form, including printed publications or sound recordings.
- Distribution of copies of the work.
- Public performance of the work.
- Broadcasting/communicating the work to the public.

- Translating the work into other languages.
- Adaptation of the work, such as converting a novel into a screenplay.

Moral Rights include 'Right of Paternity' and 'Right of Integrity'. The 'Right of Paternity' - even if the Copyright has been licensed to another party, the original author of the work retains the right to claim authorship i.e. the name of the author/s will remain even though Copyrights have been transferred to another party e.g. a book publisher. The 'Right of Integrity'- the original author has the right to prevent misuse of the work e.g. alterations/additions/ deletions in work resulting in misrepresentation of the said work or harming the honor and reputation of the author.

It is pertinent to mention that for a work, there can be more than one rights holders, for instance, a musical sound recording has many rights holders, such as the lyricist, music composer, singer, musicians and sound recorders.

2.2.5. Copyright Infringements

As per the Copyrights Acts, 1957, the following acts are regarded as an infringement of Copyrights:

- Making copies for sale or hire or selling or letting them for hire without permission.
- Permitting any place for the performance of owned work (in public) where such performance constitutes an infringement of Copyright.
- Distributing infringing copies for trade or to such an extent to affect the interest of the owner of the Copyright prejudicially.
- Public exhibition of infringing copies for trade purposes.
- Importation of infringing copies.
- Translating a work without the permission of the owner.

2.2.6. Liability of Owner of an Auditorium/Hall

The owner of an auditorium/hall is liable for punishment if he knowingly allows his premises to be used for communication of illegal copyright material (songs, music, dramas, etc.) to the public.

If a person permits for profit any place to be used for communicating the work to the public, where such communication establishes an infringement of the Copyright unless he was not aware of and had no reasonable ground for believing that such communication to the public would be an infringement of Copyright, he will be deemed to have committed an offence under the Copyright Act.

2.2.7. Copyright Infringement is a Criminal Offence

According to Section 63 of the Copyright Act, 1957, if any person knowingly infringes the Copyright, he qualifies for the criminal offence. The punishment awarded for the infringement (of Copyright) is imprisonment for six months with the minimum fine of ₹ 50,000/-. In case of a second and subsequent conviction, the minimum punishment is imprisonment for one year and a fine of ₹ 1,00,000. There is a dedicated IP division to deal with Copyright cases. Also, there is a Copyright Board constituted by the Central Government in 1958 to adjudicate certain claims about Copyright.

2.2.8. Copyright Infringement is a Cognizable Offence

A police officer (rank of a sub-inspector or higher) can confiscate the infringed Copyright material without issuing a warrant and produce the same in the court of law.

2.2.9. Fair Use Doctrine

Any person not possessing a valid license from the owner of the Copyright is not entitled to exploit the said work. However, Section 52 of the Copyright Act, 1957, provides for certain exceptions to the infringement of Copyright. As per the rule of law, Copyrighted materials cannot be used by anybody without the proper consent of the legal owners (of the Copyright).

However, limited use of Copyrighted materials for teaching and research purposes is legally permitted, under 'The Fair Use Doctrine', which comprises of the four-part test:

- **The character of the use -** use of the work is purely educational, non-profit and personal.
- **Nature of the work -** The use of work is factual in nature and not imaginative.

- **Amount of the portion to be used** - permission is not needed if only a small portion of Copyright protected material is to be used. However, this parameter is debatable now.
- **Impact of use on the value of the Copyrighted material** - If a small portion of the work is copied and is not affecting the author's economic and moral rights, it will be excused from the infringement.

Detailed information on the examples of the Fair Use Doctrine can be accessed from the official website (http://copyright.gov.in/exceptions.aspx). A few examples are listed below:

- If the Copyrighted work is used for personal use i.e. studies or research.
- Quotation mentioned in the Copyrighted work.
- Reporting of current events in the media, such as newspapers, magazines or radios/television.
- Reproduction of the work by teachers or scientific researchers.
- Performance is free of charge by government officials in the performance of their duties e.g. reproduction of any work for a judicial proceeding or a report of a judicial proceeding.
- Use of any work prepared by the Secretariat of a Legislature.
- Use of the work in a certified copy made or supplied in accordance with any law for the time being in force.
- Making three or less than three copies of a book (including a pamphlet, sheet of music, map, chart or plan).
- *Bonafide* religious ceremony, including a marriage function.

2.2.10. Copyrights and Internet

The twenty-first century is an era of digitization. The Copyrighted data is quickly transmitted via the internet. This method of data transmission has brought amendments to the existing Copyright laws. One should be careful of Copyright/fair use principles when downloading material from the internet. There is growing concern about the ability to pull Copyrighted material from the internet without permission. Note that material may have been placed on the internet without the author's permission.

In general, posting material on the internet by the Copyright owner gives an internet user the right to use that material for his personal use, but he cannot use the work for commercial purposes. Electronic distribution of a Copyrighted work should mention the statement that "*This work is protected by Copyright laws and is provided for educational instruction only. Any infringing use may be subject to disciplinary action and/or civil or criminal liability as provided by law".*

As per Section 2(o) of the Copyright Act, 1957, 'Literary Work' includes computer programmes, tables and compilations, including computer databases. It is mandatory to supply 'Source Code' and 'Object Code' along with the application for registration of Copyright.

2.2.11. Non-Copyright Work

The works not under the jurisdiction of Copyrights are as follows:

- The ideas, concepts, and principles themselves cannot be protected under Copyright, only the form in which they are expressed can be copyrighted.
- Facts, such as scientific or historical discoveries, are not copyright protected. Any fact a person discovers in the course of research cannot be Copyright protected. For example, an author of a book on 'Buddhism' takes ten-fifteen years to gather all the necessary materials and information for his work. At a great expense, the author travels to various museums, libraries and excavations sites. However, after the book is published, anyone is free to use the underlying facts, provided they express the information on their own.
- Copyright does not protect titles, names, slogans, short phrases, short word combinations, methods, or factual information.
- Certificates are not considered as Copyrightable subject matter as there is not much scope for creativity.
- Digitally created works and Copyrighted works transformed into a digital format and placed on the internet are Copyright protected.
- The Copyright registration for a website, as a whole, is not possible. However, different components/rudiments of a website

can be granted Copyright registration e.g. computer programmes/software, compilations including computer databases (‘literary works’); photographs, paintings, diagram, map, chart or plan (‘artistic works’); and works consisting of music including graphical notation of such work (‘musical works’). However, a separate application for each component of work has to be filed for seeking Copyright registration.

- A computer or mobile App qualifies for Copyright registration. An Application is a complete, self-contained computer program that is designed to perform a specific task. An App usually has dynamic content and is designed for user interaction. It may be used directly or indirectly in a computer or handheld electronic device.
- If someone swipes your picture/song/video from the internet and uses it for their purposes, it is a Copyright infringement. By the way - the same is true if *you* nick some else’s material for your purposes.

2.2.12. Copyright Registration

It is not necessary to register a work to claim Copyright. Once a work is created via any medium, the work receives automatic Copyright safety. In other words, there is no formal request to be submitted to the office of the Copyright, for acquiring Copyright. Copyright registration does not confer any rights. It is merely a *prima facie* proof of an entry in respect of the work in the Copyright register maintained by the Registrar of Copyrights. The certificate of registration serves as *prima facie* evidence in a court in cases of disputes relating to ownership or creation of Copyright, financial matters, transfer of rights, etc. It is advisable that the author of the work registers for Copyright for better legal protection. In India, Copyrights matters, including Copyright registration, are administered under the Copyright Act, 1957 and Copyrights Rule, 2013. Below mentioned are prominent forms for copyright registration (https://copyright.gov.in/).

FORM – XIV

Application for Registration of Copyright

To

The Registrar of Copyrights,
Copyright Office,
BoudhikSampada Bhawan, Plot No. 32,
Sector 14, Dwarka, New Delhi-110078
Phone: 011-28032496

Sir,

In accordance with section 45 of the Copyright Act, 1957 (14 of 1957), I hereby apply for registration of Copyright and request that entries may be made in the Register of Copyrights as in the enclosed statement of Particulars' sent herewith.
I also send herewith duly completed the statement of further particulars relating to the work.
In accordance with rule 70 of the Copyright Rules, 2012, I have sent by pre-paid registered post copies of this letter and of the enclosed statement(s) to the other parties concerned, as shown below:

Names and addresses of the parties	Date of Dispatch
1	2

The prescribed fee has been paid, as per details below:
Communications on this subject may be addressed to:
I hereby declare that to the best of my knowledge and belief, no person, other than to whom a notice has been sent as per paragraph 2 above has any claim or interest or dispute to my Copyright of this work or to its use by me.
I hereby verify that the particulars given in this Form and the Statement of Particulars and
Statement of Further Particulars are true to the best of my knowledge, belief and information and nothing has been concealed therefrom.
List of enclosures:

Yours faithfully

(Signature of the Applicant)
Place: …….
Date: ……

Source: https://copyright.gov.in/frmDownloadPage.aspx

STATEMENT OF PARTICULARS

S.No.	Attributes	Details
1.	Registration number (*To be filled in the Copyright Office*)	
2.	Name, phone, email, address and nationality of the applicant	
3.	Nature of the applicant's interest in the Copyright of the work	
4.	Class and description of the work	
5.	Title of the work	
6.	Language of the work	
7.	Name, address and nationality of the author and, if the author is deceased, the date of his decease	
8.	Whether work is published or unpublished	
9.	Year and country of first publication and name, address and nationality of the publishers	
10.	Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publisher	
11.	Names, address and nationalities of the owners of the various rights comprising the Copyright in the work and the extent of rights held by each, together with particulars of assignment and licenses, if any	
12.	Names, addresses and nationalities of other persons, if any, authorized to assign or license the rights comprising the Copyright	
13.	If the work is an "artistic work", the location of the original work, including name, address and nationality of the person in possession of the work. (In the case of an architectural work, the year of completion of the work should also be shown)	
14.	If the work is an 'artistic work' which is used or is capable of being used in relation to any goods or services, the application shall include a certificate from the Registrar of Trade Marks in terms of the proviso to sub-section (1) of section 45 of the Copyright Act, 1957.]	

15.	If the work is an "artistic work" whether it is registered under the Designs Act 2000. If yes give details.	
16.	If the work is an "artistic work" capable of being registered as a design under the Designs Act 2000, whether it has been applied to an article though an industrial process and , if yes, the number of times it is reproduced.	
17.	Remarks, if any	
Place:(Signature of the Applicant) Date:		

Source: https://copyright.gov.in/frmDownloadPage.aspx

STATEMENT OF FURTHER PARTICULARS

(For Literary, including Software, Dramatic, Musical and Artistic Works only)

S.No.	Attributes	Details
1.	Is the work to be registered	
	a) An original work?	
	b) Translation of a work in the public domain?	
	c) A translation of a work in which Copyright subsists?	
	d) An adaptation of a work in the public domain?	
	e) An adaptation of a work in which Copyright subsists?	
2.	If the work is a translation or adaptation of a work in which Copyright subsists:	
	a) Title of the original work.	
	b) Language of the original work.	
	c) Name, address and nationality of the author of the original work and, if the author is deceased, the date of his decease.	
	d) Name, address and nationality of the publisher, if any, of the original work.	
	e) Particulars of the authorization for a translation or adaptation including the name, address and nationality of the party authorizing.	
3.	Remarks, if any.	
Place: (Signature of the Applicant) Date:		

Source: https://copyright.gov.in/frmDownloadPage.aspx

2.2.13. Judicial Powers of the Registrar of Copyrights

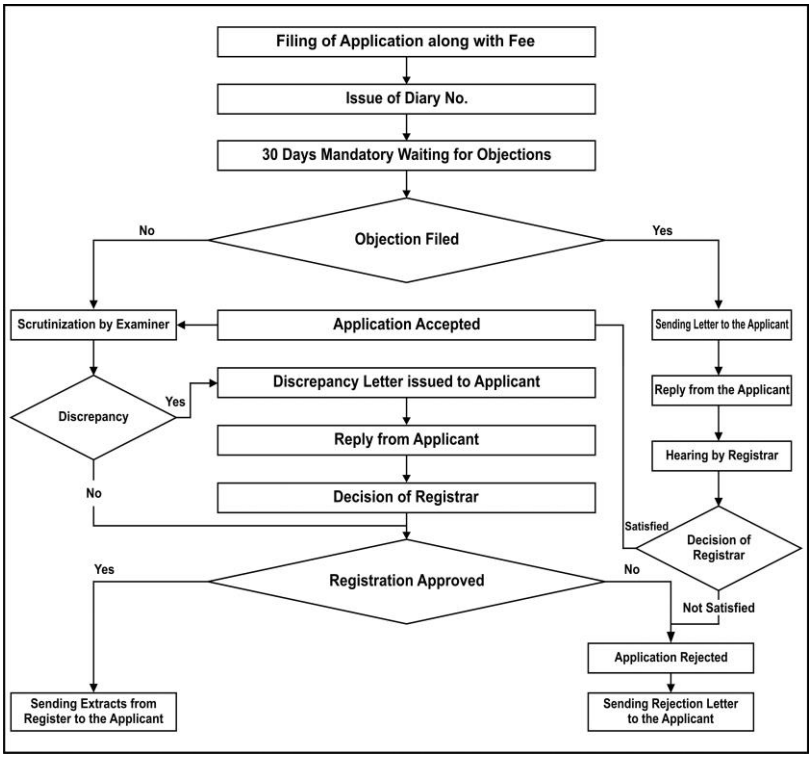
The Registrar of Copyrights has the powers of a civil court when trying a suit under the Code of Civil Procedure in respect of the following matters:

- Summoning and enforcing the attendance of any person and examining him on oath.
- Requiring the discovery and production of any document.
- Receiving evidence on affidavit.
- Issuing commissions for the examination of witnesses or documents.
- Requisitioning any public record or copy thereof from any court or office.
- Any other matters which may be prescribed.

A duly filled application (Form XIV) is submitted to the Copyright Office at the following address: The Registrar of Copyright, Plot no. 32, Boudhik Sampada Bhawan, Sector 14, Dwarka, New Delhi - 110075. The application can be submitted by post or online registration through the 'E-filing facility' (www.copyright.gov.in). Any person who is either an author of the work or assignee of the concerned work can file an application for Copyright.

Usually, it takes around 2-3 months to get the work registered by the Copyright Office. After applying, there is a mandatory waiting period of 30 days. If any person has any objection to the claim/s made in the application, he can contact the office of the Registrar of Copyrights. After giving an opportunity of hearing to both the parties, the Registrar may decide the case in favour or against the author of the work. Once the objections (if any) are cleared, the application is evaluated by the examiners. If any doubts/queries are raised, the applicant is given ample time (around 45 days) to clear these objections. The elements included in Copyright filing to grant are depicted below in the flow chart:

Figure 2.6: Flow chart for the process of Copyright registration.



Source: https://copyright.gov.in/frmWorkFlow.aspx *(slightly modified)*

Table 2.5: Important forms pertaining to Copyrights.

S. No.	Name of Form	Form No.
1.	Application form for registration of Copyright	Form-XIV
2.	Application form for registration of changes in particulars of Copyright	Form-XV
3.	Registration of a Copyright Society	Form-VIII
4.	Application form for the relinquishment of Copyright	Form-I

Source: http://Copyright.gov.in/frmformsDownload.aspx

2.2.14. Fee Structure

For each work, a separate application form needs to be submitted, along with the requisite fee. The fee is not reimbursable in case the application for registration is rejected.

Table 2.6: Fee structure for Copyrights.

Attribute	Fee (₹)
For an application for registration or Copyright Literary, Dramatic, Musical or Artistic work	500/- per work
For an application for registration of Copyright in a Cinematograph Film	5,000/-
For an application for registration of Copyright in a Sound Recording	2,000/-
Provided that in respect of a Literary or Artistic work which is used or is capable of being used in relation to any goods or services	2,000/-
Making any change in Literary, Dramatic, Musical or Artistic work	200/-
Provided that in respect of a Literary or Artistic work which is used or is capable of being used in relation to any goods or services	1,000/-

For an application for registration of change in particulars of Copyright entered in the Register of Copyrights in respect of Cinematograph Film	2,000/-
For an application for registration of changes in particulars of Copyright entered in the Register of Copyrights in respect of Sound Recording	1,000/-
For an application for prevention of importation of infringing copies per place of entry	1,200/-

Source: http://Copyright.gov.in/frmFeeDetailsShow.aspx

2.2.15. Copyright Symbol

It is not necessary to place the Copyright symbol © with your name and 'year created' near your published or printed materials - but if you do, it's easier to nail someone for infringement on your Copyright if you go to court. The important things which may be mentioned as a Copyright mark on Copyright creation are:

- The Copyright symbol © (the letter C in a circle), or the word. 'Copyright', or the abbreviation 'Copr.'
- In the case of compilations or derivative works incorporating previously published material, the year with the date of the first publication of the compilation or derivative work should be mentioned. The year date may be omitted for pictorial, graphic, sculptural work, greeting cards, postcards, stationery, jewellery, dolls and toys.
- The name or the abbreviation by which the name can be recognized of the owner of the Copyright, or a generally known alternative designation of the owner can be mentioned.
- The elements for sound recordings generally require the same three elements, except the symbol is ℗ (the letter P in a circle) instead.

2.2.16. Validity of Copyright

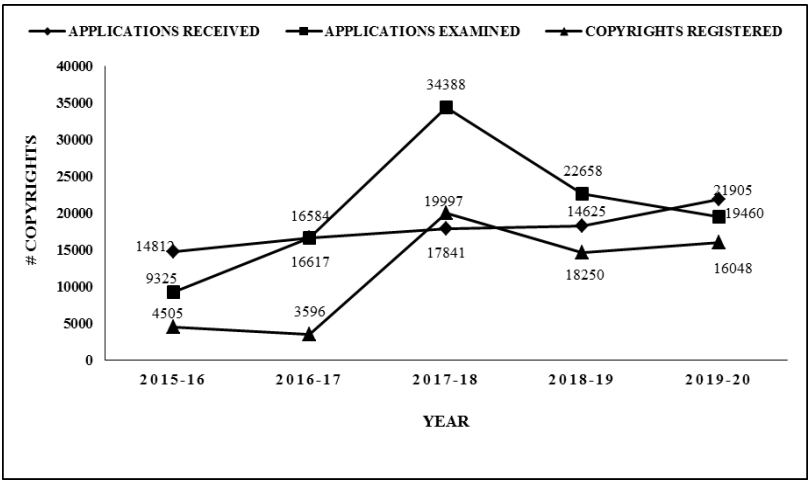
In general, the validity of Copyright is for 60 years. This period starts either from the year after the death of the author (in case of

literature, dramatic, musical and artistic works) or from the date of publication of the work (in case of cinematograph films, sound recordings, photographs, posthumous publications, works of government and works of international organisations).

2.2.17. Copyright Profile of India

A comparative five years (2015-20) study revealed a gradual increase in the number Copyright applications in the first four years of the study, with a maximum number of applications (21,905) recorded in the 2019-20 period (Fig. 2.7). The number of applications examined was maximum (34,388) in 2017-18. However, it tapered down to 22,658 in 2018-19 and 19,460 in 2019-20. A similar trend was observed in the number of Copyright registrations, with a peak (19,997) observed in 2017-18.

Figure 2.7: Copyrights profile (India) for the period 2015-20.



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20) (https://dipp.gov.in/sites/default/files/annualReport-English2020-21.pdf)

2.2.18. Copyright and the word 'Publish'

A work is considered published when it is in the public domain on an unrestricted basis. For example, a person writes an article called 'Life in Himalayas' and distributes it to a few individuals and/or societies/organizations with a restriction *not to disclose* the contents of the article. 'Life in Himalayas' has not been "published"

in the Copyright sense. If the author removes the condition of non-disclosure or posts of this article on the internet (i.e. public domain), it would be considered as published. It is to be noted that both published and unpublished works can be registered under Copyright.

2.2.19. Transfer of Copyrights to a Publisher

The original authors of the Copyrighted work may not have the wherewithal to widely publicise their work. Usually, they transfer their rights to publishers for financial benefits, which could be a one-time lump sum amount or royalties or a combination of the two. However, transferring Copyrights unconditionally to the publishers (or anybody else) may have some repercussions for the owner of the Copyright. A publisher may prevent author/s from displaying their articles on the institute's websites. The new owner of Copyright may not even allow the author to revise his work. In other instances, a publisher might print an insufficient number of hard copies and also does not show interest in uploading the soft copy of the work on the internet. Hence, one must be careful in signing an agreement with the publishers. The author may not transfer all the legal rights bestowed upon him as an author. An agreement may be signed permitting only the print and sale of hard copies by the publishers while retaining digital rights for the said work. An author may also put a time limit for the printing and sale of the books/articles, etc.

Before the digital era, authors used to rely completely on publishers for the dissemination of their work. However, in the internet era, the dependency on publishers has almost diminished. The author is in a position to bypass the publishers and bring his work in to the public domain. But this freedom cannot be enjoyed by those who are already under the publishing contract.

Even though the author has completely and exclusively licensed out his work, the Copyright Act has a provision under **'termination of transfer'** to reclaim his Copyright. Under this provision, certain Copyright agreements can be terminated after 35 years of the agreement. This statutory termination right applies even though it is not incorporated in the agreement. It is strongly advised that authors must apply their mind while signing the Copyright agreement.

2.2.20. Copyrights and the Word 'Adaptation'

In the world of Copyright, the word 'Adaptation' signifies the creation of a similar work based upon contemporary work. The Copyright Act defines the following actions as adaptations:

a) Transformation of a dramatic work into a non-dramatic work.

b) Changing a literary or artistic work into a drama.

c) Re-arrangement of a literary or dramatic work.

d) Depiction through pictures of a literary or dramatic work.

e) The making of a cinematograph film of a literary or dramatic or musical work.

2.2.21. Copyrights and the Word 'Indian Work'

'Indian work' means a literary, dramatic or musical work provided

- The author of the work is an Indian citizen.
- The work is first published in India.
- In the case of an unpublished work, at the time of the making of the work, the author of the work was a citizen of India.

2.2.22. Joint Authorship

'Work of Joint Authorship' means a work produced by the collaboration of two or more authors in which the contribution of one author is not distinct from the contribution of the other author or authors.

2.2.23. Copyright Society

Many a time, authors and other owners of Copyrights are either unable or lose track of all the uses of their work, including the collection of royalties, infringement issues, etc. To overcome these hurdles, Copyright Societies have cropped up. As per Section 33 of the Copyright Act, 1957, a Copyright Society is a registered collective administration society formed by authors and other owners of the Copyright. Society can perform the following functions:

- Keep track of all the rights and infringements related to their clients.

- Issue licences in respect of the rights administered by the society.
- Collect fees in pursuance of such licences.
- Distribute such fees among owners of Copyright after making deductions for the administrative expenses.

A Copyright Society can be formed by a group of seven or more copyright holders. The term of registration of a Copyright Society is for five years. The registered Copyright Societies in India are:

- Society for Copyright Regulation of Indian Producers for Film and Television (SCRIPT) 135 Continental Building, Dr. A.B. Road, Worli, Mumbai 400 018, (for cinematograph and television films).
- The Indian Performing Right Society Limited (IPRSL), 208, Golden Chambers, 2nd Floor, New Andheri Link Road, Andheri (W), Mumbai- 400 058 (for musical works).
- Phonographic Performance Limited (PPL) Flame Proof Equipment Building, B.39, Off New Link Road, Andheri (West), Mumbai 400 053 (for sound recordings).

2.2.24. Copyright Board

The Copyright Board is a regulatory body constituted by the government, to perform judicial functions as per the Copyright Act of India. The Board comprises of a Chairman and members (2-14) to arbitrate on Copyright cases. The Chairman of the Board is of the level of a judge of a High Court. As per the Act, the Board has the power to:

- Hear appeals against the orders of the Registrar of Copyrights.
- Hear applications for rectification of entries in the Register of Copyrights.
- Adjudicate upon disputes on the assignment of Copyrights.
- Grant compulsory licences to publish or republish works (in certain circumstances).
- Grant compulsory licence to produce and publish a translation of a literary or dramatic work in any language after seven years from the first publication of the work.

- Hear and decide disputes as to whether a work has been published or about the date of publication or the term of Copyright of a work in another country.
- Fix rates of royalties in respect of sound recordings under the cover-version provision.
- Fix the resale share right in original copies of a painting, a sculpture or a drawing and original manuscripts of a literary or dramatic or musical work.

2.2.25. Copyright Enforcement Advisory Council (CEAC)

In 1991, the Government set up a CEAC to review the progress of enforcement of the Copyright Act periodically and advise the Government regarding measures for improving the enforcement of the Act. The term of the CEAC is three years. The CEAC is reconstituted periodically after the expiry of the term.

2.2.26. International Copyright Agreements, Conventions and Treaties

Any creative work is not protected and enforced automatically worldwide because Copyright laws are territorial by nature i.e. Laws are valid only in the country in which they have been created. To secure protection to Indian works in foreign countries, the author needs to apply separately to each country or through dedicated international 'Conventions on Copyright and Neighbouring (related) Rights', provided a country is a member of such Conventions. India is a member of the following Conventions:

- Berne Convention for the Protection of Literary and Artistic Works, 1886. (https://www.wipo.int/treaties/en/ip/berne/).
- Universal Copyright Convention, 1952. (http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/copyright/universal-copyright-convention/).
- Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, 1961. (https://www.wipo.int/treaties/en/ip/rome/).
- Multilateral Convention for the Avoidance of Double Taxation of Copyright Royalties, 1979. (https://treaties.un.org/doc/Treaties/1979/12/19791213%2009-

00%20AM/Ch_XXVIII_01_ap.pdf).

- Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, 1995. (https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm).

In India, Copyrights of foreign authors, whose countries are members of the Berne Convention for the Protection of Literary and Artistic Works (1888), Universal Copyright Convention (1952) and the TRIPS Agreement (1995) are protected through the International Copyright Order.

2.2.27. Interesting Copyrights Cases

***David* vs. *Macaques, Indonesia, 2011* -** In 2011, a UK-based photographer David Slater put his camera on a tripod in the wildlife sanctuary to click the photograph of Macaques monkeys. The Macaques were very curious about the equipment and they found the flashlight fascinating. One monkey clicked a selfie photograph which became very famous and legally controversial on the matter of Copyright. Theoretically, the monkey is the holder of Copyright as he clicked the photo. Practically, David Slater was the claimant of the Copyright. The dispute entered judicial quarters between People for the Ethical Treatment of Animals (PETA) and David Slater. Now, the settlement has been concluded. The photographer i.e. David Slater withholds the Copyright of the picture for having a substantial contribution, but he would pay 25% of the royalty share to the wildlife sanctuary where the monkey lives (https://www. wipo.int/ wipo_magazine/en/2018/01/article_0007.html).

***'Happy birthday to you' case law* -** According to the Guinness World Records, 1998, it is the most recognized song in the English language. The melody of 'Happy Birthday to You' originates from the song 'Good Morning to All', which has traditionally been attributed to American Sisters, namely Patty Smith Hill and Mildred J. Hill, in 1893. The sisters composed the melody of 'Good Morning to All' to make it more interesting for the children. In 1935, Summy Company registered the Copyright on the Piano Setting on the Song. In 1999 Warner/Chappell acquired the company and started taking royalty for the happy birthday song and earned a huge amount. After mediation by the Federal court, Warner Music, through its publishing subsidiary Warner/Chappell, agreed to pay the settlement

to a class of 'thousands of people and entities' who had paid licensing fees to use the song since 1949 because only the melody was registered and not the lyrics. Now the song is in the public domain.

Amitabh Bachchan to lose Copyrights over his father's works in 2063 - Father of renowned actor Mr. Amitabh Bachchan, (late) Shree Harivansh Rai Bachchan was a noted poet and Hindi writer. His most famous work was *Madhushaala* (1935). He was the recipient of the Sahitya Akademi award and the Padma Bhushan. He also did Hindi translations of Shakespeare's *Macbeth* and *Othello*. He passed away on 18th January 2003, at the age of 95. As per the Copyright Act, 1957, the rights over his work will be completed in the year 2063 (rights remain with the author for his lifetime plus 60 years).

2.3 Trademark 

In simple language, a Trademark (or Trade Mark) is a unique symbol which is capable of identifying as well as differentiating products or services of one organization from those of others. The word 'Mark' stands for a sign, design, phrase, slogan, symbol, name, numeral, devise, or a combination of these. Essentially, the Trademark is anything that identifies a brand to a common consumer.

2.3.1. Eligibility Criteria

For goods/services to be legally classified as Trademark, they need to pass the following conditions:

- **Distinctiveness** - The goods and services for which the protection is sought should possess enough uniqueness to identify it as a Trademark. It must be capable of identifying the source of goods or services in the target market.
- **Descriptiveness** - The Trademark should not be describing the description of the concerned goods or services. Descriptive marks are unlikely to be protected under Trademark law. However, descriptive words may be registered if they acquire "secondary meaning", such as the brand name 'Apple' is used by a USA based multinational company that manufactures electronic gadgets.
- **Similarity to the prior marks** - The mark should be unique and should not be having similarity to the existing marks.

2.3.2. Who Can Apply for a Trademark

Any person who is a proprietor of the Trademark is eligible to apply for registration of Trademark. The mark can be filed collectively by two or more applicants and for that purpose, support documents need to be submitted. An organization or association can file for the collective mark and the same can be used by its members. The most appropriate example for this mark is the 'Reliance' symbol, which indicates all products falling under the organization.

2.3.3. Acts and Laws

In India, Trademarks are governed under The Trademarks Act, 1999 (http://www.ipindia.nic.in/writereaddata/Portal/IPOAct/1_43_1_trade-marks-act.pdf).The Trademark rules are governed by Trademarks Rules, 2002, (http://www.ipindia.nic.in/writeread data/Portal/IPO Rule/1_56_1_1_59_1_tmr_rules_2002_1_.pdf**).** The Acts and Rules have been amended from time to time. The latest amendments were done in 2010 and 2017 for Trademarks Acts and Trademarks, respectively.The administration of matters pertaining to Trademarks is carried out by the Office of CGDPDTM, GoI.

2.3.4. Designation of Trademark Symbols

Represents that the Trademark is unregistered. This mark can be used for promoting the goods of the company.

Represents that the Trademark is unregistered. This mark can be used for promoting brand services.

Represents a registered Trademark/Service. The applicant of the registered Trademark is its legal owner.

2.3.5. Classification of Trademarks

Goods and Services under Trademarks are classified as per the 'Nice Agreement' (1957) administered by WIPO. A total of 149 countries (84 state parties who are signatory to the Agreement and 65 additional states who are following this classification for the Trademarks) and others (African Intellectual Property Organization, African Regional IP Organization and Trademark Office of European Union) are using the same Trademark classification.

Trademark classification comprises of 45 classes, out of which 34 are for goods and 11 are for services. (http://euipo.europa.eu/ec2/static/html/nice-general-remarks-en.html;jsessionid=8FBC790A663FAC9092ACCDD9ED1AC65E.ec2t1). Two examples of the classes are:

Class 1 is for Chemicals for use in industry, science and photography, agriculture, horticulture and forestry; Unprocessed artificial resins, unprocessed plastics; Fire extinguishing and fire prevention compositions; Tempering and soldering preparations; Substances for tanning animal skins and hides; Adhesives for use in industry; Putties and other paste fillers; Compost, manures,

fertilizers; Biological preparations for use in industry and science.

Class 45 is for legal services; Security services for the physical protection of tangible property and individuals; Personal and social services rendered by others to meet the individuals' needs.

The Vienna codification established under the Vienna Agreement (1973) is an international classification of the figurative elements of marks. The relevant Vienna code class can be searched on the link: https://www.wipo.int/classifications/ nivilo/ vienna/index.htm?lang=EN#. The classification is used to divide all figurative elements into categories (from 1 to 29), divisions (from 1 to 19) and sections (from 1 to 30). For example, the representation of "a little girl eating" belongs to Category 2 (Human beings), Division 5 (Children), Main Section 3 (Girls). If auxiliary sections are used, the figurative element can be identified additionally with the Auxiliary Section 18 (Children drinking or eating, Code A 2.5.18). The codification of this example will be then indicated as 2.5.3, 18 (main and auxiliary sections).

2.3.6. Registration of a Trademark is Not Compulsory

Although, registration of a Trademark is not compulsory, registration provides certain advantages to the proprietor of the Trademark, such as:

- **Legal Protection** – prevents the exploitation of the Registering Trademark by other companies/organizations/individuals, without proper authorization by the legal owner/s of the Trademark. In case of legal suits, a registered Trademark can serve as a potent evidence of the lawful proprietorship of the Trademark.
- **Exclusive Right** - grants the Trademark owner full rights to use it in any lawful manner to promote his business.
- **Brand Recognition** - products/ services are identified by their logo, which helps create brand value over time. A strong brand is a huge pull for new customers and an anchor for existing customers. Registering a Trademark early and using it will create goodwill and generate more business for the brand owner.
- **Asset Creation** - registered Trademark is an intangible property of the organization. It can be used for enhancing the business of

the company as well as drawing new clients and retaining old one by the account of brand identification.

To find out more about Registered Trademarks in India, one may look at http://www.ipindia.nic.in/writereaddata/Portal/ Images/ pdf/well-known-trademarks-updated-newone.pdf.

It is pertinent to mention that no legal course of action can be taken against the unlawful use of an unregistered Trademark. For unregistered marks (sometimes known as 'Common Law Trademarks', which are defined as the law rights which generally do not require formal registration for enforcement) action can be brought against any person for the passing off goods or services as the goods or services provided by another person. In such cases, the unregistered Trademarks have to prove the establishment of goodwill or reputation connected with the goods or service.

2.3.7. Validity of Trademark

In India, a registered Trademark is valid for 10 years. The period can be extended every 10 years, perpetually. As per the Indian Trademarks Act, the renewal request is to be filed in the form 'TM-R' within one year before the expiry of the last registration of the mark.

2.3.8. Types of Trademark Registered in India

Trademark can be a word that must be able to speak, spell and remember. It is highly recommended that one should choose the Trademark like invented word, created words, and unique geographical name. One should refrain from Trademarks like common geographical name, common personal name and the praising words which describe the quality of goods, such as best, perfect, super, etc. To ensure all these characteristics in a Trademark, it is suggested to conduct a market survey to ensure if a similar mark is used in the market. Following are some examples of the registerable Trademarks:

- Any name including personal or surname of the applicant or predecessor in business or the signature of the person e.g. the Trademark 'BAJAJ' is named after industrialist Mr. Jamnalal Bajaj.

- A word having no relevance to the product/services e.g. Trademark 'INDIA GATE' is being used for food grains and allied products.
- Letters or numerals or any combination thereof e.g. 'YAHOO' is the abbreviation of the phrase 'Yet Another Hierarchical Officious Oracle'. It has now become a worldwide famous Trademark.

Table 2.7: Some of the famous examples of Trademarks.

S. No.	Type of the Mark	Mark	Company/Firm
1.	Distinctive General Word	'Apple'	IT Company
2.	Fanciful Designation	'Kodak'	Photograph Film
3.	Distinctive Personal Names	'Ford'	Automotive
4.	Device	'Udhaar'	Financial Technology
5.	Number	'4711'	Perfume
6.	Picture	Allegator	Knitwear Manufacturing
7.	Slogan	Drink it to believe it	Soft Drinks

Note: Trademark Registry will object to yet to be registered Trademark if it is similar in looks or sound to the ones already registered e.g. a keyword like Ford can have the following terms that are similar sounding: Foard, Phord, Fordd, Forrd. In case one wishes to carry out a search (identical as well as similarity), one may use the free government portal http://ipindiaservices.gov.in/tmrpublicsearch/frmmain.aspx.

2.3.9. Trademark Registry

In India, the operations of Trademarks are carried out from five cities i.e. Delhi, Mumbai, Ahmadabad, Kolkata, and Chennai. Each city has been assigned a bunch of states (Table 2.8). The businesses located in a particular state can only use the services of the assigned Trademark Registration Office. In the case of foreign applicants, jurisdiction is based on the location of the office of the applicant's agent or attorney.

Table 2.8: Territorial jurisdiction of Trademark registration offices.

S. No.	Office Location	States
1.	Mumbai	Maharashtra, Madhya Pradesh, Chhattisgarh and Goa.
2.	Ahmedabad	Gujarat and Rajasthan and Union Territories of Daman, Diu, Dadra and Nagar Haveli.
3.	Kolkata	Arunachal Pradesh, Assam, Bihar, Orissa, West Bengal, Manipur, Mizoram, Meghalaya, Sikkim, Tripura, Jharkhand and Union Territories of Nagaland, Andaman & Nicobar Islands.
4.	New Delhi	Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Delhi and Union Territory of Chandigarh.
5.	Chennai	Andhra Pradesh, Telangana, Kerala, Tamilnadu, Karnataka and Union Territories of Pondicherry and Lakshadweep Island.

Source: http://www.ipindia.nic.in/trade-marks.htm

2.3.10. Process for Trademarks Registration

To seek Trademark registration, the proprietor of the Trademark has to fill an application. The proprietor may choose to hire an agent to fill and submit the application on his behalf. Before applying, the applicant needs to conduct a prior art search to ensure the registration criteria.

2.3.10.1. Prior Art Search **-** Prior to applying for Trademark registration, it is always prudent to check whether the intended Trademark is already registered or not. Also, it is ascertained whether the intended Trademark is not similar to the ones already registered. The requisite search can be carried out using various web portals, such as:

- Public search for Trademarks by CGPDTM (https://ipindiaservices.gov.in/tmrpublicsearch/frmmain.aspx).
- WIPO's Global Brand Database

(https://www3.wipo.int/branddb/en/).

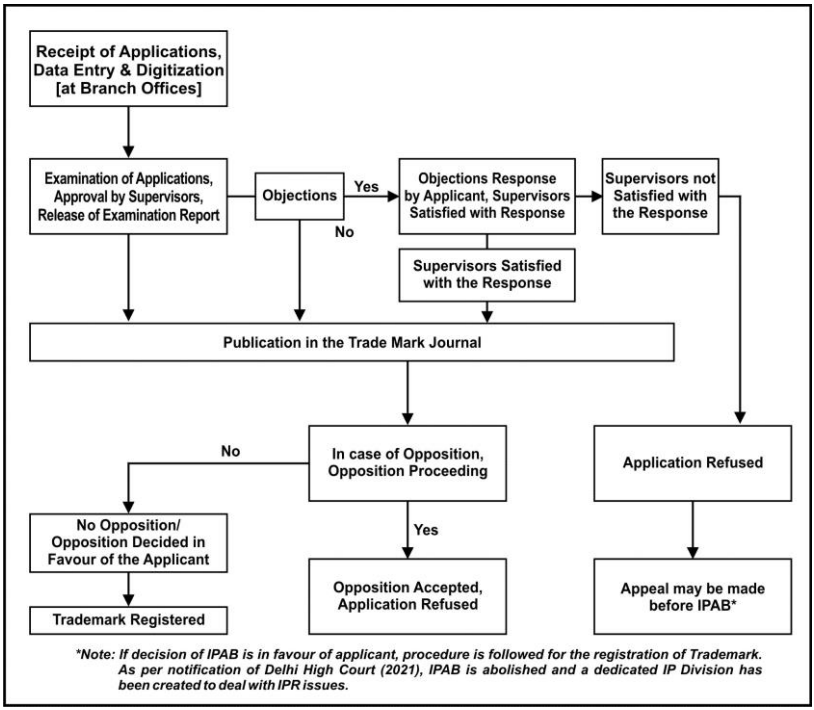
- Trademark Electronic Search System (TESS). (http://tmsearch.uspto.gov/bin/gate.exe?f=tess&state=4805:za847u.1.1)
- MARKARIA Trademark Search Engine (https://trademark-search.marcaria.com/en/asia/india-trademark-search).
- VAKIL Search (https://vakilsearch.com/trademark-search/trademarks?search=bajaj).

Once the 'prior art search' is over and the applicant is convinced about the distinctiveness of the Trademark, he can proceed to fill the application form for registration (TM-A). The application is filed at the Trademarks Office subject to the jurisdiction of the applicant. The steps involved in the registration process are as follows:

- After the prior art search has been conducted, the applicant can apply for the registration on his own or with the help of a certified agent.
- The application is assigned an application number within a few days. The same can be tracked online at https://ipindiaonline. gov.in/tmrpublicsearch/frmmain.aspx.
- The application is scrutinized by a professional examiner. If everything is in order, the particulars of the application are published in the official Trademark journal (http://www.ipindia. nic.in/journal-tm.htm). Otherwise, he will send the objections to the applicant for rectification. Based on the satisfactory response, the examiner would recommend the revised application to be published in the journal. If the application is rejected, the applicant may approach the Intellectual Property Division to challenge the rejection of an application by the examiner.
- Once the Trademark is published in the official journal, the public has an opportunity to file an objection, if any, within 90 days. After hearing both the parties, the officer decides whether to proceed further for the grant of Trademark or disallow the grant of Trademark. In case of unfavourable outcome, the applicant has the right to contest the decision in front of the IPAB.

- Once the application has successfully completed all formalities, a Trademark registration certificate is issued in the name of the applicant.

Figure 2.8: Flow chart for the process of Trademark registration.



Source: http://www.ipindia.nic.in/workflow-chart.htm *(slightly modified)*

One should keep in mind that while filing an application for the registration of a Trademark, an English translation of the non-English words has to be provided. If the applicant wishes to claim the priority from an earlier-filed application, he has to provide details like application number, filing date, country and goods/services of that application.

Table 2.9: Fee and forms related to Trademarks.

Entry No.	Contents	Amount (₹)		Form No.
		Physical Filing	E-filing	
1.	Where the applicant is an Individual / Start-up/Small Enterprise.	5,000	4,500	TM-A
	In all other cases.	10,000	9,000	
2.	Opposition/Application for Rectification of the Register/Counter statement / Refusal or invalidation of a Trademark.	3,000	2,700	TM-O
3.	For renewal of registration of a Trademark.	10,000	9,000	TM-R
4.	On application to register a subsequent proprietor in case of assignment or transfer for each Trademark.	10,000	9,000	TM-P
5.	Application for registration of Registered User/Variation of Registered User/Cancellation of Registered Users and Notice of intention to intervene in proceeding in cancellation/variation.	5,000	4,500	TM-U
6.	Request for search and issue of the certificate.	10,000	9,000	TM-C
7.	Application/Request for any miscellaneous function in respect of a Trademark Application/ Opposition/Rectification.	1000	9,000	TM-M
8.	On application for registration of a person as a Trademark agent.	5,000	4,500	TM-G

Source: http://www.ipindia.nic.in/form-and-fees-tm.htm

2.3.11. Important Queries/Facts About Trademarks

2.3.11.1. Can any correction be made in the application or register Yes, The rectifications are possible, but the applicant has to ensure that the corrections made in the Trademark do not alter its identity significantly.

2.3.11.2. Can a registered Trademark be removed from the register Yes, it can be removed if:

- Trademark was registered without any bona fide intention of using it.
- If the Trademark is not being used for a continuous period of 5 years from the registration date or 3 months prior to filing the application for registration.
- Registered Trademark was disallowed but inadvertently existed in the official register.
- Trademark Registrar has the power to terminate a registered Trademark on a *suo moto* basis.

2.3.11.3. Is the sound or smell registrable as a Trademark - Yes, sound or smell is registrable as a mark, as long as it is distinct and can be reproduced graphically. The Trademark, '4711 cologne' has been registered as a chemical formula. The sound can be registered as a Trademark, provided it can be recorded in MP3 format and depicted graphically.

2.3.11.4. Can a registered user restrain the third party from using an identical or similar mark which is not registered - There is no clear cut answer for such situations. It depends on the circumstances of the matter. But ordinarily, a registered user cannot restrain the third party from using identical or similar marks if the third party has been continuously using the mark concerning the same goods or services from a date prior to the date of use of the registered mark or date of registration.

According to the Trademarks Act, 1999, the rights and protection in the form of remedies are not only to the registered mark but also to the unregistered Trademarks. Although, a registered Trademark has been given a statutory remedy under section 28 of the Act, but 27(2) of the Act provides a remedy for an

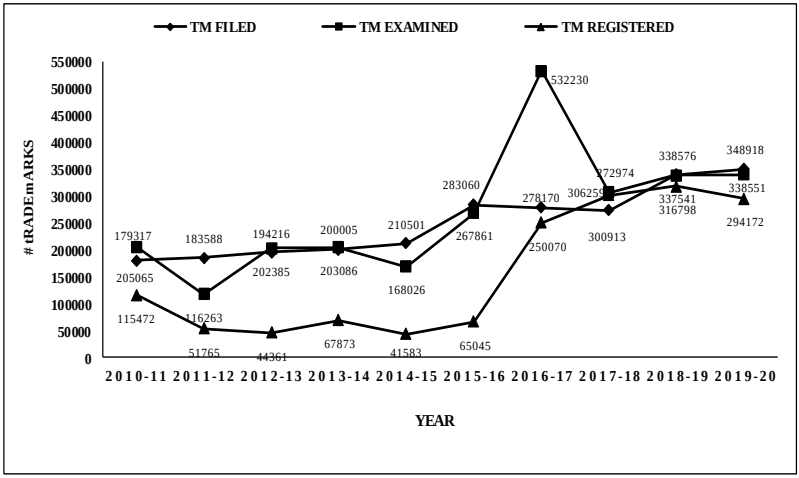
unauthorized use of unregistered Trademark. Passing off is a common law tort which is most commonly used to protect goodwill that is attached to the unregistered Trademarks. The action of passing off is available to both registered and unregistered Trademarks, but a suit for infringement is available for only registered Trademarks.

2.3.11.5. Seeking Trademark protection in a foreign country - To file the Trademark in a foreign country, there are two options available for the applicant. He can either file the Trademark application with the Trademark Office of the country in which he wishes to seek protection, or he can use WIPO's Madrid System through which the registration can be filed in multiple countries by claiming priority of one of the signatory countries. This priority has to be claimed within six months of the first filing. The applicant can file a single application for seeking protection in any number of countries that are members of WIPO by paying a single set of fee. List of jurisdictions that can be accessed through Madrid Protocol for filing Trademark is available at http://www. wipo.i nt/ treaties/en/ShowResults.jsp?treaty_id=8.

2.3.12. Trademarks Statistics

Figure 2.9 represents the statistics for Trademarks (filed, examined and registered) for the period 2010-20. During this period, an increase of 95%, 65% and 154% was observed in the parameters of trademarks filed, examined and registered, respectively. Overall, a gradual increase was seen in the number of TM filed, but a zig-zag curve was observed for the TM examined for the period 2010-16. The highest number of TM applications (5,32,230) were examined in 2016-17 followed by dip (nearly two folds) in the following year (2017-18). The following two years (2018-20) showed some recovery, with 3,38,551 applications examined in 2019-20. In case of TM registration, first, five years (2010-15) showed a downward trend. But, a significant leap of nearly four-folds was observed in the next year i.e. 2016-17. The maximum number of TM (3,16,798) were registered in the year 2018-19.

Figure 2.9: Trademarks profile (India) for the period 2010-20.



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20) (https://dipp.gov.in/sites/default/files/annualReport-English2020-21.pdf)

2.3.13. International Treaties and Conventions

There is a provision to file an international application for the Trademarks to seek protection in other Convention countries. The rules and regulations to file international applications in Convention countries are concluded under the following treaties and agreements administered by WIPO.

- The Madrid Agreement for International Registration of Marks (1891) (wipo.int/treaties/en/registration/madrid/).
- The Nice Agreement for International Classification of Goods and Services (1957).

  (https://www.wipo.int/classifications/nice/en/index.html).
- The Trademark Law Treaty (TLT) (1994) (https://www.wipo.int/ treaties/en/ip/tlt/summary_tlt.html).
- Vienna Agreement (1973) for the Classification of Figurative Marks

  (https://www.wipo.int/classifications/vienna/en/preface.html).

2.3.14. Famous Case Law:

Coca-Cola Company vs. Bisleri International Pvt. Ltd.

'MAAZA', a popular mango fruit drink in India, is a registered Trademark of an Indian company, Bisleri International Pvt. Ltd. The company transferred the rights (formulation, IPR and goodwill, etc.) to a beverage company, Coca-Cola, for the Indian Territory. However, in 2008, the Bisleri Company applied for registration of Trademark 'Maaza' in Turkey and started exporting the product with the mark 'MAAZA'. This was unacceptable to the Coca-Cola Company and thus filed a petition for permanent injunction and damages for passing-off and infringement of the Trademark.

It was argued on behalf of Plaintiff (Coca-Cola Company) that as the mark 'Maaza' concerning the Indian market was assigned to Coca-Cola, and manufacture of the product with such mark, whether for sale in India or for export, would be considered as an infringement. After hearing both the parties, the court finally granted an interim injunction against the defendant (Bisleri) from using the Trademark MAAZA in India as well as for the export market, which was held to be an infringement of Trademark.

2.4. Industrial Designs

The word 'Design' is defined as the features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article. The Design may be of any dimension i.e. one or two or three dimensional or a combination of these. In addition, it may be created by any industrial process or means, whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to and is judged solely by the eye. But the word 'Design' does not include any mode or principle of construction or anything which is in substance a merely mechanical device.

The main object of registration of industrial Designs is to protect and incentivize the original creativity of the originator and encourage others to work towards the art of creativity.

2.4.1. Eligibility Criteria

The Design for which the protection is being sought must be **novel or original** i.e., should not be disclosed to the public by prior

publication or by prior use or in any other way. The Design should be **significantly distinguishable** from the already registered Designs existing in the public domain.

2.4.2. Acts and Laws to Govern Industrial Designs

In India, Industrial Designs are governed under 'The Designs Act', 2000 (http://www.ipindia.nic.in/acts-designs.htm) and 'Design Rules', 2001 (http://www.ipindia.nic.in/rules-designs.htm), which have been amended from time to time in 2008, 2013, 2014 and 2019. The Design should include the following characteristics:

- It should be novel and original.
- It should be applicable to a functional article.
- It should be visible on a finished article.
- There should be no prior publication or disclosure of the Design.

A list of Industrial Designs can be accessed from https://www.creativebloq.com/product-design/examples-industrial-design-12121488. Some of the famous Industrial Designs are mentioned below:

Coca-Cola Bottle - The contoured-shaped glass bottle of the Coca-Cola Company is marvelled as a master showpiece in the field of industrial design. It was designed in 1915 and is still a cynosure for all eyes.

Piaggio Vespa - Piaggio is an Italian company famous for manufacturing Vespa scooters. These scooters are sold worldwide since 1940s. The structural design of the scooter is pleasing to the eyes. This two-wheeler has a painted steel body concealing the engine, driver's feet rest comfortably on a flat floorboard, the front vertical portion comprising of a handle, breaks and speedometer has ample space for hands' grip and also provides protection from incoming wind air.

iPhone - It is a highly popular mobile phone manufactured by American company 'Apple Inc'. The sleek, handy and rectangular body is pleasing to the eyes. The corners are round and smooth. The features, such as on/off and speech volume, are easy to operate.

Mini Cooper - Mini Cooper is an automobile car manufactured by

the British Motor Corporation in the later part of the 20th century. It is a small size car. Its shape has been designed in a unique manner so as to provide plenty of space (nearly 80%) for passenger seating and luggage storage.

Rocking Wheel Chair - It is a sleek, circular-shaped chair which provides smooth rocking motion. There is a provision for a headlight in the upper part of the chair.

Juicy Salif - It is a citrus juice squeezer and considered an iconic structural design. The alumina-based body has been moulded in the shape of a fish called as a squid.

2.4.3. Design Rights

The Design registration also confers a monopolistic right to the Proprietor by which he can legally exclude others from reproducing, manufacturing, selling, or dealing in the said registered Design without his prior consent. The Design registration is particularly useful for entities where the shape of the product has aesthetic value and the entity wishes to have exclusivity over the said novel and original Design applied to its product(s) or article(s).

2.4.4. Enforcement of Design Rights

Once the applicant has been conferred with the rights over a specific Design, he has the right to sue the person (natural/entity) if the pirated products of his registered design are being used. He can file the infringement case in the court (not lower than District Court) in order to stop such exploitation and for claiming any damage to which the registered proprietor is legally entitled. The court will ensure first that the Design of the said product is registered under the Designs Act, 2000. If the Design is found not registered under the Act, there will not be legal action against the infringer. If the infringer is found guilty of piracy or infringement, the court can ask him to pay the damage (₹ 50,000/-) in respect of infringement of one registered Design.

2.4.5. Non-Protectable Industrial Designs in India

- Any Industrial Design which is against public moral values.
- Industrial Designs including flags, emblems or signs of any country.

- Industrial Designs of integrated circuits.
- Any Design describing the 'process of making of an article'.
- Industrial Designs of – books, calendars, certificates, forms and other documents, dressmaking patterns, greeting cards, leaflets, maps and plan cards, postcards, stamps, medals.
- The artistic work defined under Section 2(c) of the Copyright Act, 1957 is not a subject matter for registration for Industrial Designs, such as:
    - Paintings, sculptures, drawings including a diagram, map, chart or plan.
    - Photographs and work of architecture.
    - Any other work related to artistic craftsmanship.
- Industrial Designs does not include any Trademark (The Designs Act, 2000).

2.4.6. Protection Term

The outer 'Shape or Design' of a product makes it more appealing and acts as the value-adding factor to the product. Therefore, there is a need to protect one's creation from being used by third parties' without consent from the original creator. The registered Designs are protected for 10 years in India and can be extended by 5 years after making a renewal application.

2.4.7. Procedure for Registration of Industrial Designs

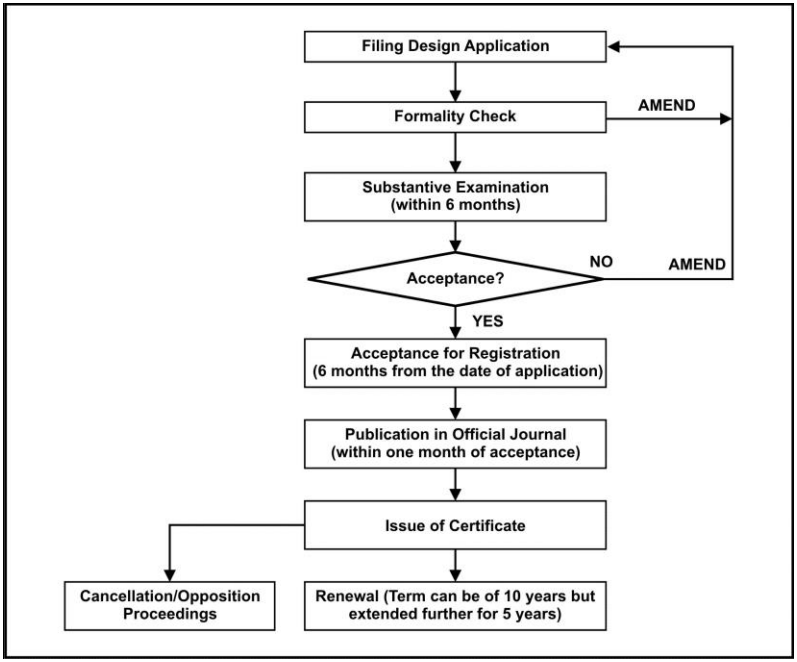
2.4.7.1. Prior Art Search - Before filing an application for registration of Industrial Designs, it is prudent to ensure that the same or similar Design has not been registered earlier. This search can be carried out using various search engines, such as:

- Design Search Utility (CGPDTM) (https://ipindiaservices.gov.in/designsearch/).
- Global Design Database (WIPO) (https://www3.wipo.int/designdb/en/index.jsp).
- Hague Express Database (WIPO) (https://www3.wipo.int/designdb/hague/en/#).
- Design View (EUIPO) (https://www.tmdn.org/tmdsview-web/welcome#/dsview).

2.4.7.2. Application for Registration - Once the applicant is satisfied that his Design is novel and significantly distinguishable from other Designs, he can proceed with filing an application for Design registration. The application for registration of Design can be filed by an individual, small entity, institution, organization and industry. The application may be filed through a professional patent agent or legal practitioner. If the applicant is not a resident of India, an agent residing in India has to be employed for this purpose. The applicant submits the registration application at the Design Office Deputy Controller of Patents & Designs, Patent Office, Intellectual Property Office Building, CP-2 Sector V, Salt Lake City, Kolkata-700091.

After the application has been filed, an officer (examiner) analyses the application for qualifying the minimum standards laid down for eligibility criteria for registration. In case of any query, the same is sent to the applicant and he is supposed to respond within 6 months from the objection raised. Once the objections are removed, the application is accepted for registration. The particulars of the application, along with the representation of the article, are published in the Official Journal of Patent Office (http://www.ipindia.nic.in/journal-patents.htm). If no objection is received from the public, the Design is registered. After the registration of the Design, the applicant becomes the proprietor of the Design and is conferred with the exclusive right to apply that Design to the article belonging to the class in which it is registered. The applicant puts up a request for issuance of a certificate of registration (for an Industrial Design). A flow chart of the registration process is mentioned below:

Figure 2.10: Flowchart for the process of Design registration.



Source: https://allthingspatent.wordpress.com *(slightly modified)*

2.4.8. Duration of the Registration of a Design

Initially, the Design registration is valid for ten years from the date of registration. In the case wherein the priority date has been claimed, the duration of the registration is counted from the priority date. The period of registration may be extended further for five years. An application has to be made in Form-3 accompanied by prescribed fees to the Controller General before the expiry of the said initial period of ten years.

2.4.9. Importance of Design Registration

Registration of Design ensures the exclusive rights of the applicant on the Design. The owner can prevent the registered Design products from piracy and imitation. This helps the owner to boost the sale of the products and establish goodwill in the market.

2.4.10. Cancellation of the Registered Design

The registration of a Design may be cancelled at any time. The petition has to be filed in Form-8 with prescribed fee to the Controller of Designs. The application can be made on the following grounds:

- Design has already been registered.
- Design has been published in India or elsewhere before the date of registration.
- Design is not novel and original.
- It is not a Design under Clause (d) of Section 2.

2.4.11. Application Forms

There are a total of 24 forms pertaining to Industrial Designs. A list of important forms is mentioned below.

Table 2.10: List of important form related to Industrial Designs.

S. No	Name of the Form	Form No.	Fee (₹)		
			Natural Person	Small Entity	Large Entity
1.	Application for registration of Design.	Form-1	1,000	2,000	4,000
2.	Application for the Restoration of Design.	Form-4	1,000	2,000	4,000
3.	Application for renewal of Design.	Form-3	2,000	4,000	8,000
4.	Petition for cancellation for registration of a Design.	Form-8	1,500	3,000	6,000
5.	Notice of intended exhibition or publication of unregistered Design.	Form-9	500	1,000	2,000

6.	Application for entry of name of proprietor or part proprietor in the Register.	Form-11	500	1,000	2,000
7.	Request for correction of clerical error.	Form-14	500	1,000	2,000
8.	Request for certified copy.	Form-15	500	1,000	2,000
9.	Application for rectification of Register.	Form-17	500	1,000	2,000
10.	Notice of opposition.	Form-19	100	200	400

Source: http://www.ipindia.nic.in/designs.htm

2.4.12. Classification of Industrial Designs

Designs are registered in different classes as per the Locarno Agreement, 1968; https://www.wipo.int/classifications/locarno/locpub/en/fr/). It is used to classify goods for the registration of Industrial Designs as well as for Design searches. The signatory parties have to indicate these classes in the official documents too. The classification comprises a list of classes and subclasses with a list of goods that constitute Industrial Designs. There are 32 classes and 237 subclasses that can be searched in two languages i.e. English and French.

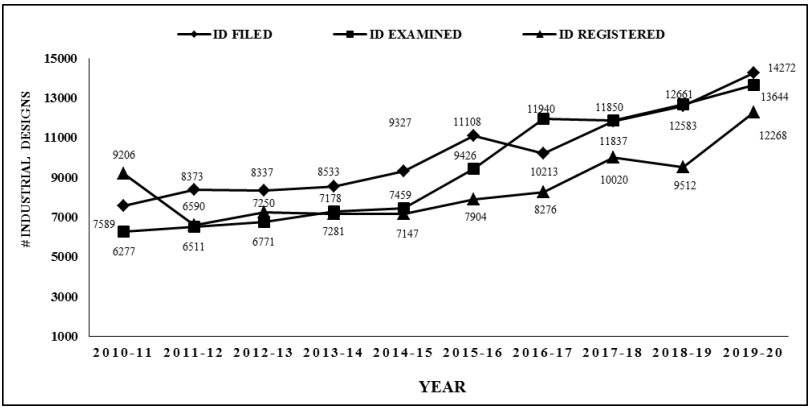
For example, Class 1 includes foodstuff for human beings, foodstuffs for animals and dietetic foods excluding packages because they are classified under Class 9 (Bottles, Flasks, Pots, Carboys, Demijohns, and Pressurized Containers). Class 32 classifies the Design of graphic symbols and logos, surface patterns, ornamentation.

2.4.13. Designs Registration Trend in India

Figure 2.11 represents the statistics for Industrial Designs (filed, examined and registered) for the period 2010-20. During this period, an increase of 88%, 117% and 33% was observed in the parameters of Designs filed, examined and registered, respectively. In all three

parameters, the graph depicts a similar pattern (more or less) with the highest numbers observed in 2019-20 for Designs filed (12,268), examined (13,644) and registered (14,272).

Figure 2.11: **Industrial Designs profile (India) for the period 2010-20).**



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20) (https://dipp.gov.in/sites/default/files/annualReport-English2020-21.pdf)

2.4.14. International Treaties

The WIPO has put in place two important treaties (international) dealing with the smooth functioning of various aspects of Industrial Designs:

- **Hague Agreement for international registration (1925)** (https://www.wipo.int/treaties/en/registration/hague/)
- **Locarno Agreement (1968) for international classification** (https://www.wipo.int/treaties/en/classification/locarno/)

2.4.15. Famous Case Law:

Apple Inc. vs. Samsung Electronics Co.

In 2011, Apple Inc. filed a case against Samsung Electronics Co. in the United States District Court for the Northern District of California for infringing their Designs and Utility Patents of the user interface like screen app grid and tap to zoom. As evidence, Apple Inc. submitted the side-by-side image comparison of the iPhone 3GS and the i9000 Galaxy S to demonstrate the alleged similarities in both models. However, later it was found that the images were

tempered by the Apple Company to match the dimensions and features of the controversial Designs. So the counsel for Samsung Electronics blamed Apple of submitting false and misleading evidence to the court and the company countersued the Apple Company in Seoul, South Korea; Tokyo, Japan; and Mannheim, Germany, United States District Court for the District of Delaware, and with the United States International Trade Commission (ITC) in Washington D.C. The proceedings continued for the 7 years in various courts. In June 2018 both companies reached for a settlement and Samsung was ordered to pay $539 million to Apple Inc. for infringing on its patents.

2.5 Geographical Indications 

In every country, there are certain regions famous for their traditional knowledge/heritage in various sectors, such as agriculture, food products, textiles, etc. People from far-off places used to travel to buy these products. For example, Christopher Columbus sailed from Spain to import world-famous spices from India. British people travelled to Arabian countries to import Arabian horses for siring fast running horses for commercial gains. Similarly, China silk and Dhaka Muslin have been in great demand from times immemorial. The reputation of these products was built upon and painstakingly maintained by the experts/masters of respective geographical locations. The know-how of these reputed products was passed onto future generations. With the passage of time, a specific link between the goods produced and geographical location evolved, resulting in the growth of Geographical Indications (GI).

A GI is defined as a sign which can be used on products belonging to a particular geographical location/region and possesses qualities or a reputation associated with that region. In GI, there is a strong link between the product and its original place of production.

2.5.1. Acts, Laws and Rules Pertaining to GI

In India, GI was introduced in 2003 and is governed under the 'Geographical Indications of Goods (Registration & Protection) Act, 1999' and the Geographical Indications of Goods (Registration & Protection) Rules, 2002.

2.5.2. Ownership of GI

The ownership/holders of GI (registered) can be of the producers, as a group/association/ cooperative society or association or in certain cases, government.

2.5.3. Rights Granted to the Holders

- **Right to grant the license to others -** The holder has the right to gift, sell, transfer/grant a license, mortgage or enter into any other arrangement for consideration regarding their product. A

license or assignment must be given in written and registered with the Registrar of GI, for it to be valid and legitimate.

- **Right to sue -** The holder of GI has the right to use and take legal action against a person who uses the product without his consent.
- **Right to exploit -** The holder of GI can authorize users with exclusive right to use goods for which the GI is registered.
- **Right to get reliefs -** Registered proprietors and authorized users have the right to obtain relief concerning the violation of such GI products.

2.5.4. Registered GI in India

GI products registered in India belong to the domains of handicrafts, agricultural, food stuffs, alcoholic beverages, etc. The first GI tag was granted in 2004 to Darjeeling Tea and the latest being Kashmir Saffron and Manipur Black rice (Chakhao) in May 2020. A total of 370 GI have been registered in India till May 2020. (http://www.ipindia.nic.in/writereaddata/Portal/Images/pdf/GI_Application_Register_10-09-2019.pdf). Nearly 58% of these belong to handicrafts, followed by agriculture (30%). Other categories belong to food stuff, manufacturing, and natural goods. In the Handicraft category, Tamilnadu holds the maximum number (21) of GI followed by Uttar Pradesh (20) and Karnataka (19). A few standout GI are mentioned in table 2.11:

Table 2.11: List of popular GIs registered in India.

GI	Type	State
Darjeeling Tea	Agriculture	West Bengal
Mysore Silk	Handicraft	Karnataka
Kashmir Pashmina	Handicraft	Jammu & Kashmir
Banaras Brocades and Sarees	Handicraft	Uttar Pradesh
Naga Mircha	Agriculture	Nagaland
Tirupathi Laddu	Foodstuff	Andhra Pradesh
Phulkari	Handicraft	Punjab, Haryana, Rajasthan
Basmati	Agriculture	India

Source: http://www.ipindia.nic.in/writereaddata/Portal/Images/pdf/GI_Application_Register_10-09-2019.pdf

International countries, such as Thailand, France, Portugal, Italy, Mexico, Peru and the United Kingdom, have also filed GI in India e.g. Champagne (wine) of France and Scotch Whisky of the United Kingdom.

2.5.5. Identification of Registered GI

Registered GI products are granted a tag, which is printed on the registered products. The tag confirms the genuineness of the product in terms of its production (by set standards) and location of production. Non-registered GI products cannot use/exploit this tag. By and large, GI tags represent the place of origin (of the product) along with cultural and/or historical identity e.g. Darjeeling Tea, Mysore Silk, Tirupathi Laddu, etc.

In India,GI tags are issued by the **Geographical Indication Registry** under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry. The head of GI registry is at Geographical Indications Registry Intellectual Property Office Building, Industrial Estate, G.S.T Road, Guindy, Chennai - 600032.

GI registered products can be grown/produced in any part of the world using standards laid down by the GI Registry. However, these products cannot be labelled as GI as they are not produced/ manufactured in a specific geographical location, as mentioned in the official records maintained by the GI Office of GI. For example, plants of Darjeeling Tea can be grown in any part of India. But the tea leaves of these plants cannot be sold under the brand name of Darjeeling Tea, as the concerned plants were not grown in the soil and climate of the Darjeeling area.

2.5.6. Classes of GI

GI certified goods are classified under 34 different classes, such as Class 1 is for chemicals used in industry, science, photography, agriculture, horticulture and forestry; unprocessed artificial resins, unprocessed plastics; manures; fire extinguishing compositions; tempering and soldering preparations; chemical substances for preserving foodstuffs; tanning substances; adhesives used in industry. Class 33 is for alcoholic beverages (except beers) and Class 34 is related to tobacco, smokers' articles, matches. More

details can be extracted from the official website of CGPDTM Office
(http://www.ipindia.nic.in/writereaddata/images/pdf/classification-of-goods.pdf).

2.5.7. Non-Registerable GI

For GI registration, the indications must fall within the scope of section 2(1) (e) of GI Act, 1999. Being so, it has to also satisfy the provisions of Section 9, which prohibits registration of a GI mentioned below:

- The use of which would be likely to deceive or cause confusion.
- The use of which would be contrary to any law.
- Which comprises or contains scandalous or obscene matter.
- Which comprises or contains any matter likely to hurt the sentiments of society.
- Religious susceptibilities of any class or section of the citizens of India.
- Which are determined to be generic names or indications of goods and are, therefore, not or ceased to be protected in their country of origin or which have fallen into disuse in that country.

2.5.8. Protection of GI

The IP rights to GI are enforced by the court of law of the concerned country. The GI registration of a product has certain advantages. It enables to identify pirated/non-genuine stuff, provides more commercial value to the product, and also strengthens the case if it reaches the judicial courts. The two common methods of protecting a GI are:

Sui generis systems (i.e. special regimes of protection) and under certification or collective mark systems. Many countries, including India to protect GI by using the *sui generis* system. This decision was taken after the TRIPS agreement (1995) and an option was given to the countries to choose either TRIPS standards or the *sui generis* system. This was decided by considering the fact that every country has different legislation and geographical structures &

resources. Therefore, this system is not uniform in all countries and varies according to the jurisdiction and legislation of the particular country.

2.5.9. Collective or Certification Marks

Certification marks aim to certify the products comply with specific quality standards irrespective of their origin. These standards include permitted materials and manufacturing methods. Therefore, the purpose of certification marks is to distinguish certified goods from non-certified ones. Collective marks are owned by associations ensuring compliance with the agreed standards. Collective marks signify that a good or service originates from a member of a particular association. The Collective mark is used by cooperating enterprises that have agreed to comply with defined quality standards for goods or services that share common characteristics.

2.5.10. Enforcement of GI Rights

The rights to GI protection are typically enforced by the court of law. The sanctions provided could be civil (injunctions restraining or prohibiting unlawful acts, actions for damages, etc.), criminal, or administrative.

2.5.11. Procedure for GI Registration

Prior to filing an application for registering GI, it is prudent to search whether the concerned GI is already protected or not. This can be done by using search engines created by WIPO (https://www.wipo.int/ipdl/en/search/lisbon/search-struct.jsp where 'Search of Appellations of Origin and Geographical Indications' both can be conducted.

Additionally, WIPO has created a directory of all IP offices of its member countries. The registered GI of any country can be searched by accessing the website of the respective country (https://www.wipo.int/directory/en/urls.jsp). The list of registered GI in India can be accessed from the official website of CGPDTM http://www.ipindia.nic.in/writereaddata/Portal/News/367_1_Registered_GI.pdf.

Once the prior search for registered GI is done, the applicant has to file an application. The application for GI can be forwarded by an

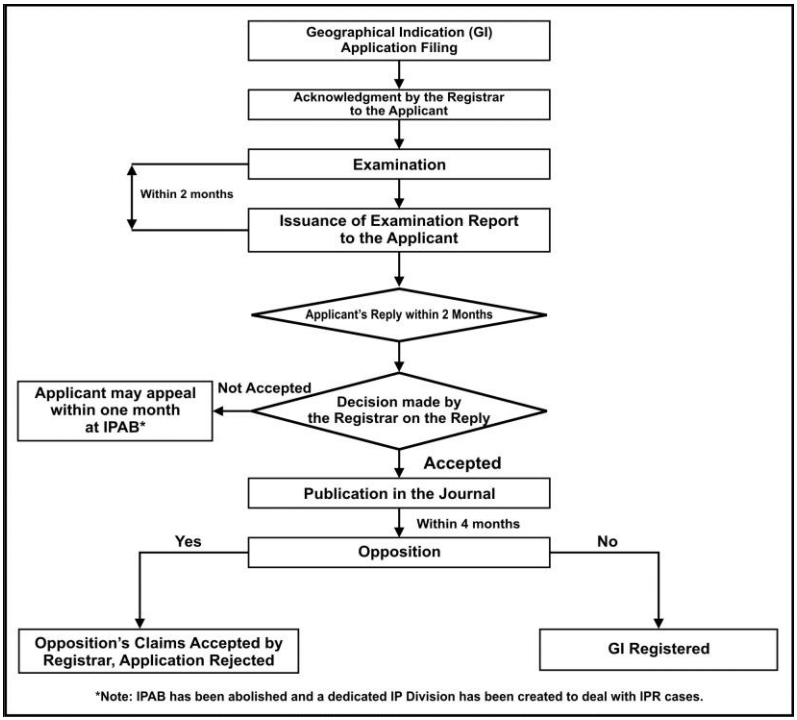
individual or an organization or authority of people established under Indian law. The application in a prescribed format is submitted to the Registrar, Geographical Indications along with the prescribed fee (http://www.ipindia.nic.in/writereaddata/Portal/IPORule/1_27_1_gi-rules.pdf). In the application, the applicant needs to mention the interest of the producers of the concerned product. The application should be duly signed by the applicant or his agent with all the details about the GI that how its standard will be maintained. The submission of three certified copies of the map of the region where the GI belongs is mandatory.

Once the application is filed at GI Registry, the Examiner will scrutinize the application for any deficiencies or similarities. If the examiner finds any discrepancy, he will communicate the same to the applicant, which is to be replied within one month of the communication of the discrepancy. Once the examiner is satisfied with the response/s, he files an examination report and hands over the same to the Registrar. Once again, the application is scrutinized. If need be, the applicant is asked to clear any doubts/objections within two months of the communication otherwise, the application will be rejected. After getting a green signal from the Registrar, the application is published in the official Geographical Indication Journal (http://www.ipindia.nic.in/journal-gi.htm) for seeking any objections to the claims mentioned in the application. The objections have to be filed within four months of the publication. If no opposition is received, the GI gets registered by allotting the filing date as the registration date. Initially, GI is registered for ten years but is renewable on the payment of the fee.

2.5.12. Documents Required for GI Registration

- Details about the applicant's name, address and particulars.
- Application form GI-1A.
- Statement about the designated goods being protected under GI.
- Class of goods.
- Affidavit to establish the claim of genuinely representing the interest of the producers.
- Characteristics of GI.
- The special human skill required (if any).

Figure 2.12: Flow chart for the process of GI registration.



Source: https://www.researchgate.net *(slightly modified)*

The important forms to file GI in India under various classes are mentioned below:

Table 2.12: Important application forms related to GI.

Form No.	Title	Requisite Fee (₹)
GI-1	Application for the registration of a Geographical Indication for goods included in one class.	5000
	Application for the registration of a Geographical Indication for goods included in one class from a Convention country.	5000
	A single application for the registration of a Geographical Indication for goods in different classes.	5,000 for each class

	A single application for the registration of a Geographical Indication for goods in different classes from a Convention country.	5,000 for each class
GI-2	Notice of opposition to the registration of a Geographical Indication or an opposition or an authorised user.	1,000 for each class
	Form of counter-statement.	1,000
	Application for extension of time for filing notice of opposition.	300
GI-3	Application for the registration of an authorised user of a registered Geographical Indication.	500
	Request for issuance of a registration certificate as an authorised user.	100
	For renewal of an authorised user.	1000
GI-4	Renewal of the registration of a Geographical Indication at the expiration of the last registration.	3,000
	Application for restoration of a Geographical Indication or an authorised user removed from the Register.	1000 plus applicable renewal fee
	Application for renewal within six months from the expiration of last registration of Geographical Indication.	3,500
GI-8	Application for registration of a Geographical Indications agent.	1000
GI-10	Application for cancellation of an entry in the Register or to strike out goods.	300

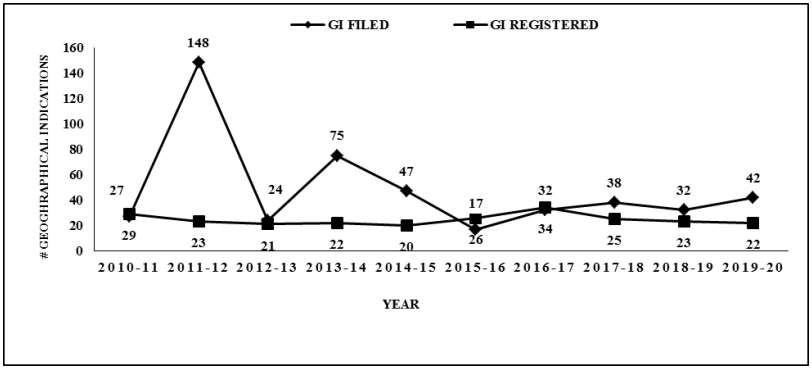
Source: http://www.ipindia.nic.in/writereaddata/Portal/IPORule/1_27_1_gi-rules.pdf

2.5.13. GI Ecosystem in India

India is among the geographically and traditionally rich countries. The scope of generating GI products in India is enormous. These products can contribute to the economic development of a particular region or society. However, till June 2021, a total of 370 GI have been registered in India, which is much below its potential (https://ipindia.gov.in/writereaddata/Portal/Images/pdf/GI_Application_Register_10-09-2019.pdf). Figure 2.13 represents the statistics for GI (filed, and registered) for the period 2010-20. Maximum number (148) of GI were filed in 2011-12 whereas, minimum number (17) was observed in 2015-16. Not much change in the

number of GI registrations was observed during the period 2010-20. Each year the number hovered around in the twenties, with maximum registrations (34) seen in 2016-17.

Figure 2.13: GI profile (India) for the period 2010-20.



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20) (https://dipp.gov.in/sites/default/files/annualReport-English2020-21.pdf)

2.5.14. Additional Information

2.5.14.1. Generic GI **-** When a GI-certified product becomes more popular by the name of the origin of the place, it is termed as Generic GI. For example, Camembert Cheese. Camembert is the name of the place in France where this special cheese is produced. In food places, merely saying the word Camembert denotes Camembert cheese.

2.5.14.2. Homonymous GI **-** When two or more products, which have been granted GI status, are spelled or pronounced alike, but their source of origin is different (usually in different countries), such GI are termed as Homonymous GI. One of the examples of the homonymous GI is a wine named 'Rioja', which is a GI for wine produced in two countries (Argentina and Spain). In such a case, the applicants (of GI) need to prove different characteristics of their products. People may get confused if two Homonymous GI are being sold at the same place. It is better that additional information (source of origin of product) be mentioned on these products so as to prevent consumers from being misled.

2.5.14.3. Difference Between GI and Appellation of Origin - In the case of an appellation of origin, the link with the place of origin is

very strong. The quality or characteristics of a product protected as an appellation of origin must result exclusively or essentially from its geographical origin. This generally means that the raw materials should be sourced from the place of origin and that the processing of the product should also take place there. In the case of GI, a single criterion attributable to the geographical origin is sufficient, be it quality or another characteristic of the product or even just its reputation. For example, Tirupathi Ladoo is GI, whereas Roquefort Cheese tastes the way it does because it is matured in a certain way in the caves of Roquefort is an Appellation of Origin.

2.5.14.4. Difference Between GI, Trademark and Traditional Knowledge - Generally, people get confused with GI, Trademark and Traditional Knowledge. GI identifies a product/good as originating from a specific place. Trademark products/goods/service originate from a particular industry/institute/organization/society, etc. A Trademark is identified by an arbitrary sign, whereas GI has the name of the geographical area. Finally, a Trademark can be assigned or licensed to anyone, anywhere in the world, whereas GI is linked with a specific geographical territory.

Products identified as GI are often the result of traditional processes and knowledge carried forward by a community in a particular region from generation to generation. Similarly, some products identified by a GI may embody characteristic elements of the traditional artistic heritage developed in a given region, known as traditional knowledge (also termed as traditional cultural expressions). This is particularly true for tangible products, such as handicrafts, made using natural resources and having qualities derived from their geographical origin.

2.5.14.5. International Agreements for GI Administered by WIPO - The international organization WIPO has a dedicated search engine, namely WIPO Lex (https://wipolex.wipo.int/en/ legislation/ results?countryOrgs=IN&subjectMatters=5), which has incorporated IP Laws, including that of GI of all member countries. Below mentioned are the international agreements administered by WIPO:

- **Madrid Agreement** (1891) for the International Registration of Marks (https://www.wipo.int/madrid/en/).

- **Nice Agreement** (1957) for the International Classification of Goods and Services for the Registration of Marks (https://www.wipo.int/classifications/nice/en/).
- **Lisbon Agreement** (1958) for the Protection of Appellations of Origin (*International Registration https://www.wipo.int/treaties /en/registration/lisbon/).*

Every signatory member has to follow the guidelines of these agreements. Also, it is mandatory for the members to show the classification of goods in their official documents.

2.5.14.6. Famous Case Law: Banglar Rasogolla Vs. Odisha Rasagola - Rasagolas is a very popular dessert in India. It is thought to have originated in the eastern part of India. In November 2017, the West Bengal State Food Processing and Horticulture Development Corporation Limited registered 'Banglar Rasogolla' as a GI. However, the legal battle for GI registration started when objections to this GI registration were lodged by the State of Odisha, claiming that Rasagolas originated at Jagannath temple in Puri, Odisha. An application was filed in High Court in February 2018 to remove the registration of GI status of 'Banglar Rasogolla'. Meanwhile, in July 2018 'Odisha Rasagola' was also granted GI tag by the GI Registry, GoI. As per the court verdict,

a) 'Rasogolla / Rasagola' is a general term, which any person can use in his trade and business.
b) The words 'Odisha Rasagola' and 'Benglar Rasogolla' can only be used by authorized users 'under the law.

Hence, neither Bengal nor Odisha has a monopoly on the word Rasagola. However, no person or society or company can use the label 'Banglar Rasogolla' or 'Odisha Rasagola', without written consent from the authorized users.

2.6 Trade Secrets 

Trade Secret, a form of IP, deals with a practice or a process of a company that is generally not known outside the company. The confidential secret provides the company a commercial advantage over its rivals and is often a product of internal R&D. Trade Secret document comprises of technical information involving manufacturing processes, experimental research data, formulas, recipes, software algorithms, and commercial information comprising of marketing strategies and a list of product/process recipients. The document may also have a combination of elements, each of which by itself is in the public domain, but where the combination, which is kept secret, provides a competitive advantage.

2.6.1. Criteria for Trade Secret

For a product/process to qualify as a Trade Secret, the information should have, at least, the following criteria:

- Should be of commercial value.
- Secret information should not be in the public domain. It should be known to a limited group of people.
- Legal owner/s of the secret must ensure taking reasonable steps to keep the secret information and agreements (if any) confidential.

The unauthorized acquisition, use or disclosure of such secret information in a manner contrary to honest commercial practices by others is regarded as an unfair practice and a violation of the Trade Secret protection.

2.6.2. Registration and Protection Time of Trade Secrets

Contrary to the other forms of IP, a Trade Secret protection has no time period. Many Trade Secrets are more than 100 years old. In addition, there is no formal registration procedure/form to be followed/filled for maintaining a Trade Secret. In simple terms, Trade Secrets are protected without registration. Also, there is no annual renewal fee for keeping the Trade Secret, as a secret.

2.6.3. Rights Associated with Trade Secrets

The owner of the Trade Secret has the legal right to use the secret for economical and branding gains, as long as the secret does not come in the public domain. The owner has the right to sell the secret to anybody for any length of time, as decided by a mutual confidential/non-disclosure agreement. No third person/company can exploit the trade secret without the consent of the rightful owner of the Trade Secret.

2.6.4. Enforcement of Trade Secrets

If somebody acquires the secret through illegal means or indulge in dishonest use of a Trade Secret acquired through a legal agreement, the rightful owner can approach the court for seeking an injunction and/or claim financial damage accrued as a result of dishonest commercial practice. In some countries, criminal penalties can be awarded in case of a Trade Secret violation.

As per the guidelines of the Paris Convention (1883) (Article 10*bis* of the Convention for the Protection of Industrial Property), each member nation has to provide strong protection against unfair competition. In India, there is no specific legislation for defending/protecting Trade Secret.

It is possible that a person/company independently develops a process/technology/product, etc. which is already a Trade Secret. A Trade Secret product may be developed using a novel technology or by reverse engineering. In such a case, there is no violation of Trade Secret protection. The newly developed process/technology can also claim Trade Secret rights.

2.6.5. When to Apply for Trade Secret Protection

In case of an innovation, there are no specific guidelines whether to opt for a Patent or Trade Secret. However, Trade Secret is preferred when:

- Innovation does not qualify the criteria set for patenting.
- Trade secret is an attractive proposition provided the information can be kept secret for more than 20 years i.e. time period of patent.

- Innovation is concerned with the manufacturing process (and not a novel product).

2.6.6. Precautionary Measures to be Taken by Enterprises / Organizations

Trade Secrets are quite common in the industrial sector. The enterprise needs to take all the necessary steps to keep its Trade Secrets away from the public domain. The steps include:

- The confidential information of the trade secret should be in the hands of only a few extremely reliable persons.
- **Signing agreements** (confidentiality, non-disclosure and non-compete contracts) with employees/business partners. In case of employees, the agreement should remain in play for a certain period of time after he has either retired or left the company.

There are three sets of circumstances for which proceedings for theft may arise:

- Where an employee comes into possession of secret and confidential information in the normal course of his work and passes that information to an unauthorized person.
- Where an unauthorized person (such as a new employee) provokes such an employee to provide him with such confidential information.
- Where, under a license for the use of know-how, a licensee is in breach of a condition, either expressed in any agreement or implied from conduct, to maintain secrecy in respect of such know-how and fails to do so.

2.6.7. Important Information about Trade Secrets

- Features of software, such as code and the ideas and concepts reflected in it, can be protected as Trade Secrets.
- Trade Secrets are not subject to being "infringed," as with Patents and Copyrights, but are subject to theft.
- In India, there is no specific legislation regarding Trade Secrets. However, these are governed under Section 27 of 'The Indian Contract Act, 1872

(http://uputd.gov.in/site/writereaddata/siteContent/indian-contract-act-1872.pdf).

- Trade Secrets can be protected lifelong until it is disclosed in the public domain.
- Trade Secrets are important for the companies, which are surviving on them and any unauthorized use is known as 'unfair protection'.

2.6.8. Disparity between Trade Secrets and Patents

In general, all Patents can be registered as Trade Secret, but all Trade Secrets cannot be patented as patenting criteria are quite stringent. For example, certain commercial information or manufacturing processes are not sufficiently inventive, thus patenting route is not viable, but it qualifies for a Trade Secret.

It is also possible that an innovation qualifies to be patentable but still registered as a Trade Secret because a Patent is granted for 20 years, whereas Trades Secret has an unlimited shelf life. Also, there is no registration cost for protecting Trade Secret and it comes into force with immediate effect.

But, Trade Secret has its own pitfalls. The level of protection granted to Trade Secrets is not as strong as that of Patents. The commercialization of Trade Secrets is difficult as the real value of Trade Secrets cannot be assessed unless the whole process of manufacturing is revealed (i.e. cost of the ingredients, production plant, etc.).

2.6.9. Renowned Trade Secrets

2.6.9.1. Coca-Cola **-** the formula for Coca-Cola is one of the go-to examples of a Trade Secret. According to a company representative, the original formula is written on a piece of paper stored in a bank vault. Only 'a small handful' of people know the formula at any time.

The recipe for Coca-Cola was invented by an American bio-chemist (John Stith Pemberton) in 1886 while developing an alternative to morphine to cure people from depression, anxiety and pain. Shortly before his death, he sold the recipe to an American businessman, Asia Griggs Candler, in 1888 and earned a massive

amount of money out of it. Though Mr. Pemberton successfully created the recipe for coca-cola, a non-alcoholic drink, but his addiction to drugs made him bankrupt.

2.6.9.2. Google Algorithm - In the current era, Google's search algorithm is recognized as the world's most important Trade Secret. We all use 'Google Search' in order to find an answer to any query. It is really mind-boggling how the Google Search engine brings desired information in a matter of few seconds.

2.6.9.3. WD-40 - 'Water Displacer - 40th attempt' is the world's best known household spray-lubricant used for removing corrosion, sap, tar and adhesives from various surfaces to cleaning tools and equipment. It was invented by an American, Norm Larsen, in 1953. Nearly 80% of the US people have used this commodity. The formula for WD-40 has been kept in a bank vault. The company mixes the substance in three different locations. These mixtures are shipped to manufacturing partners for final mixing and marketing.

2.6.9.4. Kentucky Fried Chicken (KFC) - One of the most famous Trade Secrets originated around the middle of the 20th century from a white-suited Colonel Harland Sanders, who created a recipe for a tasty chicken coating that contained 11 herbs and spices - a Trade Secret. The original, handwritten copy of the recipe is hidden in a safe in Kentucky, USA and only a few select employees, bound by a confidentiality contract, know the recipe. For further protection, two separate companies blend a portion of the mixture, which is then run through a computer processing system to standardize for blending.

A few other well-known Trade Secrets are Dr. Pepper (non-alcoholic, fizzy drink), Listerine (for treatment of allergies, pimples, psoriasis, and insect bites), Lena Blackburne's Baseball Rubbing Mud (for roughing the surface of base-ball) and McDonald's Big Mac Special Sauce Recipe.

2.7 Traditional Knowledge 

Traditional Knowledge (TK) based on knowledge derived from ancient roots are not conventionally protected under IP systems. Most countries have developed a *sui generis* system for protecting TK that is inclined towards the dissemination and preservation of TK rather than legal protection associated with it. To protect the spiritual identity and essence of TK in the community/country, means of protection are not totally in tune with the current system of IP protection. TK protection is a way to recognize traditional sources of knowledge and to enable indigenous communities and governments to have a say in the use of such TKs by others.

TK comprises know-how, knowledge, skills and practices that are traditionally originated and are passed from generation to generation in a community. TK is unique for a community and mark as a cultural identity of the community. Some of the practical examples of TK of India which have gained worldwide popularity are Ayurveda, Unani, Medicinal Formulations (including components, such as turmeric, neem, etc.).

TK is also linked to Traditional Cultural Expressions (TCEs), commonly known as 'Expressions of Folklore'. It includes folklore expression in the form of music, dance, art, designs, signs and symbols, names, performances, architecture forms, ceremonies, narratives and handicrafts and any other form of artistic/cultural expressions. TK and TCE form a part of the heritage of the traditional and indigenous community. Some of the prominent TCEs of India include Bharatnatyam of Tamil Nadu, Kuchipudi of Andhara Pradesh, Kalaaripayattu martial art of Kerala and many other traditional practices.

2.7.1. Significance of TK

TK and TCE represent the face of the community and its people. These people are given due credit and fair and equitable sharing of the benefits arising from the commercial exploitation of TK and TCE. The execution of the TK protection system led to the revocation of Patents filed in the US and other countries on the medicinal properties of turmeric, neem, amla, etc. which are very well documented in Indian ancient texts.

2.7.2. Agreement on TK

The major agreements that shaped the development of the *sui generis* system for the protection of TK are:

- 'Convention on Biological Diversity (CBD), 1993' and the 'Nagoya Protocol, 2010' deal with mechanisms to be followed for accessing the genetic resources of any country and to devise ways for fair and equitable sharing of benefits arising from utilizing those genetic resources.
- International treaty on 'Plant Genetic Resources for Food and Agriculture' of the Food and Agriculture Organization (FAO), 2001.
- 'International Union for the Protection of New Varieties of Plants (UPOV), 1991'.
- Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) through the 'Doha Declaration, 2001' directed TRIPS to include a perspective on the protection of TK in alignment with CBD.
- 'WIPO's Intergovernmental Committee (IGC) on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, 2000' directed all member States to comply with the protection of TK.
- Emerging need for awareness and protection of TCEs was raised internationally through:
    - 'World Heritage Convention, 1972'.
    - The 'UNESCO/WIPO World Forum on Protection of Folklore, 1997'.
    - 'Convention for the Safeguarding of Intangible Cultural Heritage, 2003'.
    - 'UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 2005'.

2.7.3. Protection of TK

India is the only country to set up an institutional mechanism for the protection of TK. The TK documentation is undertaken by

the Council of Scientific and Industrial Research (CSIR), Ministry of Science and Technology and Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH) through the creation of Traditional Knowledge Digital Library (TKDL) that acts as a central repository of India's TK and has played a major role in the cancellation and withdrawal of foreign patent applications based on India's TK. The digital library is the major source of documenting India's TK in the name of the traditional community as TK holders. The documented TK in the name of TK Holders (community/tribe/local government body/state government/ central government) acts as a tool to protect TK from any unlawful rights over existing TKs and to get exclusive IP rights over such TK. The Central, State, and local governments, on behalf of TK holders, protect the TK by following approaches:

- **Defensive protection** includes a strategic process employed to ensure that no third party gains any illegitimate IPR over TK.
- **Positive protection** covers acknowledgment of custodians of TK; authorization to access TK; benefit-sharing; misappropriation prevention by means of taking prior consent to use TK and linking TK with GI and TCEs.
- India has taken various legislative and administrative measures to ensure that the TK is protected and fair means of benefit-sharing emerging out of TK is undertaken.

Table 2.13: Initiative undertaken for TK protection by India.

S. No.	Measures taken	Protection of TK
Legislative Measures		
1.	National Biodiversity Act (https://indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf)	• Protection of genetic resources of India that essentially covers TK. • Fair and equitable sharing of benefits arising from TK. • Prior consent and authorization requirement for accessing TK.
2.	Protection of Plant Varieties and Farmers Rights Act, 2002 (https://indiacode.nic.in/bitstream/123456789/1909/1/200153.pdf)	• Traditional plant varieties can be registered as Farmer's Variety. • Farmers right to equitable sharing of plant variety and its related genetic resources.
3.	Indian Patent Act, 1970 (http://www.ipindia.nic.in/writereaddata/Portal/IPOAct/1_31_1_patent-act-1970-11march2015.pdf)	Section 3(p) states 'anything that is TK or duplicative of TK cannot be patented in India'.
4.	Scheduled Tribes and Other traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (https://tribal.nic.in/FRA/data/FRARulesBook.pdf)	Section 3(1) (k) of the Act 'Right of access to biodiversity and community right to IP, and TK related to biodiversity and cultural diversity' represents rights associated with access of biodiversity resources and TK of tribal community in India.
Administrative Measures		
5.	Institutional set up under National Biodiversity Act (http://nbaindia.org) a. National Biodiversity Authority	• Prior permission required for obtaining IPR based on knowledge/resource obtained from India. • Access regulation to knowledge/resource by any foreign entity.

	b. State Biodiversity Board	Access regulation to knowledge/resource by any entity
	c. Biodiversity Management Committees (BMCs)	Creation of Peoples' Biodiversity Registers.
6.	Traditional Knowledge Digital Library (TKDL); (http://www.tkdl.res.in/tkdl/langdefault/common/Home.asp?GL=Eng)	• Joint initiative of CSIR and Ministry of AYUSH, lists nearly 3.6 lakhs formulation in TKDL. • Assets of traditional and indigenous communities that comprise of a list of TK existing in India in the form of a digital repository. • Addresses the language barrier by converting Indian tradition texts like Ayurveda, Unani, Yoga, etc. in 5 different languages (English, Spanish, French, Japanese and German). • TKDL has led to withdrawn/rejection of nearly 230 applications in international patent offices by giving prior art evidence based on TK. • Led to the formulation of State level TK e.g. TKIK: Traditional Knowledge Innovation, Kerala.
7.	Traditional Knowledge Resource Classification (TKRC) (http://www.tkdl.res.in/tkdl/langdefault/common/TKRC.asp?GL=Eng)	• It is an innovative, IT based classification system in accordance with information existing in the ancient texts. • It led to the incorporation of 200 sub-groups in the major group (A61K 36/00) of International Patent Classification.
8.	People's Biodiversity Registers (PBR) (http://nbaindia.org/uploaded/pdf/PPT_PBRs_Guidelines.pdf)	• An initiative undertaken by BMCs in nearly 26 States of India that has collated TK of that particular state in one single register.

India has no separate legislation for protecting TCEs but these can be protected under TK Protection System, Copyrights, Geographical Indications and Trademarks. Many NGOs and societies are coming up with TCEs digitalization and their inclusion in TKDL, but concerns over who will own the rights, copyright generated and scope of digital formats are some of the issues that need to be addressed.

2.8. Semiconductor Integrated Circuits Layout Design

A layout design or topography can be defined as the unique and novel combination of electronic components and interconnections through signal tracks between those components. This circuit design will be protected under the national law and the creator of the layout will be conferred with certain rights if it is original. Semiconductor Integrated Circuits are made up of a complex series of layers of semiconductors, insulators, components, metals, and other materials on a substrate.

The specific criteria for the protection under the Semiconductor Integrated Circuits Layout Design (SICLD) Act, 2000 are:

- The layout design should be original.
- There must distinctiveness in the Design.
- The design must be novel and capable of distinguishing from any other layout Design
- The Design must not be exploited commercially anywhere in India or a Convention Country.

Basic Definitions of SICLD are as follows:

- 'Semiconductor Integrated Circuit' is defined as the product having transistors or any circuitry elements, which are formed on a semiconductor/insulating material which is designed to perform an electronic circuitry function.
- 'Layout-Design' means a layout if circuitry elements like transistors, resistors, capacitors, etc. and lead wires connecting all components have been articulated in a semiconductor integrated circuit.

- ‘Commercial exploitation or use’, with regards to the SICLD , means to sell, export, lease, offer or exhibit for sale or otherwise distribute such semiconductor integrated circuit layout design for making any commercial benefit out of registered design.

2.8.1. Duration of Registration

The layout design should be filed for registration before publishing it. Once it has been registered under the Act, initial protection will be for 10 years counted from the date of filing an application. If the design is already being used, the date of protection will be counted from the date of first commercial exploitation anywhere in India or in any country, whichever is earlier. If the creator is already using the design, he will get the ownership automatically but, in case of infringement, the registration certificate plays a crucial role as proof of ownership.

2.8.2. Infringements

i) The act of reproducing the design, either incorporating it in an integrated circuit or using the registered topography as it is, without prior permission.
ii) Importing, selling or distributing the layout design for commercial purposes or selling an integrated circuit in which a protected layoutdesign is incorporated.

2.8.3. SICLD Registry

As India is a signatory of the WTO, an Act in conformity with the TRIPS agreement (Art. 35 to 38) was passed, namely SICLD Act, in 2000. Previously, the administration of the SICLD Act, 2000 and the SICLD Registry was under the control of the Ministry of Electronics and Information Technology (MeitY), but since 17th March 2016, the administration has been transferred to DPIIT, Ministry of Commerce and Industry, and brought under the ambit of Office of Controller General of Patents, Designs and Trade Marks. The SICLD Registry can be done at Boudhik Samapada Bhawan, Dwarka, Sector-14, New Delhi. At this office, the applications on layout designs of integrated circuits are filed for registration. Once it is filed, the design is examined by the examiner and if it is fulfilling the criteria, the registration certificate is issued for the ten years.

2.8.4. Requirements for Registration

- Three sets of drawings were produced with a plotter describing the layout design intended for registration.
- Three sets of photographs of masks were used for the fabrication of the semiconductor integrated circuit by using the layout design.
- Three sets of drawings which describe the pattern of such masks.

2.8.4.1. Procedure for Registration

- An application will be filed to the registrar in the office of the SICLD registry with a) three sets of drawings that describe the layout design, b) three sets of photographs of the description of masks used for the fabrication of the semiconductor integrated circuits.
- If the application is in order and fulfils basic requirements for registration, further processing for registration will be carried out. However, the registrar has full rights to withdraw the application if it is found notsuitable for registration.
- The accepted application is advertised in an official journal, 'The Semiconductor Integrated Circuits Layout Design Journal' (http://sicldr.gov.in/ejournals), within 14 days of acceptance. In case any opposition is found to the registration, then a notice will be sent to the registrar in the prescribed manner by the opponent within three months from the date of advertisement.
- The registrar then asks both the parties (the applicant and the opponent) to produce the evidence in support of the claims made by them and finally gives his decision.
- If the application is not opposed by anyone or the decision has been given infavour of the applicant, the registrar shall register the said layout design in the register of layout design and also issue a certificate sealed with the stamp of the SICLD Registry.

2.8.5. Forms and Fee

According to the SICLD Act, 2000, the applicant needs to fill the forms for various purposes by paying the prescribed respective fee.

Table 2.14: List of important forms related to SICLD.

Purpose	Form No.	Fee (₹)
Application for Registration of Layout-Design	LD-1	5,000
Notice of opposition to application for registration of Layout-Design	LD-2	500
Request for clerical error or for amendment	LD-6	300
Request to register a subsequent proprietor of a Layout-Design upon the same devolution of title	LD-10	1,500
Application for the rectification of the register	LD-12	2,000
Application for cancellation of entry of a registered user of a Layout-Design	LD-15	1,000
Form of request by a registered proprietor or a registered user of a Layout-Design who has no principal place of business in India, to enter, alter or substitute an address for service in India as part of his registration	LD-19	1,000
Application by registered proprietor of Layout-Design for the cancellation of entry thereof in the register	LD-20	1,500
Request for certificate of the registrar	LD-22	1,000
Request for duplicate or further copy of the certificate of registration	LD-25	2,000
Opposition under section 40(3) before the Appellate Board	LD-28	
Notice for cancellation of registration of a Layout-Design or of assignment or transmission relating thereto	LD-33	2,000
Request for the permission to use the registered Layout-Design without authorisation of the proprietor	LD-34	2,000
Application to high court against decision or order of Appellate Board	LD-35	2,000
Application for registration as a Layout-Design agent	LDA-1	2,000

Source: http://sicldr.gov.in/forms

2.8.6. Acts and Laws

In India, the protection of SICLD is administered by the Office of CGPDTM under the Semiconductor Integrated Circuits Layout Design Act 2000 and Semiconductor Integrated Circuits Layout Design Rules 2001 (http://sicldr.gov.in/actsrules).

Although the first use of the layout design anywhere is sufficient to claim protection, the creator should register the design to avoid infringement. National Laws and Acts protect any IP in the respective territory. Still, for protecting the topography in another country, the inventor can register it by filing individually in the country of interest. Although, the international treaty, namely the Washington Treaty on Intellectual Property in respect of Integrated Circuits, 1989 (https://www.wipo.int/treaties/en/ip/washington /#:~: text=The%20Washington%20Treaty%20was%20adopted,Herzegovina%2C%20Egypt%20and%20Saint%20Lucia.) has been signed by a few countries including, India, but the treaty is not in force as of now.

2.8.7. Additional Information

- The right holder can enforce his rights against infringement through civil actions. These actions include injunctions, damages and seizure of goods.
- The international legal framework has kept it open to the member countries to protect such designs under the *sui generis* law. It's up to the countries whether they want to protect these Layout-Designs under Copyright, Patents, Utility Models, Industrial Designs, Unfair Competition or any other law.
- In the case of right of registration for Commissioned Works, which means the original Layout-Designs has been created under the commission or a contract of employment, the right of registration to such Layout-Design shall belong to the person who commissioned the work or to the employer in the absence of any contractual provision to the contrary.
- The application can be filed by any resident of India or whose principal place of business is in India. In case of a joint application, the first-mentioned applicant must be Indian or have a business in India.

2.8.8. Acts not Considered as an Infringement

- The acts like scientific evaluation, analysis, research or teaching, do not constitute an act of infringement.
- If a person, on the basis of scientific evaluation or analysis of a registered Layout-Design, creates another Layout-Design which is original within the meaning of Sub-section (2) of Section 7 of SICLD Act, 2000, that person shall have the right to incorporate another Layout-Design in a Semiconductor Integrated Circuit. Such incorporation or performance of any act shall not be regarded as infringement.

Any person who contravenes and infringes a registered Layout-Design, as per the provision under the Act, will be punished either with imprisonment for a term extendable to three years or imposition of a fine ranging from ₹ 50, 000 to 10,00,000, or both.

2.9. Protection of Plant Varieties and Plant Breeders Rights

A plant variety represents a more precisely defined group of plants, selected from within a species, with a common set of characteristics. Under the unique system of IPR, protection to new plant varieties is provided through 'Plant Breeder's Right' (PBR), granted to the breeder of the new plant variety. A breeder is a person who bred, discovered or developed a variety. The protection is provided under the independent '*sui generis'* system *(sui generis system is a unique system in which new national laws and international norms are administered as per the requirement. Such systems are generally adopted for the IP protection of biodiversity and genetic resources in most countries; Biodiversity describes the life variability existing on the earth at the genetic level, species level and the larger ecosystem level. Biodiversity comprises microbial life, plant life and animal life).*

2.9.1. Need for Plant Protection as an IP

The development of new plant varieties with improved yields, better quality and higher pest and disease resistance has contributed immensely to agricultural productivity. Plant Breeders spend years developing new plant varieties with superior characteristics that require substantial financial investments. Therefore, IP protection of newly developed plant varieties offers a reward system for breeders and encourages them to develop new plant varieties.

2.9.2. International Agreements/Treaties for Plant Protection

To include plant variety protection under the realm of IP, two main treaties have played an important role.

- Union Internationale Pour la Protection des Obtentions Végétales (UPOV) (English version - International Convention for the Protection of New Plant Varieties), held in 1961, in Paris provided IP protection to plant breeders for newly developed plant varieties on an international scale. Under the UPOV Act, the *sui generis* system for protecting plant varieties is advocated.
- Trade-Related Aspects of Intellectual Property Rights (TRIPS)

Agreement - In 1995, WTO administered TRIPS agreement introduced plant variety protection either through a patent system or through the *sui generis* system developed by the member countries or a combination of both. It laid down minimal legal standards for designing an effective *sui generis* system of plant variety protection.

2.9.3. Indian Context for Protection of Plant Varieties

In alignment with TRIPS Agreement, India selected *sui generis* system over patent under the 'Plant Variety Protection and Farmers Rights (PVP&FR) Act, 2001'. The Act lays the foundation for the establishment of an effective system for protecting plant variety along with the rights of farmers and plant breeders. Ministry of Agriculture and Farmers Welfare, Government of India, has established PVP&FR Authority' (http://www.plantauthority.gov.in/index.htm)' based in New Delhi. The plant breeders and farmers can register their new plant varieties with PVP&FR Authority and subsequently claim their ownership rights associated with the registered plant variety. The other functions of the Authority are:

- Developing Distinctiveness, Uniformity and Stability (DUS) test guidelines for the plant varieties.
- Developing characterization and documentation of varieties registered.
- Compulsory cataloguing facilities for all varieties of plants.
- Documentation, indexing and cataloguing of farmers' varieties.
- Recognizing and rewarding farmers, a community of farmers, particularly tribal and rural communities, engaged in conservation, improvement, preservation of plant genetic resources of economic plants and their wild relatives.
- Maintenance of the National Register of Plant Varieties.
- Maintenance of National Gene Bank.

PVP&PR authority has also authorized various centres across India for DUS testing. The list of authorized DUS centres can be accessed through the link: http://www.plantauthority.gov.in/dus-center.htm.

The PVP&FR Authority issues a 'Certificate of Registration' for a new plant variety under the PVP&FR Act, 2001 that grants exclusive rights to plant breeder (or licensee/agent/successor) to produce, market, sell, import or export and distribute the registered variety. Till date, Authority has issued nearly 3500 certificates of Registration of new plant varieties.

2.9.4. Conditions for Registration of New Plant Variety

- **Novelty** - Plant variety (propagated and harvested material) has not been exploited earlier than one year in India and earlier than four years outside India.
- **Distinctiveness** - Plant variety is distinct in its essential characteristics from other plant varieties.
- **Uniformity** - All plants of the plant variety show the same characteristics (subjected to variation in generations due to propagation).
- **Stability** - Through many generations, the essential characteristics of the plant should not change in terms of quality and content.

2.9.5. Types of Plant Varieties Registered Under PVP&FR Act, 2001

Different types of plant varieties that can be registered in India under the PVP&FR Act are as follows:

- **New Variety** - A new variety that confers the criteria of Novelty, Distinctiveness, Uniformity & Stability (NDUS).
- **Extant Variety** - A variety can be registered as an extant variety if it is - i) notified under Section 5 of Seeds Act,1966 or ii) is a farmer's variety or iii) variety whose common knowledge prevails and is available in the public domain.
- **Farmer's Variety** - This is a variety that is traditionally cultivated and developed by the farmers in the field. These varieties can be a wild relative of any variety of which farmer has a common knowledge.

- **Essentially Derived Variety** - Is the variety that is derived from a new variety of extant variety or farmer's variety.

2.9.6. Plant Varieties which cannot be Registered in India

- Plant variety whose commercial exploitation is detrimental for the environment or public order or public morality or health or human/animal/plant life.
- Plant variety that involves the use of technology which is detrimental to human/animal/plant life.
- Plant variety that belongs to the genera or species which is not listed in the notification issued by the Government of India.

2.9.7. Process of Registration

The registration of plant variety is mandatory for farmers or plant breeders to exercise their exclusive rights over the plant variety. The registration of a plant variety is carried out in the following steps:

i) Forms for the registration of plant variety (new variety, extant variety, farmer's variety and essentially derived variety) are submitted to the PVP&FR Authority and are published on the website. There are more than 30 forms dedicated to 'Plant Variety Protection'. The important ones are listed in Table 2.15.

ii) Plant varieties which have received DUS Certificate are published in the 'Plant Variety Journal of India' (http://www.plantauthority.gov.in/pdf/pvjapril2018signed.pdf). At this stage, the application is open for the opposition to the registration of the plant variety.

Table 2.15: Important forms associated with plant variety protection.

S. No.	Form	Title of the Form
1.	Form I	Application for Registration of New Variety and Extant Variety Under Protection of Plant Variety and Farmers' Rights Act, 2001.
2.	Form II	Application for Registration of Essentially Derived Variety (EDV) Under Protection of Plant Variety and Farmers' Rights Act, 2001.
3.	Application Form	Application for Registration of Farmers' Variety Under Protection of Plant Variety And Farmers' Rights Act, 2001.
4.	PV-3	Notice of Opposition.
5.	PV-6	Application for Renewal of Registration of Plant Varieties.
6.	PV-9	Application for Registration as an Agent or Licensee.
7.	PV-28	Grant of Compulsory License.
8.	PV-33	Request for Certified Copies of Entries in the Plant Varieties Register or for Inspection of Such Entry.

Source: http://www.plantauthority.gov.in/forms.htm

iii) With no opposition, the application is processed for registration within 8-20 months from the date of submission of the application. Once registered, it is published in the 'Plant Variety Journal of India'.

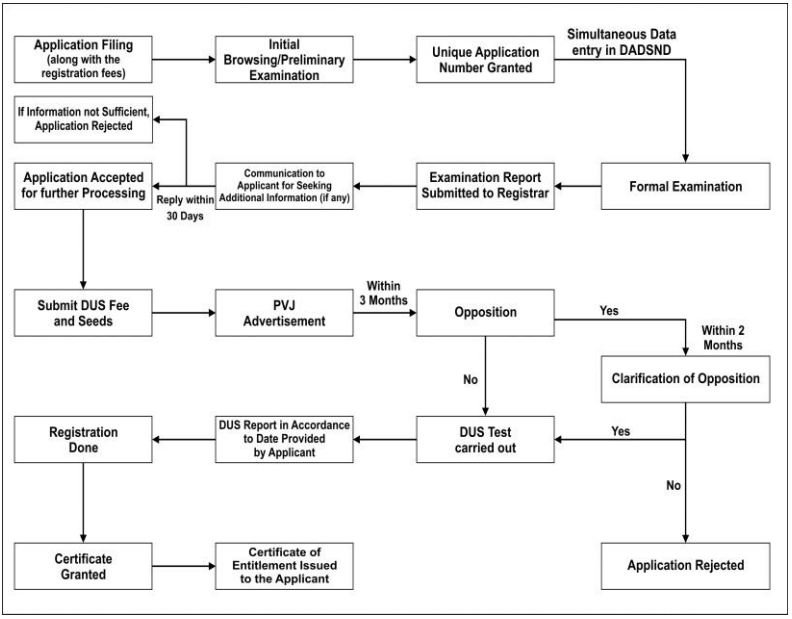
iv) If there is an opposition to the application, the registrar will serve the notice of opposition to the applicant and the applicant has to file the counter-statement for the opposition within two months of the receipt of the notice. Failing to do so, the application will be abandoned.

v) The registered plant varieties are added to the National Register of Plant Varieties maintained at the head office of

PVP&FR Authority in New Delhi. The list of registered varieties can be accessed at Protection of Plant Varieties and Farmers' Rights Authority (http://www.plantauthority.gov.in/List_of_Certificates.htm).

The detailed process of the registration of the plant variety as per the PVP&FR Act 2001 is depicted in Fig. 2.14 below.

Figure 2.14: Registration of plant varieties under PVP&FR Act, 2001.



Source: http://www.plantauthority.gov.in/pdf/RTI_Disclosure.pdf
DADSND: Digital Application Denomination Search for Novelty and Distinctively;PVJ: Plant Variety Journal *(slightly modified)*

2.9.8. Fee Structure

Along with the application, the applicant has to deposit registration fees depending on the type of variety to be registered. After the registration of the variety, the annual fee has to be paid to maintain the registered plant variety.

Table 2.16: Registration fees for plant variety registration.

S. No.	Type of Variety	Individual (₹)	Educational Institute (₹)	Commer-cial Entity (₹)	Annual Mainte-nance Fee (₹)
A. Registration Fees					
1.	New Variety	7,000	10,000	50,000	20,00*
2.	Extant Variety *(about which there is common knowledge)*	7,000	10,000	50,000	2,000**
3.	Extant variety *(notified under section 5 of Seeds Act, 1966)*	2,000	2,000	2,000	2,000
4.	Essentially Derived Varieties	7,000	10,000	50,000	Not specified
5.	Farmers' Variety	No fee	No fee	No fee	10
B. Other Fees					
6.	Notice of opposition	10,000			
7.	Extension of time	5,000/ month			
8.	Application for benefit sharing	10,000			
9.	Application for registering as agent/licensee	15,000			
10.	Application for variation/ cancellation of the terms of registration	10,000			
11.	Application for grant of compulsory license	25,000			

Source: http://www.plantauthority.gov.in/registrationfees.htm

*with added amount i.e. 0.2% sales value of the seeds during the previous +1% royalty, if any, received during the previous year

**with added amount i.e. 0.1% of the sales value of the seeds during the previous year + 0.5% of royalty, if any, received during the previous year

For undertaking DUS test, the applicant has to pay the DUS testing fee. The testing fee is different for each crop. The on-site DUS testing charges are higher than lab-testing charges. For example, for Chickpea lab testing charges are ₹ 20,000 as compared to ₹ 60,000 for on-site testing charges. DUS testing fees for different crops can be accessed at: http://www.plantauthority.gov.in/DUSTestFeeSorted1.htm.

2.9.9. Duration of Plant Variety Protection in India

The protection period varies depending on plant variety such as Trees and Vines - 18 years, Extant Varieties - 15 years (from the time variety was government notified under Seed Act, 1966); other crops - 15 years.

2.9.10. Rights Granted Under PVP&FR Act, 2001

- **Plant Breeders Rights (PBRs) -** The exclusive rights granted to the breeders are to produce, sell, market, distribute, export or import the registered plant variety. However, such rights are exempted for using plant variety for research purposes.
- **Farmer's Rights -** In order to protect and encourage the farmer's contribution to conserving and improving plant genetic resources, farmer's rights were introduced. These rights protect farmers from the stringent IPR, such as patents that confers monopoly over the product/technology patented. PVP&FR Act 2001 describes farmer as the 'cultivator (cultivating the land himself or through direct supervision), or one who conserves and preserves any wild species or traditional varieties, or a breeder who adds value to such wild species and traditional varieties through selection and identification of their useful properties'. The 'Farmer's Rights' under PVP&FR Act, 2001 are as follows:
    - *Rights on seed* - provides rights to the farmers to save seeds, use seeds and share, exchange or sell seeds to other farmers.
    - *Right to register* - provides farmers with the right to register their traditional plant varieties and procure exclusive rights over their registered variety.

- *Right to reward and recognition* - farmer's contribution to agriculture is rewarded by means of the award presented by the National Gene Fund under PVP&FR Authority.
- *Right to benefit-sharing* - farmers or tribal communities that contributed to the development of new crop varieties are entitled to equitable sharing of benefits that emerge from the new crop variety. In addition to this, India has enacted the 'Biological Diversity Act, 2002' for preserving biological diversity existing in India along with establishing legal mechanisms for equitable sharing of benefits emerging from traditional biological resources (that also consist of plant varieties and plant products) and Traditional Knowledge.
- *Right to compensation for losses* - The registered new plant varieties are subjected to sale with a number of claims over their performance and successful cultivation conditions. In case the registered plant variety does not perform as claimed, then farmers are provided with compensation for the losses.
- *Rights against undisclosed use of traditional varieties* - this right protect farmers' interest when a breeder commercially exploits traditional variety and does not disclose it. The claim can be filed by any person on behalf of the farmer/tribal or local community.
- *Right to access to seed* - this right directs the breeders of the registered plant variety to meet the seed demands of the farmers at a reasonable price.
- *Right to free service* - The farmers are exempted from fees to be paid during stages of registration of plant variety.
- *Right to protection against accusations of infringement* - this right protects the farmers from infringement and other legal accusations levied upon him due to his legal ignorance in using other's plant varieties.

2.9.11. Compulsory Licensing

PVP&FR Act, 2001 exercises the principle of Compulsory Licensing (CL), subject to the situation when plant variety is not

available to the public at a reasonable price after three years of registration. The interested person can file an application to PVP&FR Authority for a grant of CL through Form PV-28.

2.9.12. Interesting Cases Related to Plant Variety Protection in India

PepsiCo Potato Case **-** PepsiCo India Holding (PIH) filed a case against farmers of Gujarat for illegally growing and selling PepsiCo registered Hybrid Potato Plant Varieties (FL 1867 and FL 207) in the year 2019. The case led to public outrage and pushed the government to moderate PepsiCo to withdraw the case against the farming community of India. PIH withdrew its case based on the provisions of 'Farmers Rights' under the PVP&FR Act, 2001 enacted in India.

Monsanto Vs Nuziveedu Seeds Limited **-** Monsanto, an American company, filed a case against Indian agro company Nuziveedu in the year 2016 for not paying due Patent royalties over infused BT Gene cotton variety that was patented by Monsanto. Nuziveedu challenged the Patent validity of infused BT gene cotton plant in India. As plants or plant varieties cannot be patented in India [according to Section 3 (f) of the Patent Act, 1970], the Indian court invalidated Monsanto's patent on the BT Cotton plant and directed Monsanto to apply for plant protection under PVP&FR Act, 2001.

2.10. National Biodiversity Authority

According to the international organization based in Switzerland i.e. International Union for Conservation of Nature (IUCN), India is a megadiverse country with 2.4% of the world's land area and accounts for 7-8% of all recorded species, including species of plants and animals.

Due to certain inevitable things happening in the country like population explosion, climate change and lax implementation of environmental policies, several species of plants and animals face the threat of extinction. To ensure and regulate the sustainable use of the resources, National Biodiversity Authority (NBA-http://nbaindia.org/link/304/1/1/home.html) was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002). The NBA has its Headquarters in Chennai, Tamil Nadu. It is an autonomous statutory body under the Ministry of Environment, Forest and Climate Change, Government of India. The prominent functions of the NBA are:

- To facilitate and advise the Government of India on issues of conservation, sustainable use of biological resources and fair, equitable sharing of benefits of use arising out of the utilization of biological resources.
- To assist the State Governments in the selection of areas of biodiversity importance under Sub-Section (1) of Section 37 as heritage sites and measures to be adopted for the management of such heritage sites.

The authority has created dedicated boards in 28 states called the State Biodiversity Board (SBB) to ensure the regulation and implementation of the guidelines issued by the central government in the respective states. The important functions of the board are:

- Regulation of the matters relating to the conservation of biodiversity.
- Sustainable use of its components.

- Equitable sharing of the benefits arising out of the utilization of biological resources.
- The board can grant approval or undertake any activity referred to in Sections 3, 4 and 6 of the Act e.g. requests for commercial utilization or bio-survey and bio-utilization of any biological resource by the Indians.
- To monitor the local level committees known as Biodiversity Management Committees (BMCs).

The NBA is supporting a total of 2,05,794 BMCs in 28 states of India. The committees are responsible for promoting conservation, sustainable use and documentation of biological diversity, including preservation of habitats, conservation of landraces, folk varieties and cultivators, domesticated stocks and breeds of animals and microorganisms, besides chronicling of knowledge relating to biological diversity.

More information on Indian Biodiversity can be accessed from the official website of the National Biodiversity Authority and an Indian Biodiversity Portal (https://indiabiodiversity.org/). The portal provides open and free access to biodiversity information. The salient features of the Biological Diversity Act, 2002 are mentioned below.

2.10.1. Biological Diversity Act, 2002

The 'Biological Diversity Act' was enacted in 2002 to promote the conservation of biological resources in India and establishing mechanisms for equitable sharing of benefits arising from the use of genetic resources of the country. In compliance with United Nation's guided 'Convention for Biological Diversity' (CBD), India became a party to CBD in 2002 and enacted the Biological Diversity Act. The Act describes the biological resources as '*plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material*' and biological diversity as '*the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of ecosystems*' (https://indiacode.nic.in/bitstream/1234

56789/2046/1/200318.pdf).

India has been exclusively tagged as a megadiverse nation that houses nearly 10% of the world's biodiversity. India possesses 22 agro-biodiversity hotspots possessing rich biodiversity (http://nbaindia.org/uploaded/Biodiversityindia/Bio_Hot_Spots.pdf) India has set up twelve national repositories for the safe deposit of various types of existing biological resources.

2.10.2. International Agreements for Conservation of Biodiversity

The CBD was initiated in 1992 and formulated into action in 1993 with a focus on the conservation of biological resources existing worldwide. The convention was further supplemented with two protocol agreements a) Cartagena Protocol (2000; enforced in 2003) and b) Nagoya Protocol (2010; enforced in 2014). Cartagena Protocol focused on drafting an agreement on biosafety issues related to the movement of live modified organisms from one location to another keeping in mind genetic stability. Nagoya Protocol worked for creating avenues for access to knowledge and biological resources and devising mechanisms for fair and equitable sharing of benefits arising from the use of biological knowledge/ resources.

2.10.3. Implementation of Biological Diversity Act, 2002

In order to enact the Biological Diversity Act, 2002, the Ministry of Environment, Forests and Climate Change, Government of India has established:

- National Biodiversity Authority (NBA; at the national level).
- State Biodiversity Boards (SBB; at the state level; in 28 states).
- Biological Management Committees (BMCs; at the local level; 2, 05,794 BMCs set up).

NBA has authorized BMCs to create People's Biodiversity Register (PBR), which is a legal document that contains an inventory of biological resources and knowledge available at the local level covered under BMC. These bodies also oppose the grant of IP (based on biological resource or Traditional Knowledge of India) in the foreign country and, in fact, prohibits the transfer of biological resources of India to any other country without prior

approval. These bodies also help in recognizing 'Biological Heritage Sites' in India that possess rich biodiversity. Some of the popular biological heritage sites in India are Gharial Rehabilitation Centre, Lucknow, Uttar Pradesh; Majuli, Assam; Dailong Village, Tamenglong, Manipur; University of Agricultural Sciences, GKVK Campus, Bengaluru, Karnataka; Ameenpur Lake, Sangareddy, Telangana; Tonglu Biological Heritage site under the Darjeeling Forest Division; Darjeeling, West Bengal and many others (http://wiienvis.nic.in/Database/bhs_8650.aspx).

Any foreign national or non-resident Indian or any foreign company cannot use the biological resources of India without prior permission and authorization from the NBA. Permission is required to procure IP rights over the product/technology that arises from such biological resources. In addition, NBA plays an important role in addressing issues on IP ownership, technology transfer, monetary and non-monetary compensations, creation of R&D units, etc.

CHAPTER – 3

WORLD INTELLECTUAL PROPERTY ORGANIZATION

3.1. Introduction

Established in 1970, the World Intellectual Property Organization (WIPO; https://www.wipo.int/portal/en/index.html), a specialized agency of the United Nations (UN), was established with a prime focus on harmonizing, promoting and protecting IP across the globe. It created mechanisms that play an important role in bringing various countries and international organizations under common rules and guidelines for IP protection. As IPR is territorial in nature, the inventor has to file an individual IP application in each country where he wishes to claim legal protection for his invention. With the establishment of WIPO and implementation of various Treaties/Agreements, WIPO acts as a central organization through which international IP applications canclaim protection (rights) in other countries.

3.2. Origin of WIPO

Two major international Conventions, the Paris Convention, 1883 on 'Protection of Industrial Property' and the Berne Convention, 1886 on 'Protection of Literary and Artistic Works' led the foundation stone for the creation of WIPO to internationalize the IP system. Both the Conventions provided for establishing an 'International Bureau' to provide administrative support to their respective State Parties. The two bureaux combined in 1893 to form the United International Bureaux for the Protection of Intellectual Property (BIRPI). As a consequence of further Conventions on specialised aspects of IP, such as on Trademarks, Industrial Designs and Appellations of Origin, the Unions (Madrid, Hague, Nice, and Lisbon Unions), which were created as a result of several of these Treaties, were also integrated into United International Bureaux. Following a Convention in 1967 (the WIPO Convention) for establishing an international umbrella organization for the administration of IP issues, United International Bureaux was replaced by WIPO in 1970. In 1974, the UN established WIPO as a

specialized agency to promote creative intellectual activity and facilitate the transfer of technology related to the industrial property to the developing countries to accelerate economic, social and cultural development through a balanced and effective international IP system. As of 2018, WIPO has 193 Member States, of which 132 are developing countries, including India.

3.3. Salient Features of WIPO

- WIPO works for promoting and strengthening IP rights, as well as their use and enforcement.
- WIPO is the administrator of 26 international IP treaties (including the WIPO Convention) and supports the modernisation of IP systems in developing countries (https://www.wipo.int/treaties/en/).
- WIPO also serves as a medium for intergovernmental negotiations on new legal instruments.
- WIPO provides a set of international rules, which balances the interests of those who produce and consume the fruits of innovation and creativity.

3.4. Main Activities of WIPO

- **Legal Negotiations and Policy Discussions -** WIPO provides a forum for Member States to pursue legal negotiations and policy discussions that shape international rules and practices on IP. The inter-governmental committee plays a facilitating role in harmonizing global IP laws and policies. WIPO also plays a significant role in convening the international Treaties, negotiations for new treaties and soft law instruments (such as guidelines).
- **Administration of Inter-governmental IP Treaties -** WIPO's Secretariat provides a range of services to its Member States, other stakeholders and the public. The Secretariat administers 26 international IP Treaties (plus the WIPO Convention) and their financial arrangements. These Treaties fall into three main categories:

  a) Fifteen IP protection Treaties which define substantive

international standards on IP and one WIPO Convention.

b) Four Classification Treaties which aim to organise information concerning inventions, trademarks and industrial designs through an indexed classification system.

c) Six Global Protection System Treaties which establish procedural rules mainly aimed at ensuring that one international registration or filing of industrial property will affect all the countries signatory to the relevant Treaties.

Besides, WIPO provides administrative and financial services to the International Union to protect New Varieties of Plants (UPOV). This union is an independent inter-governmental organisation which is established by the International Convention. The Rome, Phonograms (Geneva) and Satellites (Brussels) Conventions are co-administered by WIPO, UNESCO and the International Labour Organization (ILO). The list of Treaties administered by WIPO and its signatories is summarized later in this chapter.

- **International IP Filing and Examination Services -** WIPO offers Treaty-related services that help applicants and holders of IP rights protect their IP across borders. It enables applicants to seek patent protection and register trademarks and appellations of origin in multiple countries by filing one international application. It also facilitates the registration of industrial designs in multiple countries with minimum formalities and expenses. WIPO's Arbitration and Mediation Centre offer Alternative Dispute Resolution (ADR) procedures to help businesses, associations and their legal counsels resolve IP disputes outside courts, most prominently relating to abusive registration and use of internet domain names e.g. 'Cyber Squatting'.

  WIPO supports global infrastructure for the IP system by providing services to Patent Offices and Copyright Agencies. The systems enable Patent Offices to share documents, such as

search and examination reports, which eventually facilitate a more efficient international examination process for patent applications. It also provides systems for the modernisation of offices, such as WIPO's Industrial Property Automation System (IPAS) and the WIPO Copyright Management System (WIPOCOS).

- **IP Information, Advisory and Training Services** - WIPO provides information services through a series of global databases of Patent documents (Patent Scope), brands (Global Brands Database), Industrial Designs (Hague Express Database) and Laws and Treaties (WIPO Lex), as well as statistics and economic research on IP and innovation. WIPO assists developing countries in many ways, such as legal assistance on IP legislation, policy advice and training and institutional support for national and regional IP offices. In 1995, WIPO and WTO sealed an agreement wherein WIPO undertook to assist developing countries for the implementation of the TRIPS Agreement.

WIPO also hosts several multi-stakeholder platforms and Public-Private Partnerships (PPPs), such as WIPO Green (an online marketplace which is promoting diffusion and innovation of green technologies by connecting technology and service providers), WIPO Research (a consortium of public and private sector organisations that aims to share IP and expertise with the global health research community to promote the development of new drugs, vaccines and diagnostics) and the Accessible Books Consortium (ABC) (a partnership of WIPO, organisations serving people with print disabilities and organisations of publishers and authors that aims to increase the number and availability of books in accessible formats for people who are blind or visually impaired), as well as initiatives to improve Access to Research for Development and Innovation (ARDI) and Access to Specialised Patent Information (ASPI) in developing countries.

3.5. India and WIPO

3.5.1. Access to International IP Filing Systems

India is an active participant in WIPO and a signatory to ten out of 26 IP Treaties governed by WIPO, including the Treaties governing international IP filing systems i.e. PCT (for Patents); Madrid (for Trademarks) and Hague (for Industrial Designs) systems. The PCT system provides a cost-effective process for seeking patent protection in multiple countries, which has numerous benefits for applicants. With just one PCT application, an applicant can seek patent protection in as many as 153 countries instead of filing a separate application directly in each country. Similarly, the Madrid & Hague Systems also provide a cost-effective process for obtaining Trademark and maintaining Industrial Designs in multiple jurisdictions.There are a total of 122 countries members of the Madrid system (Trademarks) and 74 countries members for the Hague system (Industrial Designs). With a single international application, the applicant can indicate any number of territories in which he wants to seek protection for his invention and can have an international registration with effect in all those territories. The subsequent management of international registration of Trademarks and Designs is also easier; with one request, an applicant can record changes in name or address or ownership. Applicants can renew their international registration directly with WIPO, and this renewal will have effect in the countries concerned.

3.5.2. Protection of Traditional Knowledge (TK)

The WIPO's Intergovernmental Committee on IP and Genetic Resources, TK and Folklore, was established in 2000, is a forum where WIPO member states discuss the IP issues that arise in the context of access to genetic resources and benefit-sharing as well as protection of TK and Traditional Cultural Expressions (TCEs). The Intergovernmental Committee (IGC) holds formal negotiations to reach an agreement on one or more international legal instruments that would ensure the effective protection of genetic resources, TK and TCEs. Such an instrument/s could range from a

recommendation to WIPO members to a formal Treaty that would bind countries choosing to ratify it.

After fighting successfully for the revocation of Turmeric and Basmati Patents granted by USPTO and Neem Patent granted by EPO, India initiated its project for the creation of a Traditional Knowledge Digital Library (TKDL) in 2001. This model is well accepted by the international community and an effective mechanism for saving TK from Patents by foreign individuals. It stimulated the IGC process and increased recognition of TK within the Patent system. In 2002, certain TK journals were included in the minimum documentation for applications under WIPO's Patent Cooperation Treaty, and TK classification tools were integrated within the International Patent Classification in 2004.

3.6. Technology and Innovation Support Centres (TISC)

The WIPO's TISC program provides innovators, in developing countries, with access to locally-based, high-quality technology information and related services, helps them to exploit their innovative potential and to create, protect, and manage their IP rights. WIPO has established 80 national projects and 1021 TISCs (till March, 2020) in 80 countries worldwide. Out of these 80 countries, 26 are the least developed countries. Services offered by TISCs include:

- Access to online Patent and non-Patent (scientific and technical) resources and IP-related publications.
- Assistance in searching and retrieving technology information.
- Training in database search.
- On-demand searches (novelty, state-of-the-art and infringement).
- Monitoring technology and competitors.
- Basic information on industrial property laws, management and strategy, and technology commercialization and marketing.

In 2017, DPIIT, the Government of India in collaboration with WIPO established six TISCs in India (Table 3.1). These centres

stimulate a dynamic, vibrant and balanced IP system in India to foster creativity and innovation, thereby promoting entrepreneurship and also social, economic and cultural development.

Table 3.1: Technology and Innovation Support Centres in India.

S. No.	Name & Address
1.	Patent Information Centre, GUJCOST Block-B, 7th Floor, M.S. Building, Sector-11, Gandhinagar- 382 011, Ahmedabad (+91) 232 593 68, adv-gujcost@gujarat.gov.in
2.	Patent Information Centre, Punjab State Council for Science and Technology (PSCST) MGSIPA Complex, Adjacent Sacred Heart School, Sector-26, Chandigarh 160019 (+91) 8146676069, (+91) 9815655801 harminder1978@gmail.com, kaushikdivya@gmail.com
3.	Centre for Intellectual Property Rights, Anna University Inside Anna University, Opposite to Gandhi Mandapam, Sardar Patel Rd, Guindy, Chennai, Tamil Nadu 600025 (+91) 4422358574, ciprtm@annauniv.edu
4.	Patent Information Centre, RAJCOST IV Floor, Room No 506, Mini Secretariat, Bani Park, 302005 Jaipur (+91) 960 202 1344, director-dst@rajasthan.gov.in
5.	Patent Information Centre, Kerala State Council for Science, Technology & Environment (KSCSTE) Kerala State Council for Science, Technology & Environment, Sasthra Bhavan, Pattom, Thiruvananthapuram 695 004 (+91) 944 684 8086, to.drprabhu@gmail.com
6.	Intellectual Property Facilitation Centre, National Research Development Corporation 1st Floor, Sunrise Incubation Hub, Sunrise Tower, Hill No-3, Plot No 13 &14, Madhurwada, Rushikonda, Vishakapatnam, Andhra Pradesh (+91) 981 010 416 3, bksahu@nrdc.in

Source: TISC Directory by WIPO (https://www.wipo.int/tisc/en/search/search_result.jsp?country_id=80)

3.7. Access to International Microorganism Deposit System

As per the Budapest Treaty, 1977, all microorganisms mentioned in the patented innovation must be deposited in any of the 47 International Depositary Authorities (IDA-https://www.wipo.int/budapest/en/idadb/) located in various countries. India is also a signatory to the Treaty and has two IDAs; Microbial Culture Collection (MCC) at the National Centre for Cell Science (NCCS), Pune and Microbial Type Culture Collection (MTCC) at Institute of Microbial Technology (IMTECH), Chandigarh.

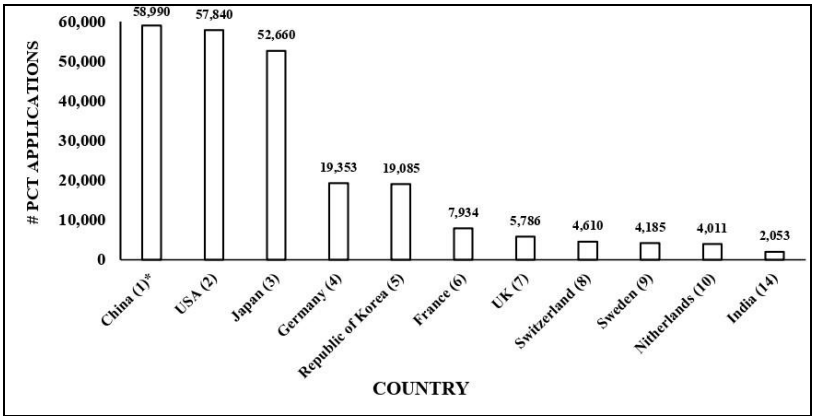
3.8. Data for International IP Filing Systems

The updated IP information is important for understanding the trend of technologies, policies and business worldwide. Every year, WIPO releases statistical information on all forms of IP of the member countries. This information is freely available ('WIPO Statistics Database', https://www.wipo.int/ipstats/en/). A glimpse of the information pertaining to Patents (PCT system), Trademarks (Madrid system) and Industrial Designs (Hague system) is provided below.

3.9. PCT Patent Statistics

In 2019, a record number of PCT applications (2,65,800) were filed worldwide, with a 5.2% increase as compared to last year. China has surpassed the USA by filing 58,990 applications worldwide through PCT. Out of the top 15 countries, 12 high-income countries and three middle-income countries, namely China (58,990), Turkey (2058) and India (2053). India stands at 14th position in PCT applications filing (Fig. 3.1). For the 3rd consecutive year, China-based telecom giant Huawei Technologies, with 4,411 published PCT applications, followed by Mitsubishi Electric Corp. of Japan (2,661), Samsung Electronics of the Republic of Korea (2,334), Qualcomm Inc. of the U.S. (2,127) and Guang Dong Oppo Mobile Telecommunications of China (1,927) (WIPO Statistics Database, March 2020).

Figure 3.1: Top ten PCT filing countries in 2019.



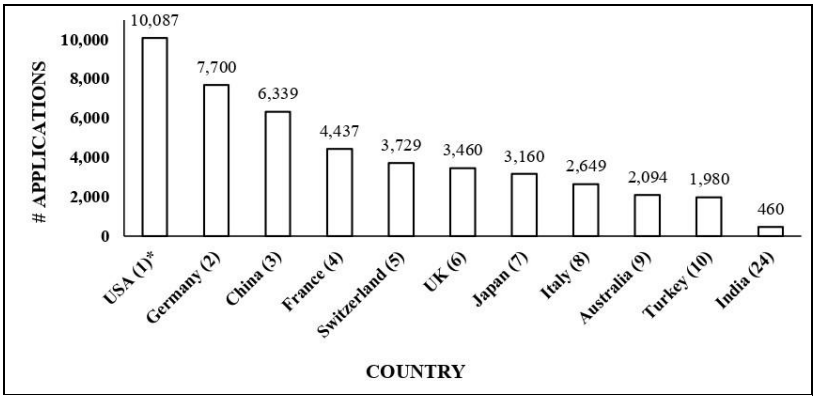
Source: https://www.wipo.int/pressroom/en/articles/2020/article_0005.html
*Global Rankings

3.10. Trademark Statistics (Madrid System)

In 2019, USA-based applicants filed maximum Trademarks applications followed by Germany and China (Fig. 3.2). L'Oreal of France leads in the number of Trademark applications (189) followed by Novartis AG of Switzerland (135), Huawei Technologies of China (131), NirSan Connect Private Limited of India (124) and Rigo Trading of Luxembourg (103) (WIPO Statistics Database, March 2020).

Maximum applications were filed in the field of computers and electronics, which accounted for 10.1% followed by services for business (8.3%) and technological services (6.7%). India was placed at 24th position with 175 Trademark applications.

Figure 3.2: Top ten users of the Madrid System in 2019.

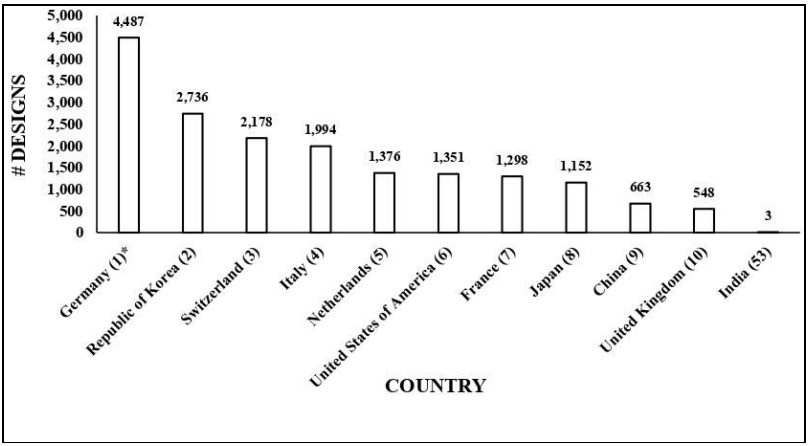


Source: https://www.wipo.int/pressroom/en/articles/2020/article_0005.html
*Global Rankings

3.11. Industrial Designs Statistics (Hague System)

As per the latest report published in 2020, the registration of Industrial Designs was 10.4% more as compared to last year. Below in figure 3.3 is depicted the top ten countries that filed the Designs applications through this system. Two leading countries in the filing of registration were Germany (4487) and the Republic of Korea (2736). Samsung Electronics of the Republic of Korea with 929 Designs headed the list of top filers, followed by Fonkel Meubel marketing of the Netherlands (859), LG Electronics of the Republic of Korea (598), Volkswagen of Germany (536) and Procter & Gamble of the U.S. (410) (WIPO Statistics Database, March 2020). 13.6% share of the Design belongs to communication equipment followed by furnishing (10.1%). Unfortunately, India has filed only three applications for the registration of Designs.

Figure 3.3: Top ten users of Hague System in 2019.



Source: https://www.wipo.int/pressroom/en/articles/2020/article_0005.html
*Global Rankings

CHAPTER – 4

TREATIES/CONVENTIONS/AGREEMENTS

Around the middle of the 20th century, many countries became aware of the importance of IP. Each country devised its own legislative framework for protecting the legal rights of the creators of the innovations. However, it led to a lot of confusion and controversies. The ambiguity in the laws pertaining to infringements, exceptions to legal rights associated with IPs, variance in the period of IP protection, etc. resulted, more often than not, in bitterness among the creators of innovations. In addition, the inventor had to file separate applications (for seeking IP protection) in all the countries in which he wished to seek protection. This was not only time consuming exercise but expensive as well. To streamline the process of international IP protection, two major Treaties were signed by many countries in the later part of the 19th century in France. These Treaties laid the foundation of a common international IP system in the domains of Patents, literary works and artistic works. With time, more Treaties/Conventions/Agreements were established on other aspects of IP, such as Trademarks, Industrial Designs, Geographical Indicators, Traditional Knowledge and Appellations of Origin to seek protection worldwide. This chapter outlines the important agreements signed among various countries for easing out the process of IP protection.

4.1. Paris Convention for the Protection of Industrial Property (1883) (https://www.wipo.int/treaties/en/ip/paris/)

The Convention was concluded in 1883 in Paris (France) to ensure the security of intellectual creativity (Patents, Trademarks, Industrial Designs, Utility Models, Service Marks, Trade Names, Geographical Indications and the repression of unfair competition) at the international level. Since its inception, it has been amended seven times. As of now, this Convention has 177 contracting countries (including India). The main features of the Convention are:

- **National Treatment -** Every signatory country will extend the same protection to the industrial property of the rest of the signatory countries as they provide to their nationals. Moreover, the nationals of non-contracting countries having the industrial establishment or are the domicile of any contracting country

will also be entitled to the same treatment.

- **Right of Priority -** This provision facilitates inventors with the priority date of the invention/creation. If an applicant files a patent application in his country, which is a signatory of the Convention, he can file the same invention in another contracting country by claiming the same priority date. The application should be filed within twelve months for patents and six months for Industrial Designs and Trademarks. The application will be considered as it was filed on the very same day as the first application. Because of the 'right of priority' the inventor gets ample time to decide where his invention should be protected so that he can get maximum advantages out of its commercialization.

- **Common Rules -** This Treaty has put in place certain common rules related to industrial property in all the contracting countries. The prominent common rules are:

    - **Patents** - Patent granted (or rejected) in one contracting party is independent of its fate (acceptance/rejection) in other contracting countries i.e. Patent granted in one contracting country may be rejected in other contracting countries and vice versa.
    - As per TRIPS Agreement, a nation can opt for 'Compulsory Licensing' of a Patent in case of a national emergency.
    - **Trademarks**-The regulations of Trademarks in the respective signatory country is regulated as per the legislation of that signatory (contracting) country. These are not regulated under Paris Convention, but the acceptance and rejection of the Trademarks vary among contracting countries. However, the registration of the mark cannot be invalidated on the basis that the filing, registration or renewal has not been made in the originating country of the mark.
    - **Industrial Designs -** The protection of Industrial Design will be given in each contracting country and will not be rejected because it is not created in that respective country.
    - **Indication of Source -** The indication of source or GI of goods must be protected in each country and the unauthorized distribution must be prohibited to safeguard

the rights of creators, producers and traders.

WIPO has created dedicated Unions to look after the activities pertaining to respective Treaties/Agreements/Conventions. These Unions are authorized to take appropriate actions in accordance with the Treaties or Agreements or Conventions to promote IP, technology transfer, budgeting, and many more programmes/ activities. The members of the Unions are chosen from all the State parties of a particular Treaty/Agreement/Convention.

The Paris Union takes care of the activities of the Paris Convention (1883). The activities (biennial programmes, budgeting, etc.) are performed by an Assembly and an Executive Committee. This Committee is chosen from the members of the Union, except for Switzerland, which is an *ex officio* member.

4.2. Patent Cooperation Treaty(PCT), 1970

(https://www.wipo.int/treaties/en/registration/pct/summary_pct.html)

The Treaty was signed in 1970 and came into effect in 1971 and amended in 1979. It was modified in 1984 and 2001 (*Amendments refer to the changes in the terms and conditions of a contract after executed by all contracting parties, whereas modifications are any changes after the contract have been signed*). It is an effective way to file patents in many countries with one application. The applicant targets more than one country to secure his invention through a single application within 12 months of applying in the home country. There are 153 contracting states of PCT, including India. The application can be filed in two ways i.e. a) with the national Patent Office of the Contracting State of which the applicant is a national or b) directly with the International Bureau of WIPO in Geneva. The procedure of patent filing under the Treaty is depicted in figure 4.1. More details of PCT filing can be accessed at https://www.wipo.int/pct/en/faqs/faqs.html.

4.2.1. PCT Filing Process

- Applicant files an international application either at the national Patent Office or directly at the WIPO (PCT Receiving and Processing Section), complying with the PCT formalities.
- The ‘International Searching Authority’ (ISA), created by

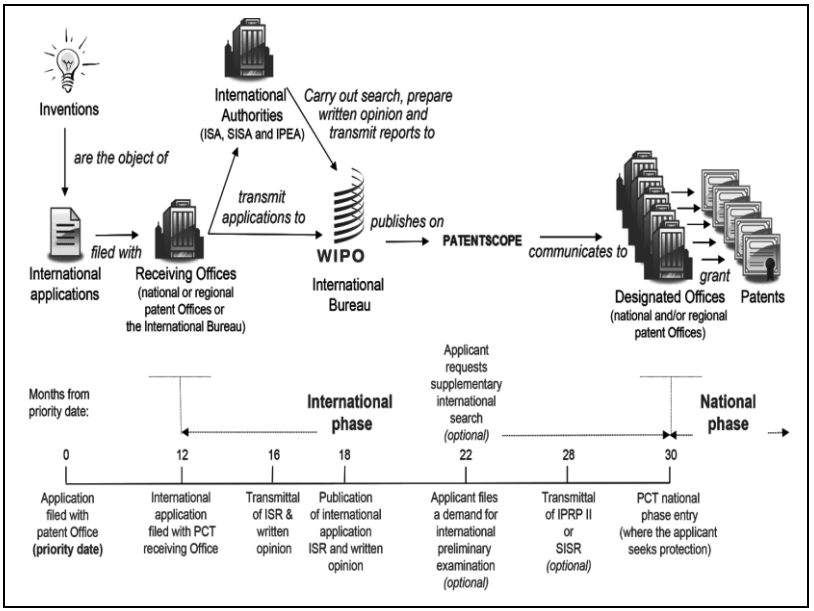
WIPO, scrutinizes the patent documents and the technical literature (prior art) and opines whether the invention is patentable or not. Subsequently, it submits a report on the invention's potential patentability.

- The 'Receiving Office' will determine the availability of a particular ISA to the applicant where the international application has been filed. WIPO has signed Agreements with many countries (India, Australia, Japan, Egypt, Korea, Singapore, etc.) to function as ISA/IPEA.
- The report is sent to the applicant, who complies with the objections raised within 18 months, starting from the earliest date of filing the application.
- If the response of the applicant is found satisfactory, the application is published in an international platform PATENTSCOPE. (https://patentscope.wipo.int/search/en/search.jsf), which is an extensive Patents data search engine of WIPO.

WIPO also provides additional services for carrying out 'Patent Search' and 'Patent Examination'. These services (mentioned below) are optional i.e. the applicant may or may not opt for making use of these services. The main objective of these services is to reduce the risk of new patent documents and any other technical literature which might be discovered in the ensuing National Phase.

- **Supplementary International Search (SISA) (optional) -** SISA identifies the published prior art documents which may have been skipped in the first ISA (which carried out the main search). This facility has been introduced by considering the diversity of prior art in different languages and technical fields. This can be filed after 22 months of the first filing date of the application.
- **International Preliminary Examination Authority (IPEA) (optional) -** IPEA examines the probable patentability of the invention by using the same standards on which the written opinion of the ISA was made, before entering the National Phase.

Figure 4.1: Stages of patent filing through PCT.



Source: https://www.wipo.int/pct/en/faqs/faqs.html

- **National Phase -** After the publication of the application in PATENTSCOPE, WIPO communicates the application to the national Patent Office (designated by the applicant), where he wants to seek protection. The application enters the national phase usually within 30 months from the earliest filing date of the Patent application (from which the priority is claimed).

4.2.2. Fee Structure

There are generally three types of a fee to be paid by PCT applicants during the filing of the international applications:

- An international filing fee of 1,330 Swiss Francs.
- A search fee varies from approximately 150 - 2,000 Swiss Francs depending on the chosen ISA.

- A small transmittal fee varies according to the Receiving Office.

4.2.3. Advantages of PCT

- The applicant has additional 18 months (after filing in the host country) to decide for seeking protection in the foreign countries.
- PCT application cannot be rejected on formal grounds as it has been verified with written explanation through ISA/IPEA.
- The written opinion and international search report contain important information about the probable patentability of the invention, providing a strong basis for making a business decision as to how to proceed with the invention.
- The applicant has the scope of amendments in the application during the optional international preliminary examination.
- In the National Phase, the searching and examination work of the patent office can be considerably reduced due to the international search report and the written opinion.
- The examination procedures can be fast-tracked in the National Phase of contracting states who have signed the PCT-Patent Prosecution Highway (PCT-PPH) agreements.
- As each international application is published together with an international search report, third parties can easily evaluate the probable patentability of the invention claimed.
- For an applicant, an online international publication notifies the world about the invention.
- The applicant may also highlight his interest in concluding licensing agreements on PATENTSCOPE.

4.3. Budapest Treaty on International Recognition of the Deposit of Microorganism for Patent Procedure, (1977)

(https://www.wipo.int/treaties/en/registration/budapest/summary_budapest.html)

This Treaty addresses the issue regarding the safe deposit of microorganisms. If the invention for which the patent has been granted involves the use of a microorganism (bacteria, viruses, fungi, etc.), a culture of the microbe has to be deposited in a certified international depository (Culture Collection Centre). The inventor has the choice of submitting the concerned microorganism to any of the depository authorities [47, (https://www.wipo.int/budapest/en/idadb/)] who are signatory countries (82) of the Budapest Treaty. India is a member of this Treaty. The inventor does not need to submit the microorganism in all the countries individually. This Treaty was a landmark decision in the field of life sciences because it saved time and money for the inventor. Moreover, it was secure too. Besides the contracting countries regional organizations, such as Eurasian Patent Organization (EPO), African Regional Intellectual Property Organization, has also made such a declaration that they would also consider the submission of microorganisms valid in any depository under Budapest Treaty.

India has two culture depositories, approved under Budapest Treaty, which can accept and store microorganisms related to Bacteria (pathogenic and non-pathogenic), Bacteriophages, Fungi (pathogenic and non-pathogenic), Plasmids (in hosts and not in hosts), Yeasts (pathogenic and non-pathogenic). These depository authorities are in National Centre for Cell Science (NCCS), University of Pune Campus (https://www.wipo.int/budapest/en/idadb/details.jsp?id=5835) at Pune and CSIR-Institute of Microbial Technology IMTECH (https://www.wipo.int/budapest/en/idadb/details.jsp?id=5836) at Chandigarh.

A Union and an Assembly have been created under the Treaty, which looks after the regulations and management of the matters related to the Treaty. This Treaty is also open to contracting countries of the Paris Convention for the Protection of Industrial Property (1883).

4.4. Trademark Law Treaty (TLT), (1994)

(https://www.wipo.int/treaties/en/ip/tlt/)

This Treaty was signed in 1994 in Geneva to simplify and harmonise the procedure of filing trade and service marks in signatory countries. A total of 54 countries (excluding India) are signatory to this Treaty. Implementation of this Treaty greatly stimulated international trade between the countries.

The rules and procedures under TLT have been streamlined to make the registration and application of marks less complex. The registration procedure is easy and cost-effective. The authentication of relevant documents from the government officials has been done away with. Equal weightage has been given to Service Mark and Trademark. The major provisions for the registration procedure under the Treaty are divided into three parts:

4.4.1. Registration of Trademark

Major requirements are:

- A request for registration.
- The name and address.
- Other indications concerning the applicant.
- A representative (Agent) to deal with issues related to registration.
- Various indications concerning the mark.
- The goods and services for which registration is sought are classified in the relevant class of the Nice Classification (1957).
- A declaration of intention to use the mark (if applicable).
- A single application can be filed for covering multiple classes of goods and services.

4.4.2. Changes After Registration

A provision has been made to change the name, address, and ownership of the registration. A single application can be filed to make the changes up to 100.

4.4.3. Renewal of Trademark

The initial and renewal terms of trademark registration have

been harmonised. The TLT provides an initial ten-year term, which can be extended further for ten years by paying the renewal fee.

4.5. Patent Law Treaty (PLT), (2000)

(https://www.wipo.int/treaties/en/ip/plt/summary_plt.html)

The Treaty was signed in 2000 at WIPO and came into force in 2005. The main objective of the Treaty was to simplify and harmonise the procedure and requirements to file a Patent application in many signatory countries. This Treaty facilitated the applicant to file a Patent application with minimal requirements, to cut short inadvertent delay in filing and thus securing an early priory date. The PLT also resulted in making the Patent filing process easy and less expensive. The main features decided under the Treaty are:

- No formal procedure to file a Patent. The first element received from the applicant will be considered as the application for the invention.
- Contact details of the applicant to contact and identify him.
- A part about the description of the invention.
- An applicant can file a single application for many inventions.
- PLT is open to contracting parties of the Paris Convention and members of WIPO.
- The applicant has the choice to file a Patent electronically or in paper form.

Till now 42 signatory countries (https://www.wipo.int/treaties/en/ShowResults.jsp?treaty_id=4) are party to this Treaty. India is not a signatory to this Treaty.

4.6. Singapore Treaty on the Law of Trademarks, (2006)

(https://www.wipo.int/treaties/en/ip/singapore/summary_singapore.html)

Singapore Treaty was signed in 2006 and came into force in 2009. The purpose of this Treaty was to create to smoothen the administration of trademark registration. It has a wider scope than the Trade Law Treaty (TLT) and addresses many developments occurring in the domain of communication technologies. Salient

points of the Treaty are:

- Any type of Trademark can be registered under the Singapore Treaty, such as holograms, three-dimensional marks, colour, position and movement marks, as well as non-visible marks, such as sound, olfactory or taste and feel marks. Non-graphic or photographic mode of representation of Trademark under this Treaty is also acceptable.
- The time and provisions required for the Trademark registration is less stringent. If an applicant misses the time limit of an action required in the Trademark registration procedure, the Treaty provides an extension of the time limit.
- An assembly has been created to look after the matters related to the Singapore Treaty and contracting parties are liable to implement them.
- Provision of multiclass registration of Trademark has been included.
- Classification of goods and services is based on Nice Classification.
- Singapore Treaty maintains the provision of the TLT that is the requirement of certification/attestation, authentication, of any signature on paper communications is not obligatory.
- Treaty provides special provisions for assisting the developing and least developed countries with additional technical support for empowering them to get maximum benefits of the provisions of the Treaty.
- The Treaty is open to contracting parties of the WIPO and some intergovernmental organizations.
- Any dispute under the Treaty will be settled down with the mediation of the Director-General of WIPO.

As of now, only ten countries are signatory to this Treaty. India is not a signatory to this Treaty.

4.7. Washington Treaty on Intellectual Property in Respect of Integrated Circuits, (1989)

(https://www.wipo.int/treaties/en/text.jsp?file_id=295136)

In 1989, a conference was held in Washington, D.C. (USA) to adopt Treaty on Intellectual Property in Respect of Integrated Circuits (IPIC) and also suggested that layout designs (topographies) of integrated circuits should be considered as a separate field in the domain of IP protection.

This Treaty has been incorporated into the TRIPS Agreement, subject to a few modifications, including IP protection be extended to ten years (from the existing norm of 8 years) from the filing date of an application or 15 years from the formation of the layout design. Article 35 of TRIPS states that the TRIPS members agree to provide protection to the layout designs (topographies) of integrated circuits. India is a member of this Treaty and also formulated Semiconductor Integrated Circuits Layout Design Act, 2000. The terms commonly used with respect to layout designs are:

- Layout designs **'Integrated Circuit'** can be defined as a product, in its final or an intermediate form, in which the elements are integrally formed in and/or on a piece of material (at least one of which is an active element, and some or all of the interconnection). These elements are intended to perform an electronic function.
- **'Layout-Design (Topography)**' can be defined as a three-dimensional disposition of the elements at least one of which is an active element. All or some of the interconnections of an integrated circuit, or such a three-dimensional disposition, prepared for an integrated circuit intended for manufacture.
- A **'Mask Work'** is a two or three-dimensional layout or topography of an integrated circuit (IC or chip) i.e. the arrangement on a chip of semiconductor devices, such as transistors and passive electronic components, such as resistors and its interconnections. The layout is called a mask work because in photolithographic processes, the multiple etched layers within actual ICs are created using a mask, called the photomask, to permit or block the light at specific locations, sometimes for hundreds of chips on a wafer simultaneously.

Because of the functional nature of the mask geometry and stringent Patent criteria, the layout designs cannot be protected under Copyright law and Patent law. Therefore, a separate category

of IP protection was created in 1990 to cover layout designs. However, layout designs should be original and reflects intellectual effort (of the creator).

Following acts are considered unlawful - Use of layout design or IC without proper consent of the legal holder, importation, sale or distribution of layout design or IC for commercial purposes.

Exceptions to the use of layout designs include the use of layout design or IC for the sole purpose of evaluation, analysis and research, without seeking consent from the holder of the rights.

4.8. Beijing Treaty on Audio-visual Performances, (2012)

(https://www.wipo.int/treaties/en/ip/beijing/summary_beijing.html)

In order to incentivise audio-visual artists, a diplomatic conference on Beijing Treaty on Audio-visual Performances was held in Beijing on June 20-26, 2012. This Treaty declared IP rights for performers in audio-visual performances. The duration of protection is 50 years. The economic rights include (i) the right of reproduction; (ii) the right of distribution; (iii) the right of rental; and (iv) the right of making available. The moral rights include the right to object to any distortion in the material which may harm the reputation of the rightful holder. The limitations and exceptions of this Treaty are the same as mentioned in Berne Convention (1886).

Any nation that agrees to become a member of this Treaty must ensure that legal remedies and enforcement procedures are in place in case of any dispute that may arrive. The State-members WIPO and EU are eligible for membership in this society. As of today 74 nations, including India, are signatory to this Treaty. The administration, ratification, accession and other affairs of this Treaty are governed by the Director-General of WIPO and its secretariat staff.

4.9. Marrakesh VIP Treaty, (2013)

(https://www.wipo.int/treaties/en/ip/marrakesh/summary_marrakesh.html)

The Marrakesh VIP Treaty (formally the Marrakesh Treaty to Facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities, colloquially MVT) is a Treaty on copyright. This Treaty came into existence after serious

talks/discussions held in Marrakesh, Morocco, on 28 June 2013.The Treaty became operational on 30 September 2016. All members of WTO are eligible to adopt this Treaty. As of now, 80 members have signed MVT, and 20 have ratified this Treaty. India was the first country to ratify this Treaty.

The goal of the Treaty is societal and humanitarian in nature. It provides legally recognized exceptions to copyrights for the creation of accessible versions of reading and printing material for blind, visually impaired or otherwise print disabled persons. Currently, less than 8% of the world's published books are available in accessible formats owing to the stringent Copyrights laws. The MVT helps make exceptions in the Copyrights laws, such as:

- **Exception to Domestic Copyright Law -** Countries that ratify the Treaty must incorporate laws stating that blind people and their organizations need no permission from the holder/s of the copyrights (e.g. author or publisher) to make accessible format books and other published material. In simpler words, the reading and printing material can be converted to any format suitable to blind, visually impaired or otherwise print disabled persons without seeking permission from the holders of copyrights.
- **Import and Export of Accessible Versions -** The accessible versions of Copyrighted works can be imported and exported without seeking concurrence from the Copyright holder. This exception helps in reducing the duplication of transcription efforts in different countries. The Treaty permits the only transcription of the original document into an accessible format. It does not allow any change in the contents of the work.

The exceptions are mainly applicable to the 'literary and artistic works' covered under Copyrights Films that are out of the ambit of exceptions.

As per MVT, only 'Authorized Entities' are entitled to make accessible copies of works. The 'Authorized Entities' are a

government agency or not-for-profit agencies. The term 'Beneficiary Persons' includes blind, visually impaired, reading disabled (example: dyslexia) or have a physical disability that precludes holding a book, turning pages or focusing on the page.

4.10. Nairobi Treaty on the Protection of the Olympic Symbol, (1981) (https://www.wipo.int/treaties/en/ip/nairobi/summary_nairobi.html)

The International Olympic Committee, a non-governmental organization, holds the rights of the Olympic symbol. To prevent the misuse of an Olympic symbol, a Treaty was signed in Nairobi in 1981, which came into force on September 25, 1982. A total of 37 countries, including India, is a signatory to the Treaty.

The mainstay of the Treaty recommends that all States accepting the Nairobi Treaty are mandated to protect the Olympic symbol (five interlaced rings) for its misuse for commercial purposes (without the official consent of granting authority i.e. the International Olympic Committee [IOC]). The IOC is entitled to a part of the revenue generated by the authorized user of the Olympic symbol.

The Treaty is open to all the member States of WIPO and the Paris Convention for the Protection of Industrial Property (1883), United Nations (UN) or any agency officially attached with the UN. Instruments of ratification, acceptance, approval or accession have to be deposited with the DG of WIPO, who is the in-charge of the affairs dealing with this Treaty.

4.11. Brussels Convention Relating to the Distribution of Programme - Carrying Signals Transmitted by Satellite, (1974) (https://www.wipo.int/treaties/en/ip/brussels/)

This Convention, jointly organized by UNESCO and WIPO in Nairobi (July 2-11, 1973), deliberated on the problems arising in the fields of Copyright, Protection of Performers' rights, Producers of Phonograms and Broadcasting Organizations. The salient feature of the Brussels Convention requires that each Contracting State must take adequate steps to avoid the unlawful distribution on/from its territory of any programme-carrying signal transmitted by a satellite. Unauthorised distribution refers to the transfer of the

signals without the consent of the broadcasting organization of the contracting countries. However, there are a few exceptions to the authorized distribution, such as:

- Any person (authorized or non-authorized) can use programme-carrying signals if the signals carry short excerpts of current events or quotations.
- Developing countries can use programme-carrying signals for the purposes of teaching and scientific research.
- Direct broadcasting of the signals from the satellite is also out of the scope of the limitations and the exceptions.

There is no specific term protection. It has been left at the discretion of domestic legislation. The rights provided by the Convention to the holders do not apply if the distribution of the signals is made through a direct broadcasting satellite. The Convention does not provide for the institution of a Union, governing body or budget.

Any nation that is a member of the UN or anyagency of the UN can become a member of this Convention. So far, 37 States have ratified this Convention and 10 other States have signed but yet to ratify it. India is not a party to this Treaty. The documents of ratification, acceptance or accession have to be deposited with the Secretary-General (SG) of the United Nations. The activities of the Convention are overseen by the United Nations Committee on the Peaceful Uses of Outer Space.

4.12. Madrid Agreement Concerning the International Registration of Marks (1891) and the Protocol Relating to that Agreement, (1989)

(https://www.wipo.int/treaties/en/registration/madrid/summary_madrid_marks.html)

Madrid Agreement was concluded in the year 1891 for the international protection of trademarks. Since then, the agreement has been amended seven times. In 1989, a protocol was also concluded related to the Madrid Agreement. The protocol was signed to make the Madrid system more flexible for low-income

countries that cannot comply with the Madrid system. The agreement and protocol both are open to any State party to the Paris Convention (1883). Also, any intergovernmental organization can become a party to it by writing to the Director-General of WIPO. As of now, a total of 106 countries, including India, are party to Madrid Protocol. The main features of the agreement are:

4.12.1 International Application Filing Procedure and Requirements

- The application for registration can be filed by any individual or an entity subject to proof of domicile or nationality of the contracting country of the agreement or the protocol.
- The applicant needs to file an application first at the office of the origin. The office will then present the application to the International Bureau of WIPO. Once the application is received, the Bureau examines the application to check the requirements as per the protocol or regulations.
- If no discrepancies are found, the International Bureau will record the mark in the register. Then the registered mark will be published the international registration in 'WIPO Gazette of International Marks'.
- The Bureau will notify the designated countries if the mark is in conflict with the already registered mark in that country or contradictory with the national law. The respective contracting country can notify the Bureau within 12 months of the publication.
- If no objection is found in the application in the designated country, they have to issue a statement of grant of protection in their official journal.
- The applicant will mark the selection of countries where he wants to secure the rights over the trademarks.

- The applicants are free to file the application in English or French or Spanish.
- The countries declared as least developed countries by the UN, will be charged 10% less fee as compared to others for international filing.

4.12.2. Validity of the International Registration

The international application will be in effect from the date of the international registration. Initially, the protection will be granted for ten years but extendable for a further ten years by paying the renewable fee. The registration of classes under goods and services may vary from country to country. The main advantage of the Madrid system lies in being less expensive and less time consuming as the protection can be sought by applying a single application with a single set of a fee.

4.13. Agreement for International Registration of Industrial Designs (AIRD), (1925)

(https://www.wipo.int/treaties/en/registration/hague/)

The agreement facilitated the member countries in the international filing of industrial designs. Hereafter, it was amended two times (in 1934 as London Act and 1960 as the Hague Act). Further modifications were done in the Act in Monaco (1961). The modified Act was further amended thrice (in 1967 as Complementary Act of Stockholm, in 1979 as Protocol of Geneva and in 1999 as Geneva Act). At present, Acts of 1960 and 1999 are active. The 1999 Act is open to any member of WIPO also to certain intergovernmental organizations. At the moment, 65 countries are signatory to it (excluding India). The 1960 Act is open to the members countries of the Paris Convention and currently, only nine countries are signatory to it (excluding India).

4.13.1. Filing for the Protection of Industrial Designs

- The applicant files an application to seek protection in multiple

countries, which are signatory to the AIRD.

- The applicant can be an individual or an entity which must be a domicile or a national or having a business establishment in the signatory country to the 1999 Act (Geneva Act) or having usual residence in the contracting country to either of the two Acts.
- The applicant can apply directly at the International Bureau of WIPO through the office of origin.
- Once the Bureau receives the application, the formal examination is conducted. If any discrepancy is found, it is communicated to the applicant.
- If a designated State has an objection to protect the design, they need to notify the WIPO Bureau within six months or possibly twelve months once the designs enter the national phase. Any designated country can refuse protection if it is contradictory to their national laws and jurisdictions.
- If all requirements have been met, the design is registered in the 'International Design Bulletin' and the designated countries are notified about the registration.
- The international registration of the industrial design will be effective from the grant date of protection in the contracting country.
- The design is initially protected for five years and can be further extended for five more years under the 1960 Act and ten years under the 1999 Act.

4.13.2. Advantages

- The agreement facilitates the applicant with the minimum requirements to seek protection with a single application, one set of fees and less time requirement.

- The applicant can apply in English, Spanish or French. Moreover, the application can contain up to 100 designs, provided all must be under the same classification (Locarno Classification).
- To facilitate least developed countries, a reduction of 10% in the fee has been prescribed.

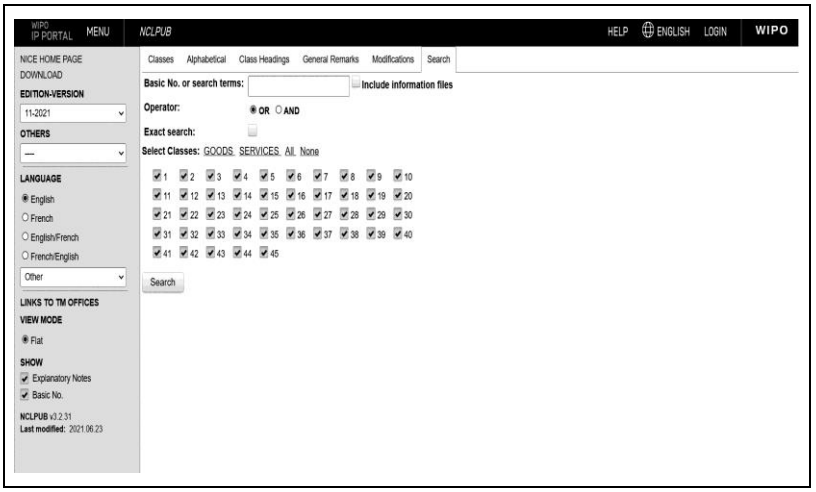
4.14. Nice Agreement for the International Classification of Goods and Services for the Purposes of Registration of Marks, (1957)

(https://www.wipo.int/treaties/en/classification/nice/index.html)

This agreement was signed to use a standard mode of classification for the trademarks and service marks. The agreement has been subject to two amendments (Stockholm, 1967 and Geneva, 1977). All official documents and publications must indicate the classification of the trademark and service marks. These classification codes make it easy to identify the type of goods and services in all signatory countries as they are following the same standard. Also, WIPO has established a Union that has created an assembly to look after the program and the budget of the Union. Every member state of the NICE Agreement (1957) and Paris Convention (1883) are a member of the NICE agreement. A total of 88 countries, including India, are signatory to this agreement.

There is a total of 45 classes, out of which 34 are for goods and 11 for services. The classes are arranged alphabetically from A to Z for both categories. The class search can be done in English, French and Spanish. Details of the classes with basic codes, details and explanatory notes can be downloaded from https://www.wipo.int/classifications/nice/nclpub/en/fr/?lang=en&menulang=en&notion=alphabetical&pagination=no&version=20200101. The interface of the classification search engine is given below (Fig. 4.2)

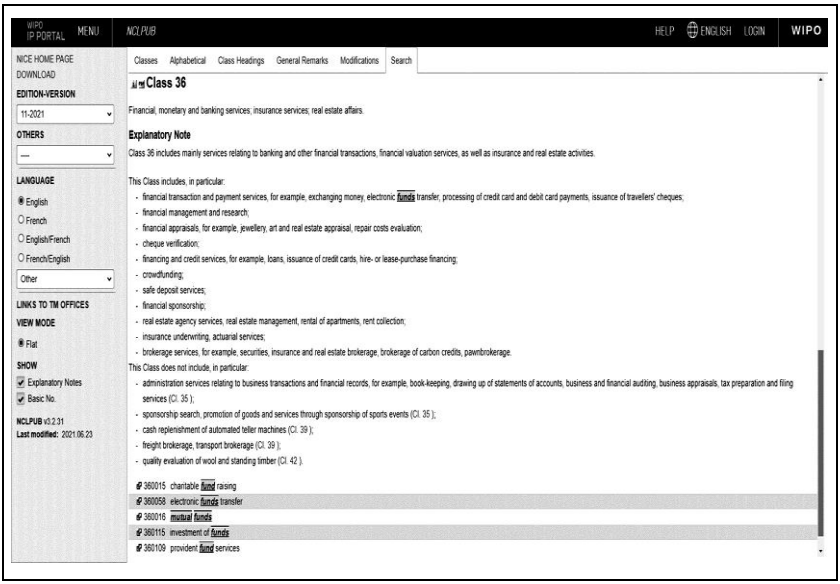
Figure 4.2: Interface for international classification of goods and services search engine.



Source: https://www.wipo.int/classifications/nice/nclpub/en/fr/

To search a good or service mark, a string of keywords may be put in the query box, which will list all the classes related to the goods or service mark. For example, to search for the service mark of ‘mutual funds', (Fig. 4.3) one may enter the query ‘mutual’ AND ‘funds’ (with the Boolean operator AND). The search result will provide the service mark for mutual funds which falls under Class 36 i.e. insurance, financial affairs, monetary affairs and real estate affairs. The explanatory notes are as follows:

Figure 4.3: Example of 'Mutual Funds' a service mark.



Source: https://www.wipo.int/classifications/nice/nclpub/en/fr/

4.15. Lisbon Agreement for the Protection of Appellations of Origin and their International Registration, (1958)

(https://www.wipo.int/treaties/en/registration/lisbon/)

The 'Appellate of Origin' is protected and registered under the Lisbon Agreement (1958). Since then, it has been revised twice in 1967 and 1979. The Lisbon Agreement was updated in 2015 to protect GI and was named as 'Geneva Act of the Lisbon Agreement on Appellations of Origin and GIs. The agreement was updated because it applies only to the appellations of origin (the products having strong properties of the place of origin). The Geneva Act is more flexible and allows the contracting parties to protect the GI and appellations of origin on a *sui generis* basis (i.e. through the GI system or Trademark system). Additionally, this updated Act extends protection to both GI and appellations of origin.

The competent authority (country, region, or locality) can apply to seek protection globally in the contracting countries by applying through a single application under the agreement. The International

Bureau of WIPO examines the application for any discrepancies. Once all the objections are cleared, the application is registered in the official bulletin for 'Appellations of Origin'. The contracting countries can refuse to protect a GI and appellation provided they can prove a strong reason behind it.

The agreement is open to all the member countries of the Paris Convention (1883). The Assembly, created by WIPO, looks after the matters related to the agreement. The instruments for ratification and accession are looked after by the Director-General of WIPO. Currently, there are 29 contracting countries to this agreement. India is not a party to this agreement.

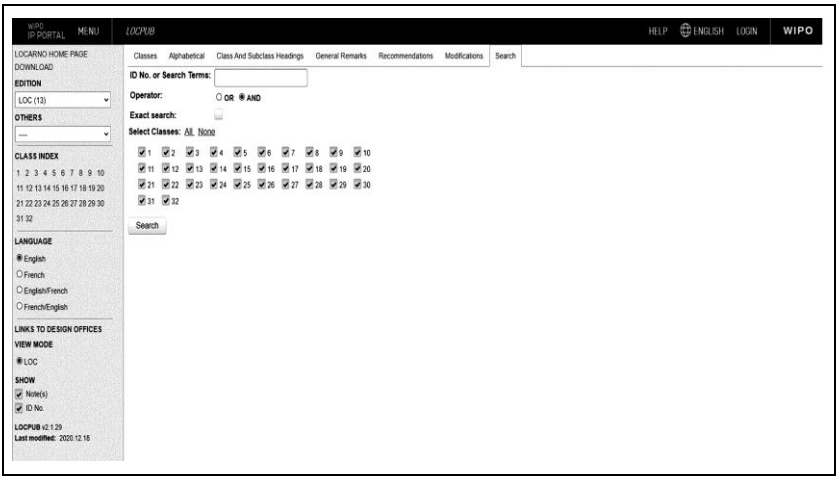
4.16. Locarno Agreement Establishing an International Classification for Industrial Designs, (1968)

(https://www.wipo.int/treaties/en/classification/locarno/)

Industrial properties like patents, trademarks, trade services, industrial designs, etc. are classified under the specific classification codes. These codes are standard and the signatory countries use these codes in the official documents. To establish the classification of industrial designs, Locarno Agreement was concluded in 1968. The Agreement was amended in 1979. The Agreement is open to all the contracting countries of the Paris Convention (1883). As of now, a total of 58 signatories, including India, are party to this Agreement. An Assembly, created by WIPO, looks after the matters related to biennial programmes and the budget of the Union (WIPO). The contracting parties are obliged to mention the classification in their official documents and any type of publications. The classification (Fig. 4.4) comprises of:

- List of main classes and subclasses, arranged in alphabetical order.
- Explanatory notes on the good and related class.

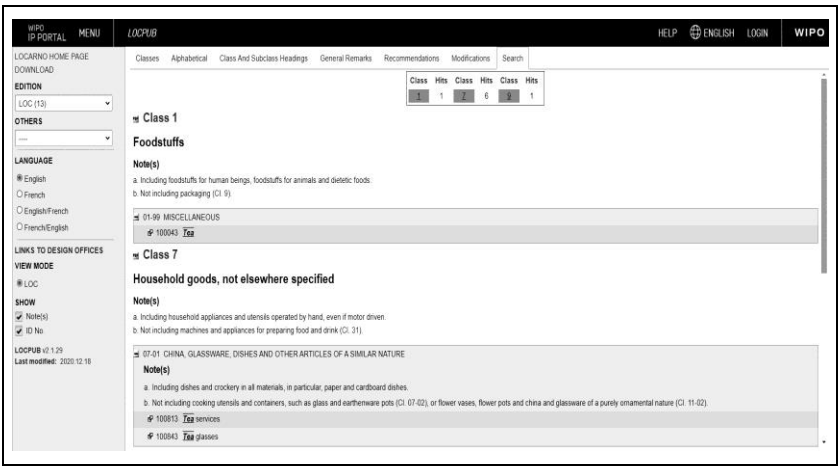
Figure 4.4: Interface of the classification search engine.



Source: https://www.wipo.int/classifications/locarno/locpub/en/fr/

A dedicated experts' committee takes care of amendments and time to time updates in the classification system. There are 32 classes and the classification can be searched in 2 languages i.e. English and French. A single product is normally under one class but may fall under many classes. For example, the beverage 'Tea' (Fig. 4.5) falls under 3 classes i.e. class 1, 7 and 9, as shown below.

Figure 4.5: Example for searching beverage 'TEA''



Source: https://www.wipo.int/classifications/locarno/locpub/en/fr/

4.17. Strasbourg Agreement Concerning the International Patent Classification, (1971)

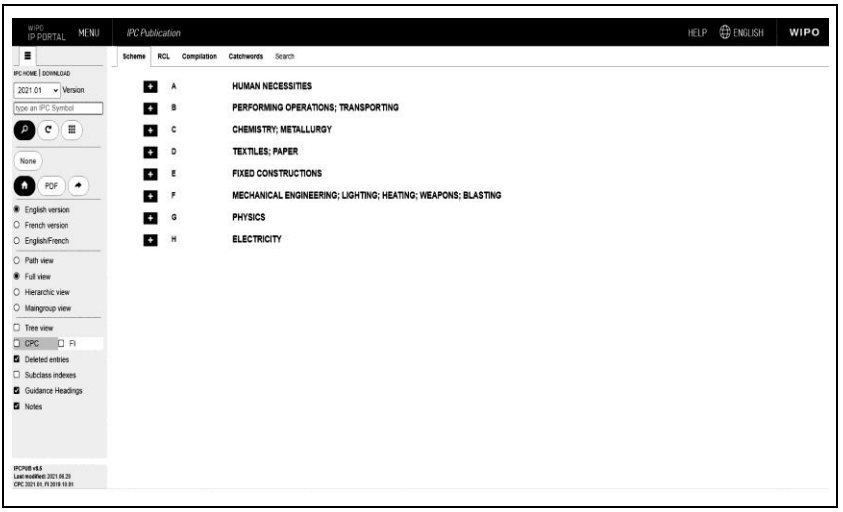
(https://www.wipo.int/classifications/ipc/en/)

The Strasbourg Agreement was signed in 1971 to establish the International Patents Classification (IPC). The agreement was amended in 1979. The standard classification of the patents helps patent issuing authorities and inventors for prior art search as it makes searching very simple as compared to the keywords.

It is open to the signatories of PCT (1883). As of now, 62 countries (excluding India) have signed the agreement and IPC is being used by more than 100 patent offices. The signatory countries have to mention this classification for patents in their official documents and any publications. In PCT filing, these classifications are decided by the International Searching Authority (ISA).

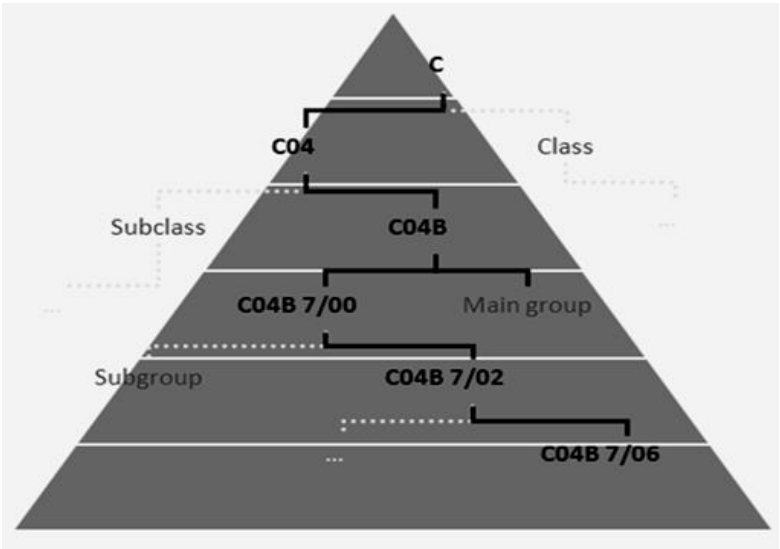
The technical fields are divided into 8 Sections (shown below in interface) with 70,000 subdivisions. The subdivisions are represented as the combination of Arabic numerals and Latin alphabets. The search is available in two versions i.e. English and French. WIPO has created an experts' committee to keep these classifications up to date and the updated version is released on 1st January every year. Also, a Union has been created which has an Assembly to take care of the issues related to the adoption of the program and budget of the Union. Instruments of ratification and accession must be deposited with the DG of WIPO. The interface of the patents classification and structure for IPC structure are mentioned below in figures 4.6 & 4.7.

Figure 4.6: Interface for the patent classification.



Source: https://www.wipo.int/classifications/ipc/ipcpub/?notion=scheme&version=20200101&symbol=none&menulang=en&lang=en&viewmode=f&fipcpc=no&showdeleted=yes&indexes=no&headings=yes&notes=yes&direction=o2n&initial=A&cwid=none&tree=no&searchmode=smart

Figure 4.7: Example of IPC structure.



- C – Chemistry.
- C04- Cements; concrete; artificial stone; ceramics; refractories.
- C04B - Lime; magnesia; slag; cements; compositions thereof…; artificial stone; ceramics; refractories; treatment of natural stone.
- C04B - 7/00 Hydraulic cements.
- C04B - 7/02 Portland cement.
- C04B - 7/06 using alkaline raw materials.

4.17.1. Advantages of IPC over Keywords

- Language independent.
- Applied in a standardized manner to patent documents.
- Available for patent documents published anywhere in the world.
- Available for (old) patent documents for which little or no searchable text is available.
- A more complete and precise search.

4.17.2. Disadvantages of IPC over Keywords

- May not be available for all areas of technology.
- May not be specific enough for a particular search.
- May not be available for all documents.
- Potentially complex.

4.18. Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, (1961)

(https://www.wipo.int/treaties/en/ip/rome/summary_rome.html)

Prior to this Convention, the copyright agreement provided protection only to printed material (by the authors). With the introduction of new physical manifestations of IP i.e. tape recorders, audiocassettes, videocassettes, etc. which made the reproduction of sounds and images faster and less costly, a need was felt to provide protection to these entities. To respond to these concerns, Rome Convention was held in 1961 and its recommendations came into existence in 1964. India, along with other 25 countries, is a signatory to Rome Convention.

Salient features of Rome Convention are as follows:

- Performers i.e. actors, singers, musicians, dancers and those who perform literary or artistic works, are protected against certain acts to which they have not consented. For example, broadcasting and communication to the public of a live performance, fixation of the live performance, reproduction of the fixation if the original fixation was made without the performer's consent and if the reproduction was made for purposes that are different from those for which consent was given.
- Producers of phonograms have the right to like, authorization or prohibition of the direct/indirect reproduction of their phonograms. As per Rome Convention, 'phonograms' means any exclusively aural fixation of sounds of a performance or any sounds. Where a phonogram published for business purposes gives rise to secondary uses like broadcasting or communication to the public in any form, an equitable remuneration must be paid by the user, to the performers and/or to the producers of the phonograms. However, as per the convention contracting states are free to apply or not to apply this rule.
- Broadcasting organizations have the right to authorize or prohibit certain acts, like the rebroadcasting of their broadcasts, the fixation of their broadcasts, the reproduction of such fixations, and communication to the public of their television broadcasts if such communication is made accessible to the public against payment of the fee.

Exceptions to the agreements include:

- Private use.
- Use of short excerpts in connection with the reporting of current events.
- Ephemeral fixation by a broadcasting organisation by means of its own facilities and for its own broadcasts.
- Use solely for the purpose of teaching or scientific research.

The minimal duration of the protection provided is for 20 years. The administration of Rome Convention lies in the hands of WIPO

along with the International Labour Organization (ILO) and UNESCO.

4.19. Berne Convention for the Protection of Literary and Artistic Works, (1886)

(https://www.wipo.int/treaties/en/ip/berne/)

This Convention, is an international agreement dealing with Copyrights. It was signed in 1886 in Berne, Switzerland. Broadly, the main purpose of the Convention was to lay guidelines for the protection of works (related to literature and art) as well as the rights of the concerned authors. The important features of the Convention are:

- Work published in one of the contracting states must be granted similar protection in all the contracting states as being provided to the works of their own nationals.
- The author of the Copyrighted material is granted rights for at least 50 years post-death of the author. However, a longer duration can be provided by the contracting parties.
- The protection and rights come into play as soon as the work is published i.e. no formal registration of the work is needed to enjoy the protection and rights related to the work.
- The rights granted to the authors include the right to translation of the work, making adaptations and arrangements of the work, to perform in public to recite literary works, to communicate to the public, broadcast and make reproductions in any manner or form.
- In addition to economic rights, the Convention also provides for 'moral rights' to the authors.
- The Convention also provides certain exceptions to the rights e.g. Copyrighted material can be used for teaching purposes without prior approval from the author.

The Berne Convention (1886) has been revised and amended many times, the latest being in 1979. Nearly 180 nations, including India, are party to this Convention. All ratifications or accession must be deposited with the DG of WIPO.

4.20. Geneva Convention for the Protection of Producers of Phonograms against Unauthorized Duplication of their Phonograms, (1971)

(https://www.wipo.int/treaties/en/ip/phonograms/)

The Phonograms Convention, held in October 1971, adopted that each contracting State must make a provision for protecting the rights of a non-resident holder (authorized) of Phonograms. Provisions should include:

- Prevention of creating duplicates without the consent of the producer.
- Not allowing the importation of such duplicates, where the making or importation is for the purpose of distribution to the public.
- Prevention of distribution of such duplicates to the public.

The word 'Phonogram' means an exclusively aural fixation (it does not comprise, for example, the sound tracks of films or video cassettes), in any form (disc, tape, etc.). The protection to Phonograms is provided under copyright law, *sui generis* (related rights) law, unfair competition law or penal law. The duration of protection is minimal for 20 years, either from the date of the first fixation or from the first publication of the phonogram. However, permission is not needed if the material is used for teaching or scientific research purposes. WIPO, along with ILO and UNESCO, is responsible for the administration of this Convention. The administration, including instruments of ratification, acceptance or accession, lies with the Secretary-General (SG) of the UN. All member states of the UN or of any of its agencies are eligible to be a member of this Convention. Till now, 80 States, including India, are signatories to this Convention.

4.21. WIPO Copyright Treaty (WCT), (1996)

(https://www.wipo.int/treaties/en/ip/wct/)

The Treaty is a special agreement under the Berne Convention (1886) for the protection of copyrighted work of authors in the digital environment. It was concluded in 1996 and came into force in 2002. There are two new subject matters added to the protection under the Treaty related to the protection of computer programmes and any

kind of databases or data compilation that constitute the intellectual creation. There are 107 contracting countries to it, including India. It is open to WIPO members and the European Community. Moreover, an Assembly created under the Treaty whose main task is to maintain and develop the scopes under the Treaty. The rights conferred under this Treaty are as follows:

- **Right of distribution** is the right to allow the distribution of the work in original or its copy through sale or other means of transfer of the ownership.
- **Right of communication** to the public gives the right to communicate the work through wired or wireless communication.
- **Right of the rental** grants the right to give the original work or its copies on a rental basis. These rights are given for three kinds of work such as:
    - **Computer programs** only when the computer program itself is not the essential object of the rental.
    - **Cinematographic works** but only in cases where commercial rental has led to widespread copying of such works, materially impairing the exclusive right of reproduction.
    - **Works embodied in phonograms** as determined in the national law of contracting parties (except for the countries which have had a system in force for equitable remuneration of such rental since April 15, 1994).

The standard duration of protection under this Treaty must be at least 50 years. But the signatory countries can amend this as per their legal system. The Treaty obliged the contracting parties to take action against the circumvention of technological measures, such as encryption of the work by authors, alteration of details or information from work, etc. The enforcement of the rights and dealing with infringement cases are treated as per the legal system in the signatory country.

4.22. WIPO Performances and Phonograms Treaty (WPPT), (1996) (https://www.wipo.int/treaties/en/ip/wppt/)

This Treaty is an extension of the Rome Convention (1961) to protect the rights of performers like actors, singers, musicians and producers of phonograms. The Treaty was concluded in 1996 but came into force in 2002. There are 106 contracting countries to it including India. In addition, it is open to the WIPO members and the European Community.

4.22.1. Performers' Rights

Economic and moral rights are granted to the performers of their performances fixed in the phonograms. The rights conferred under the Treaty are as follows:

- The **right of reproduction** is the right to authorize the reproduction of the phonogram in any manner or form.
- The **right of distribution** is the right to authorize the making available to the public of the original and copies of the phonogram through sale or other transfer of ownership.
- The **right of rental** is the right to authorize the commercial rental to the public of the original and copies of the phonogram, as determined in the national law of the contracting parties.
- The **right of making available** is the right to authorize the making available to the public, by wire or wireless means, of any performance fixed in a phonogram. The right of making available covers, in particular, on-demand, interactive making available through the Internet.

As far as unfixed programmes (e.g. live performances) are concerned, the Treaty grants performers the following rights:

i. The right of broadcasting except in the case of rebroadcasting.
ii. The right of communication to the public (except where the performance is a broadcast performance.
iii. The right of fixation.

4.22.2. Producers' Rights

As far as producers of phonograms are concerned, the Treaty grants the following rights:

- The **right of reproduction** is the right to authorize direct or indirect reproduction of the phonogram in any manner or form.
- The **right of distribution** is the right to authorize the making available to the public of the original and copies of the phonogram through sale or other transfer of ownership.
- The **right of rental** is the right to authorize the commercial rental to the public of the original and copies of the phonogram, as determined in the national law of the contracting parties.
- The **right of making available** is the right to authorize making available to the public, through the wire or wireless means, a phonogram in such a way that the public may access the phonogram from a place and at the time individually chosen by them.

The contracting parties can devise the limitations and exceptions as per the digital environment in the country. The minimum protection under the Treaty is 50 years after the recording of the work, but countries are given the freedom to increase the protection life as per their legal system. The action against the infringement and enforcement of the rights can be practised as per the legislation and legal system of the contracting country.

4.23. Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, (1995)

4.23.1. Introduction

In the later part of the 20th century, industrialization became the major objective of many nations. As the industrialization process grew, so did the innovative products as well as the trade amongst various countries. Many of the trading goods involved a high proportion of the IP. Thus, IPR became a crucial component of international trade. As IP is a territorial property and each nation has its own set of rights/rules/enforcements/punishments for IPR related issues, it led to many confusions and disputes between developed and

developing countries. The World Trade Organization (WTO) addressed this issue during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) between 1989 and 1990. As of now, WTO has 164 members including, India and 24 observer governments (i.e. nations). The TRIPS Agreement appears as Annex 1 C of the Marrakesh Agreement (Morocco, 15 April 1994). The TRIPS Agreement (https://www.wto.org/english/tratop_e/trips_e/trips_e.htm#issues) is one of the most important agreements of the WTO. The Agreement plays a crucial role as legal recognition of the significance of links between trade and IP. The IPs covered under TRIPS are:

- Patents including the protection of new varieties of plants.
- Copyright and related rights.
- Trademarks.
- Geographical indications.
- Industrial designs.
- Layout designs of integrated circuits.
- Undisclosed information, including trade secrets and test data.

4.23.2. Main Features of TRIPS

TRIPS Agreement is the most important multilateral instrument for the globalization of IP Laws. The obligations under the Agreement are the same for each member country. TRIPS Agreement has three main features i.e. Standards, Enforcement and Dispute Settlement as explained below:

Standards - Each member state is mandated to recognize minimum standards for IP protection. In each type of IP, the key elements of protection are clearly defined, namely:

- Subject-matter to be protected.
- Rights associated with IP.
- Permissible exceptions to those rights.
- The validity period of the rights.

The minimum standards include obligatory compliance to the substantive obligations of the Paris Convention (1886) for the Protection of Industrial Property. Similarly, the Berne Convention (1886) for the Protection of Literary and Artistic Works in their most recent versions, except moral rights. Sometimes, the TRIPS Agreement is also termed as the 'Berne and Paris-plus Agreement'. The TRIPS Agreement also includes certain other parameters which are not a part of the pre-existing Conventions or have been addressed inadequately.

Enforcement - To tackle IP issues related to infringements and misuse, the TRIPS Agreement has laid down IPR enforcement procedures (civil and administrative) to be adopted by WTO members. The objectives of IPR protection and enforcement are meant to encourage the promotion of technological innovations as well as their transfer and dissemination.

Dispute Settlement - The Agreement also specifies dispute settlement procedures (https://www.wto.org/english/tratop_e/dispu_e/dispu_e.htm) for addressing the violations of the Agreement by the member countries. Dispute settlement is taken care of through Dispute Settlement Body (DSB) administered by WTO.

There is a time limit for the implementation of TRIPS obligations. However, extra time has been allowed for their implementation in developing countries.

In general, the verticals of the TRIPS Agreement (minimum standards, enforcement and dispute settlement) were appreciated by all the member countries. However, a concern was raised about the restricted access to patented medicines and pharmaceutical products. Therefore, in 2001 in Doha, a special Ministerial Declaration (https://www.who.int/medicines/areas/policy/doha_declaration/en/) was adopted by the WTO members to clarify the regulations of the TRIPS Agreement with regard to the principles of public health. Under this declaration, the member countries were affirmed that the TRIPS Agreement should not affect the important measures to assure better health care in developing countries. The main aspect of this declaration is the grant of 'compulsory license' during a national emergency.

4.23.3. Substantive Standards of IP Protection

The base-level IP subject matter as laid down under the TRIPS Agreement can be accessed from https://www.wto.org/english/tratop_e/trips_e/intel2c_e.htm. A glimpse of the fundamentals to be honoured by each member nation are mentioned below.

4.23.3.1. ***Patents*** - The TRIPS Agreement mandated the member countries to make Patents available for any inventions. The invention may be either products or processes, that too in all fields of technology without discrimination, subject to the normal tests of Novelty, Inventiveness and Industrial Applicability.

It is also required that Patents are available and Patent rights are enjoyable without discrimination as to the place of invention. Additionally, whether products are imported or locally produced. A few permissible exceptions to the basic rule on patentability are:

- Inventions which are dangerous to humans.
- Animal or plant life or health.
- Seriously prejudicial to the environment.
- Diagnostic, therapeutic and surgical methods for the treatment of humans or animals.
- Plants and animals other than microorganisms and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes.
- However, any country excluding plant varieties from Patent protection must provide an effective *sui generis* system of protection. Moreover, the whole provision is subject to review 5 years after entry into force of the Agreement.
- The exclusive rights that must be conferred by a product Patent are the ones of making, using, offering for sale, selling, and importing. Patent owners shall also have the right to assign, or transfer by succession, the Patent and to conclude licensing contracts.
- Members may provide limited exceptions to the exclusive rights conferred by a Patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the Patent and do not unreasonably prejudice the legitimate interests of the

Patent owner, taking account of the legitimate interests of third parties.

- The term of protection available shall not end before the expiration of a period of 20 years counted from the filing date.
- Members shall require that an applicant for a Patent shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.
- Compulsory licensing and government use without the authorization of the right holder are allowed but are made subject to conditions aimed at protecting the legitimate interests of the right holder.

4.23.3.2. ***Copyrights*** **-** The basic standards as prescribed in the Paris Act of 1971 of the Berne Convention, are mandatory for Copyright protection. The Convention deals with questions, such as:

- Subject-matter to be protected.
- Minimum term of protection.
- Rights to be conferred.
- Permissible limitations to those rights.

However, moral rights, as mentioned in this Convention, have been excluded. Also, minor alterations in the right of translation and the right of reproduction of copyrighted material are permissible for developing countries. In addition to the compliance with the basic standards of the Berne Convention, the TRIPS Agreement has incorporated specific points, such as:

- Copyright protection shall extend to expressions and not to ideas, procedures, and methods of operation or mathematical concepts.
- Computer programs, whether in source or object code, shall be protected as literary works. The general term of protection of 50 years applies to computer programs.
- Databases are eligible for Copyright protection provided that the selection or arrangement of their contents constitutes intellectual creations.
- In certain cases, like photographic, audio-visual, anonymous or pseudonymous works, etc. the term of protection can be less than specified in the Berne Convention i.e. the life of the author and 50 years after his death.

4.23.3.3. ***Trademarks*** - Any sign, or the combination of signs which are capable of distinguishing the goods and services of one undertaking from those of other undertakings, must be eligible for the registration as a Trademark ™. The condition is the mark is visually perceptible. Such signs, in particular words like personal names, letters, numerals, figurative elements and combinations of colours, as well as any combination of such signs, must be eligible for registration as Trademarks.

- Members are free to determine whether to allow the registration of signs which are not visually perceptible (e.g. sound or smell marks).
- Members may make registrability depend on the use of the mark. However, actual use of a Trademark shall not be permitted as a condition for applying for registration, and at least 3 years must have passed after the filing date before failure to realize intent to use is allowed as the ground for refusing the application.
- The owner of a registered Trademark must be granted the exclusive right to prevent all third parties which do not have the owner's consent. The owner can prohibit identical or similar signs for goods or services identical to the registered Trademark, where such use would result in confusion.
- Members may provide limited exceptions to the rights conferred by a Trademark. These exceptions are like fair use of descriptive terms, provided that these exceptions take account of the rightful interests of the owner of the Trademark and third parties.
- Initial registration or each renewal of registration of a Trademark shall be for a term of no less than 7 years.
- Cancellation of a mark on the grounds of non-use cannot take place before 3 years of uninterrupted non-use have elapsed. The TM owner has to show valid reasons based on the existence of obstacles to such use.

4.23.3.4. ***Geographical Indications*** - Geographical Indications (GI) are defined as indications that identify a good that originated in the territory of a member, or a region or locality in that territory, where a given quality, reputation or other characteristics of the good is essentially credited to its geographical origin.

The interested parties must have legal means to prevent the use of indications that mislead the public as to the geographical origin of the good. Also, the use constituting an act of unfair competition within the meaning of *Article 10bis* of the Paris Convention can be prevented. The registration of a TM which uses a GI in a way that misleads the public as to the true place of origin must be refused.

4.23.3.5. ***Industrial Designs*** **-** TRIPS Agreement obliges members to provide for the protection of independently created Industrial Designs (ID), that are new or original.

The owner of a protected industrial design has the right to prevent third parties from making, selling or importing articles bearing the industrial design without having the consent.

Members may provide limited exceptions to the protection of industrial designs, provided that such exceptions should not conflict with the normal exploitation of protected industrial designs. The use of the design should not unreasonably prejudice the legitimate interests of the owner of the protected design, taking into account the rightful interests of third parties.

The duration of protection available shall amount to at least 10 years (*Article 26.3*). The term can be divided into two slots of five years.

4.23.3.6. ***Layout-Designs of Integrated Circuits*** **-** *Article 35* of the TRIPS Agreement mandates the member countries to protect the layout-designs of ICs under the provisions of the Treaty on Intellectual Property in Respect of Integrated Circuits (IPIC, 1989) negotiated under the patronage of WIPO. These provisions are, inter alia, the definitions of 'Integrated Circuit' And 'Layout-Design (Topography)', requirements for protecting exclusive rights, limitations, registration and disclosure.

In addition, the TRIPS Agreement clarifies and/or builds on four points. These points relate to the term of protection (10 years instead of eight), protecting layout-designs of ICs in accordance with the provisions of the Intellectual Property in Respect of Integrated Circuits Treaty (1989), the applicability of the protection to articles containing infringing ICs and the treatment of innocent infringers.

4.23.4. Protection of Undisclosed Information

The TRIPS Agreement requires undisclosed information like Trade Secrets (TS) or know-how to be benefited from protection. The protection must apply to secret information having commercial value and has been subject to reasonable steps taken to keep the information secret. Although, the Agreement does not require undisclosed information to be treated as a form of property, it does require that a person lawfully in control of such information must have the possibility of preventing it from being disclosed. Also, using without his consent in a manner contrary to honest commercial practices. "Manner contrary to honest commercial practices" includes violation of contract, violation of confidence and inducement to breach, as well as the acquisition of undisclosed information by third parties who knew that such practices were involved in the acquisition.

The Agreement also contains provisions on undisclosed test data and other data whose submission is required by the governments as a condition of approving the marketing of products related to pharmaceutical or agricultural chemicals, which use new chemical entities. These crucial situations must be handled by the government concerned and must protect the data against unfair commercial use.

4.23.5. 'TRIPS Plus'

Intellectual Property Rights are territorial rights and can be acquired in the territory of the country having an IPR law. But, the IPR acquired in one country cannot be enforced in another country. The TRIPS Agreement lays down certain minimum standards of protection and enforcement of IPR by its members through the enactment of such national laws and regulations. The TRIPS Agreement, however, allows members to have higher levels of protection than the minimum standards laid down in it, thus leaving the flexibility to members to have 'TRIPS plus' laws and regulations. The developed countries are moving toward higher, enhanced standards of IPR protection to evolve the TRIPS-plus regime. These higher standards are now making an appearance in various Free Trade Agreements (FTA) that these countries are negotiating and entering into with their trading partners. Since these provisions go beyond minimum standards established under TRIPS, they may take

away the flexibilities (for example the ability to issue compulsory licenses for medicines required in public health emergencies) in the TRIPS Agreement.

4.23.6. Impact of TRIPS on Relevant Indian Legislation

After the Agreement came into force in 1995, developing countries were given the transition period of ten years (up to January 1st, 2005) to comply with the provisions under the Agreement. As per the Agreement, developing countries were asked to provide protection for product patents by 2005. But, in the domains of pharmaceutical and agricultural chemical products, the countries were told to accept the filing of product patent applications from the beginning of the transitional period i.e. 1995. Although, the decision on the grant of these patents need not be taken until the end of this period *(Art 70.8).* This provision is also called the mailbox* provision.

**The mailbox application mechanism during the transition period allowed India not only to meet the TRIPS requirements but also to take into account India's own development needs. India's transition period for complying with the TRIPS obligations related to pharmaceuticals was 1995 to 2005. According to the Amendment of 1999, applications in respect of a claim for the articles in the pharmaceutical sector could be filed and entered into the mailbox provision but were not processed until January 1, 2005 and the application could be granted exclusive marketing rights to sell/ distribute the article in India.*

India became a signatory to TRIPS in 1995. In order to be TRIPS compliance, India had to make various amendments to Acts and Laws pertaining to IPR. The key amendments made in the Indian Patent Act, 1970 are mentioned below:

The first amendment was made through the Patents (Amendment) Act, 1999, but with retrospective effect dated January 1st, 1995. The amendment resulted in the filing of product Patents (drugs, pharmaceuticals and agrochemicals) which were not permitted earlier. This amendment was subject to 'examination of Patent application' only after December 31st, 2004.

The 2nd amendment to the Patent Act, 1970, was brought about

via the Patents (Amendment) Act, 2002. This Act came into force on May 20, 2003 with the introduction of new Patent Rules, 2003. The amendments resulted in replacing the earlier Patents Rules, 1972. With these amendments, India complied with all its TRIPS obligations relating to patent protection. This modification of the Act also confirmed the requirements of the PCT as modified until 2001.

The third amendment to the Patents Act 1970 was introduced through the Patents (Amendment) Act 2005, which was brought into force on January 1, 2005. This amendment obliged India to grant product Patents in all fields of technology and introducing pre and post-grant opposition. This amendment brought India infull observance with its TRIPS obligations.

After the TRIPS Agreement was signed, certain amendments pertaining to the digital environment were made in the Copyright Act in order to comply with the international standards. These amendments were:

- Facilitating authors and music composers pertaining to assignment and licenses.
- Exception of copyrights for physically disabled persons to access any work.
- Facilitating access to works and streamlining copyright administration.

Similarly, the Act for Trademarks was modified to avoid duplicity and ensure securing proprietors' trade and goodwill. India being the TRIPS member, GI of goods (Registration and Protection) Act was introduced (1999) and PPV&FR Act was also introduced (2001).

CHAPTER – 5
IP ECOSYSTEM IN INDIA

As the IP ecosystem is quite vast and varied, each country has established dedicated bodies for the promotion, administration and implementation of IP activities. In India, the key organizations engaged in IP affairs are mentioned below.

5.1. Department for Promotion of Industry and Internal Trade (DPIIT), New Delhi (dipp.gov.in)

DPIIT, earlier known as the Department of Industrial Policy and Promotion (DIPP), under the Ministry of Commerce and Industry, Govt. of India, is the apex IP body. It came into existence in 1995 and is the main body for regulating and administering the industrial sector. The major categories of IPs are being governed and administered by the DPIIT (Table 5.1).

Table 5.1: Categories of IPR and their governing bodies in India.

S. No.	Type of IP	Governing Body
1.	· Patents · Copyrights · Industrial Designs · Trademarks · Geographical Indications · Semiconductor Integrated Circuits Layout-Design	Department for Promotion of Industry and Internal Trade, New Delhi
2.	Traditional Knowledge Digital Library	CSIR & Ministry of AYUSH*
3.	Plant Variety Protection	Ministry of Agriculture and Farmers Welfare, New Delhi
4.	Biological Diversity Protection	Ministry of Environment, Forest and Climate Change, New Delhi

5.	Trade Secrets	No specific body governs Trade Secrets. These are protected under a various statutes like ・Indian Contract Act, 1872 ・Copyright Act, 1957 ・Information Technology Act 2000, etc.

*Government of India (through CSIR) and the Ministry of AYUSH, have created a digital repository, namely Traditional Knowledge Digital Library (TKDL), containing the information on traditional knowledge existing in India. This library has been translated into various languages, such as English, French, German, Spanish and Japanese. Many Patent Offices, including the European Patent Office, US Patent Office, Japanese Patent Office and Indian Patent Office, have access to the depository. TKDL also serves as a reference of prior arts for Patent examiners at these Patent Offices.

DPIIT has a dedicated and robust Office of the Controller General of Patents, Designs and Trade Marks (CGPDTM) for formulating as well as implementation of the policies, rules and regulations pertaining to IPR. In addition, DPIIT also undertakes the following IPR-related activities:

- Modernization and strengthening of Intellectual Property Office.
- Strengthening of physical infrastructure.
- Enhancement of human resources.
- Expansion of physical infrastructure at Delhi, Mumbai, Kolkata and Chennai.
- IT up-gradation.
- Development of software required for ISA/IPEA and Madrid Protocol.
- Subscription to non-patent literature required for PCT minimum documentation.
- Digitization of records.
- Sensitization and awareness programmes.
- Establishment of the electronic library.

- Furniture and office equipment for the modernized environment in IP offices.

DPIIT also collaborates with WIPO and other apex industry organisations to promote and strengthen the IP ecosystem. It also provides inputs on various issues related to the TRIPS agreement.

5.1.1. Intellectual Property Appellate Board and its Amendment

With an increase in the IPR regime all over the world, a higher number of disputes had also been observed. Because of the over occupancy of the judicial courts in India, there was a significant delay in the judgments related to IPR cases. To overcome this issue, in 2003 Government of India established Intellectual Property Appellate Board (IPAB), a statutory body under DPIIT, under the provisions of the Trademarks Act, 1991. The Board used to hear appeals against the decisions of the Registrars of Trademarks and Geographical Indications, and Controller of Patents. The Copyright Office of GoI had created a dedicated Board to determine the reasonable rates or royalties, licensing and assessment of compensation. In the year 2017, the Copyright Board and Plant Varieties Protection Appellate Tribunal were merged with IPAB and functions in accordance with their respective Acts and Rules.

As per the new amendments in the Tribunal Reforms (Rationalisation and Conditions of Service) Ordinance, various Boards/Appellate Tribunals, which existed under these statutes, have been abolished (https://spicyip.com/wp-content/uploads/2021/07/Press-Release-IPD.pdf). Therefore, the IPAB dealing with appeals from the Intellectual Property (IP) offices and matters such as revocation of Trademarks, Patents, etc. stands abolished. The orders for the same were passed by the Hon'ble Shri D.N. Patel (Chief Justice of High Court of Delhi) on 4th April, 2021 Chief Justice also directed High Courts to create a dedicated Intellectual Property Division (IPD) to deal with all matters related to Intellectual Property Rights (IPR). This has been done to avoid multiplicity of proceedings (of IPAB and High Courts) and also to avoid the possibility of conflicting decisions with respect to matters relating to the same trademarks, patents, design etc. All the pending cases (nearly 3000) of IPAB have been transferred to IPD.

Delhi High Court is in the process of framing comprehensive Rules for the IPD. A committee has already been constituted to frame the *`Delhi High Court Patent Rules'*, which shall govern the procedures for adjudication of patent disputes before the Delhi High Court. This is a landmark decision in the history of IPRs in India and such IPDs already exist in countries like UK, Japan, Malaysia, Thailand, China, etc.

5.1.2. Draft Model Guidelines on Implementation of IPR Policy for Academic Institutions

To implement the policy for enhancing the IP ecosystem, IP commercialization, Entrepreneurship and start-up ecosystem in academic institutions, DPIIT has prepared a draft of guidelines for the implementation of IPR policy for academic institutions. The draft can be accessed from the official website (https://dipp.gov.in/draft-model-guidelines-implementation-ipr-policy-academic-institutions). The draft was open for feedback and suggestion for the public at large from September 9th 2019 till October 25th 2019. The department is in the process of finalizing the guidelines and will be released soon.

5.1.3. Scheme for Facilitating Start-ups Intellectual Property Protection (SIPP)

To protect and promote IP in India, DPIIT initiated this scheme in 2016 (http://www.ipindia.nic.in/writereaddata/Portal/News/323_1_Scheme_for_facilitating_start-ups.pdf). This scheme is to facilitate the protection of Patents, Trademarks and Designs generated by start-ups. The scheme is inclined to nurture and mentor innovative and emerging technologies among the start-ups and assist them in protection and commercialization by providing them access to high-quality IP services and resources.

5.1.4. Office of the Controller General of Patents, Designs and Trademarks (CGPDTM)

This office is the most important component of the IP regime in India. It supervises the functioning of the following IP offices:

- The Patent Offices (including the Design Wing) at Chennai, Delhi, Kolkata & Mumbai.

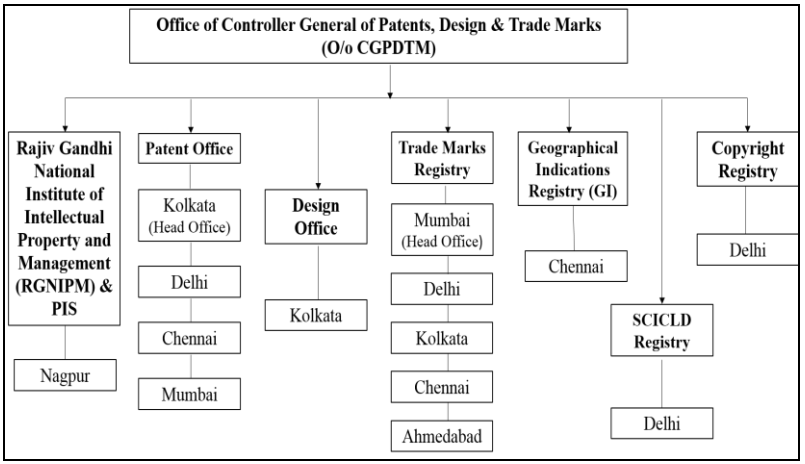
- The Patent Information System (PIS) and Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM) at Nagpur.
- The Trademarks Registry at Ahmadabad, Chennai, Delhi, Kolkata & Mumbai.
- The Geographical Indications Registry (GIR) at Chennai.
- The Copyright Office at Delhi.
- The Semiconductor Integrated Circuits Layout-Design Registry at Delhi.

Salient features of CGPDTM are:

- The office of CGPDTM administers all the Acts and laws related to Patents, Trademarks, Industrial Designs, Geographical Indications, Copyrights and Semiconductor Integrated Circuits Layout-Design Registry.
- Applicants can file their applications related to Patents, Designs, Trademarks, GI through 'E gateway' (http://www.ipindia.nic.in/e-gateways.htm#comprehensive-e-filing).
- The office has designed a dedicated public search engine to search the details of the registered IP and the status of the applications filed. These search engines are available free of cost for the public at large.
- The office publishes official journals of Patents, Trademarks and GI every week, which contain the details of applications published, abandoned, First Examination Report (FER) and Patents granted by the controller general.
- The details and amendments in the Rules and Acts are administered by the office and the same is notified by the Office on a regular basis.
- The Office publishes an annual report every year containing statistics about all IPs. The report also contains information regarding the international applications filed and granted in India through PCT and Conventions. The details of the revenue incurred and generated in the respective financial year are also depicted in the report.

- The Office notifies the vacancies for 'Patent Examiners' and holds the exams of 'Patent Agents' from time to time.

Figure 5.1: Organizational structure of IPR regime in India.



Source: http://www.ipindia.nic.in/organization-structure-patent.htm

5.1.5. IPO Website

A Patent Search web portal (www.ipindia.nic.in) and patents' e-filing webpage (https://ipindiaonline.gov.in/epatentfiling/goFor Login/doLogin) have been redesigned to make it more informative, interactive and user-friendly. This portal can be accessed free of charge and carries information, such as the status of Patent applications, including publication, examination, grant and renewal.

5.1.6. International Searching Authority (ISA) and International Preliminary Examination Authority (IPEA)

(http://ipindiaservices.gov.in/isaweb/IA.html)

The Patent Office, New Delhi, is a part of the Office of CGPDTM, which functions under the ambit of DPIIT, GoI. In 2013, WIPO granted the authority of ISA/IPEA to Indian Patent Office to assess the patentability of the applications filed through PCT or Conventions. The authority generates the written opinion in the form of a report, and based on this report, the applicant can withdraw the application if he finds that the granting of patents for this invention is unlikely. The examination of the application filed

through PCT or conventions is done by the IPEA.

5.1.7. Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM) (http://www.ipindia.nic.in/about-us-rg.htm)

This institute has been established as a national "Centre of Excellence" for training, management, research, education in the field of IPR, in Nagpur. Additionally, the institute addresses the need of increasing the general awareness and understanding of the government officers and users of IP systems in universities and other educational institutions. Salient activities of the institute are:

- The institute researches various aspects of IP and prepares study reports and policy analysis papers on the subject of current relevance for policy and lawmakers. It conducts research in the field of IP on several socio-economic parameters, strata of the society, technological fields, R&D trends, etc. to find the gaps in the IP ecosystem in India. These reports are available on the official website of the institute for free of cost.
- Based on the research conducted, discussion with experts of IP laws and other concerned stakeholders, the institute lays down policy recommendations for the government, SMEs, industries and universities in India.
- The institute proposes three-month diploma course, six months and one-year Post Graduate Diploma course in Intellectual Property Law.
- The institute conducts time to time training for the students and IP professionals for awareness and sensitizes them about the significance of IPR.
- The training of IP examiners is conducted to make them proficient as per the international standards. The institute also collaborates with WIPO for organising training programmes in India.
- The institute also organizes IP Awareness/Campaign in the country in collaboration with IP Offices, Government Organizations and R&D Institutions.

5.1.8. Cell for IPR Promotion and Management (CIPAM)

CIPAM, a professional body under DPIIT, has been established

for addressing the objectives of IPR Policy especially creating awareness about IPR among all strata of life i.e. educational institutions, industries (primarily small scale industries), and general public and professional bodies like the police, lawyers, etc. Over one lakh students have benefitted from lectures/talks related to IPR. Besides, over 80 IPR cells have been established in colleges/ universities. A chapter on 'IPR, Innovation & Creative Works' is included in NCERT's course curriculum.CIPAM plans to introduce animated videos on IPR for the students. An IPR Activity Book titled *'Let's Have Fun with IP'* has also been published to benefit students.

Figure 5.2: India's First IPR Mascot – IP Nani.

Source: https://pib.gov.in/Pressreleaseshare.aspx?PRID=1532362

The major activities of CIPAM include:

- A 20-minute tutorial video on the overview of IPR featuring IP Nani has been created in collaboration with Qualcomm, an American multinational corporation headquartered in San Diego, California.
- A Training of Trainers Module (beta version) to aid school teachers in teaching basic concepts of IP using CIPAM's content has been created (http://cipam.gov.in/wp-content/ uploads/2019/05/School-Teachers-Training-Module.pdf).
- Till date, 700+ teachers have been trained on the subject of IPR.
- CIPAM utilizes community radios to reach out to the youth.

- An online IP Learning Platform - L2Pro has been launched in collaboration with National Law University (NLU), Delhi and Qualcomm, which would provide students and industry (especially SMEs) an easily accessible IP learning forum.

5.1.9. IPR Awareness in the Industry & MSME

CIPAM, along with the Ministry of Micro, Small and Medium Enterprises (MSMEs) has convened many IPR training programmes for MSME Officers and MSME Clusters. A 'Trade Secret Toolkit' has been prepared for small-scale industries and start-ups.

5.1.10. Training Program for Enforcement Agencies

Over 100 training programs on IP Enforcement have been conducted for personnel of Police, Judiciary and Customs and a dedicated toolkit has been designed for this purpose.

5.1.11. Statistical Data on IPR

DPIIT also collects IPR related data and publishes them in their annual reports. It also compares the data with previous years to understand the trajectory of the Patents, Copyrights, Trademarks, etc. and bring necessary intervention for further improvement, if needed. This data has been discussed in earlier chapters. A glimpse of the IPR statistical data is discussed for Patents.

Table 5.2: Patent profile (2018-19) of select countries.

S. No.	Country	Total Number of Patent Applications Filed	Number of Patent Applications Filed			
			Residents	% age	Non-Residents	% age
1.	China	14,00,661	12,43,568	90.2	1,57,093	9.8
2.	USA	6,21,453	2,85,113	48.4	3,36,340	51.6
3.	Japan	3,07,969	2,45,372	81.7	62,597	18.3
4.	S. Korea	2,18,975	1,71,603	77.7	47,372	22.3
5.	**India**	**53,627**	**19,454**	**32.1**	**34,173**	**67.9**

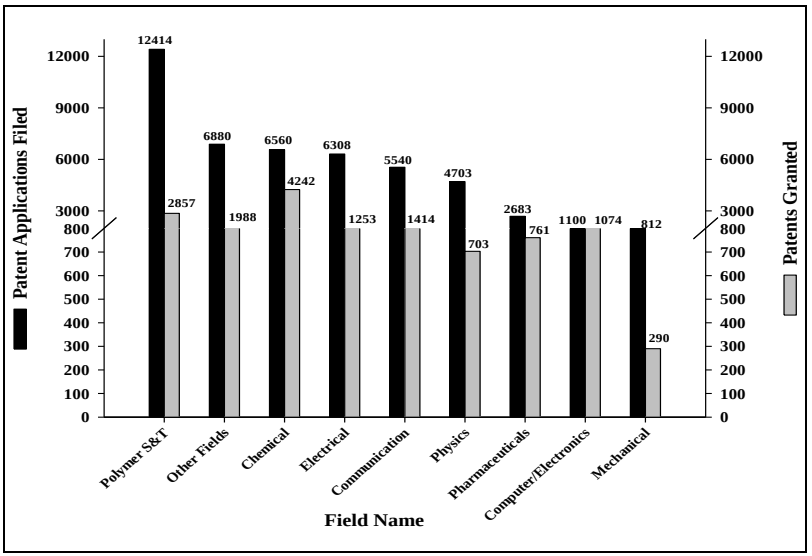
Source: World Intellectual Property Indicators, 2020 (https://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2020.pdf)

Although, India ranks among the top 5 countries in the

parameter of research publications, but it has to do a lot of catching in the parameter of Patents (filed, granted and licensed). Countries like China, USA, Japan, S. Korea and scores of other countries are way ahead of India in terms of the number of Patent applications filed in 2018-19 (Table 5.2). This fact becomes grimmer on realizing that out of 53,627 Patents applications filed, only one third (32%) were filed by Indian residents and the majority (68%, approx.) were filed by non-resident Indians.

As per the latest data available (2018-19), a maximum number of Patent applications were filed in the field of Polymer S&T (12,414) followed by Chemical (6560) and Electrical (6308). The trend of Patent granted a quite similar to that of Patent applications filed (Fig. 5.3).

Figure 5.3: Sector-wise profile of patents (filed & granted) in India (2018-19).

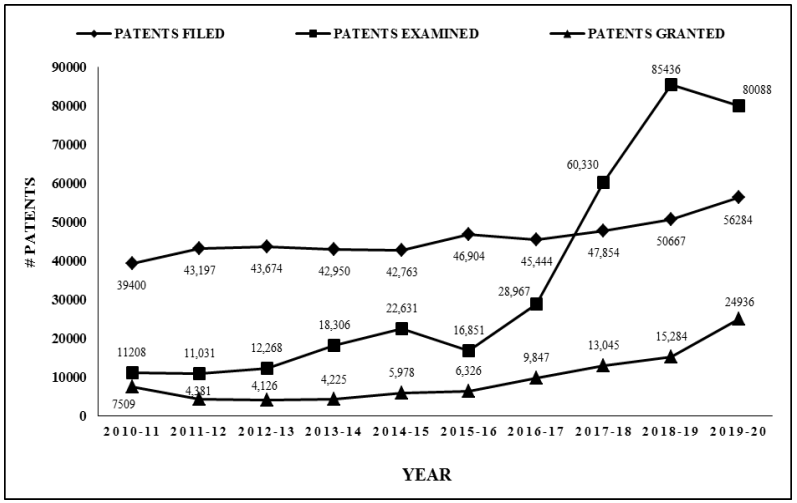


Source: Annual Report, Office of CGPDTM, Mumbai (2018-19)

Other Fields: *Biomedical, Biochemistry, Civil, Textile, Food, Microbiology, Metallurgy & Material Science, Agricultural Engineering, Polymer Science, Agrochemical, Microbiology and Traditional Knowledge*

Figure 5.4 displays the trend of Patents filed, examined and granted during the period 2010-11 to 2019-20. Since 2014-15, a rise in the graph of all the three parameters is observed. However, a steep rise is seen in case of the number of patents examined. It is due to the increase in the number of Patent Examiners. Earlier, in India, it used to take around 5-7 years for a Patent to be granted, which is not a healthy sign. The major reason for the delay was attributed to less number of Patent Examiners. With an increase in the number of examiners, it is hoped that Patents would be granted much earlier.

Figure 5.4: Patents profile (India) for the period 2010-19.



Source: Annual Reports, Office of CGPDTM, Mumbai (2011-20)

5.2. National Research Development Corporation (NRDC), New Delhi (http://www.nrdcindia.com)

NRDC, an enterprise of Department of Scientific & Industrial Research (DSIR), Govt. of India, was set up in 1953 with a mandate to develop, promote and transfer/commercialize IP and technologies emanating from Higher Education Institutes (HEIs), R&D research laboratories/institutions and Public Sector Undertakings (PSUs).

NRDC has a repository of 2500 Indian technologies, filed over 1700 Patents and transferred about 5000 technologies in different sectors in India. It has also created a technology data bank

(http://fccollc.com/nrdclive/) containing information regarding technologies available in various fields, such as electrical & electronics, mechanical, coil, mining, biotechnology, healthcare, leather, etc. Researchers can post or search technologies at the portal. The major components of NRDC are as follows.

5.2.1. Intellectual Property Facilitation Centre (IPFC)

It is a joint project of NRDC and MoMSME with a mandate to create awareness and adoption of IPR by the entrepreneurs and the MSMEs (http://www.nrdcindia.com/Pages/IPFC). From time to time, IPFC organizes IP-related training programs across the country. Participants are awarded certificates after successful completion of the course. The IP related services offered by IPFC include:

- Prior Art Search and Preliminary Patentability Assessment.
- Patent Filing Support for filing with the provisional specification or/and with complete specification.
- Advice for filing Patents in other countries.
- Advice on examination reports and queries for the Indian Patent Office.
- Post-Grant Support.
- Support for Infringement Proceedings, Opposition Proceedings, etc.
- Technology Transfer Agreements and Patent Valuation.
- Technology Marketing and Licensing.

IPFC also provides guidance and assistance in the preparation of documents required for registration of Copyrights, Trademark, Industrial Designs, and Geographical Indications

5.2.2. Intellectual Property Management Division (IPMD)

NRDC provides financial and technical assistance to the innovations emanating from R&D organizations, academic institutions and universities as well as individuals for IP protection. The division assists in the services like Patent search facility, assistance in Patents commercialization, organizing IPR workshops and many other Patent related services.

5.2.3. Start-ups IP Protection (SIPP)

This is a scheme launched by DPIIT, Govt. of India to assist start-ups in filing applications for Patents, Designs and Trademarks through registered facilitators by paying only the statutory fees. NRDC plays a significant role in this scheme by providing services and guidance to budding start-ups in their innovative plans and IP-related matters. NRDC signed an agreement with the Indian Oil Corporation for providing a variety of assistance in Indian Oil's Start-up Scheme. NRDC has supported more than 14 start-ups under this scheme in the following ways:

- Providing general advisory on different IP on a *pro bono* basis.
- Providing information on protecting and promoting IPR to start-ups in other countries on a *pro bono* basis.
- Assisting in filing and disposal of the IP applications related to Patents, Trademarks and Design under relevant Acts at the national IP offices under the CGPDTM.
- Drafting provisional and complete Patent specifications for inventions of start-ups.
- Preparing and filing responses to examination reports and other queries, notices, or letters issued by the IP office.
- Appearing on behalf of start-up at hearings.
- Contesting opposition, if any, by other parties.
- Ensuring final disposal of the IPR application.

5.2.4. IPR Awareness

To sensitize people about the importance of IPR and its protection & management, NRDC organizes IPR awareness seminars/workshops on issues related to the commercialisation of Technology/Patents, protection of IP, prior art searching techniques, IP issues in technology licensing and so on. NRDC also delivers talks/seminars on the importance and need for IP protection to students, young scholars, teaching and research communities. NRDC provides IPR Service (Patent search, Patent filing, consultancy, organising workshops, capacity building, etc.) to many companies, such as National Thermal Power Corporation (NTPC), Bharat Earth Movers Limited (BEML), Mishra Dhatu Nigam

Limited (MIDHANI) Bharat Dynamics Limited (BDL).

5.2.5. Innovation Facilitation Centres (IFCs)

On behalf of DSIR**,** NRDC has set up 6 IFCs in the universities under 'Programme for Inspiring Inventors and Innovators' (PIII). The mandate of IFCs is to sensitize the students, research scholars and faculty members (preferably science stream) about IP related issues by organizing seminars and workshops on IP and technology transfer (http://www.nrdcindia.com/Pages/IFC). NRDC plans to set up additional IFCs in universities, NIT's and IIT's, autonomous Institutions & academic institutions which are desirous of stimulating technology-led innovations.

Main Objectives:

- To promote area-specific technologies for the industries by utilizing the R&D capabilities of the host institutions in the region.
- To provide value-added services in terms of IP management & technology commercialisation for making commercial products from the R&D of institutions of the region.
- To act as a potent resource of IP-protected technologies to help the manufacturing sector of the country in developing new products and services based on the innovative technologies available through the IFCs.
- To provide IP protection and management services and facilitate technology transfer and commercialisation.

5.2.6. Outreach Activities

To promote regional innovations, technologies, IP promotion and commercialisation in the country because of growing industrialization and start-up ecosystem, NRDC has created 4 outreach centres in various locations:

- Intellectual Property Facilitation Centre (IPFC) at Vishakhapatnam with support of MoMSME, GoI.
- Technology and Innovation Support Centre (TISC) at Vishakhapatnam with support of DPIIT-CIPAM, GoI.
- Incubation Centre at New Delhi.

- North Eastern Cell - NRDC at Guwahati.

Since its inception, IPFC & TISC at Visakhapatnam have provided its IPR services to various sectors (public and private), including PSU's, educational institutions and industries. It has been at the forefront of organizing IP workshops in the domains of Patent capacity building, Patent awareness, Patent filing, Patent management, etc. Within a short span of a little over two years, NRDC-IPFC has performed the following activities (Table 5.3):

Table 5.3: Activities performed by NRDC-IPFC.

Attributes	Number FY 2018-19	FY 2019-20 (Till 31st March 2020)
Patent services facilitated with due diligence (Novelty Search Reports generated + Patents Filed service + Advisory)	45	55
Technology transfer to MSME/ Entrepreneurs/ Start-ups/ Industries & PSU's	7	10
Technologies assigned	8	7
Trademark services facilitated & filed	14	29
Copy right services facilitated & filed	1	3
Industrial Design services facilitated & filed	4	2
Geographical Indication of Goods Initiated & services facilitated undertaken	1	2
MoU/MoA signed	9	19
IP Workshops conducted	7	8

Source: http://www.nrdcindia.com/OutreachCenter/5

5.2.7. Schemes and Programmes

5.2.7.1.IP Consultancies **-** Academia/R&D institutes and industries are at the forefront of knowledge creation and scientific activities.

With innovation as a central theme, NRDC provides consultative services in drafting/formulating innovation, technology transfer and IP policy of their respective organizations.

5.2.7.2. Technology Landscaping **-** NRDC helps stakeholders in technology landscaping analysis in which it helps to understand the market evaluation of a particular technology as well as the latest developments involving such technology. This initiative helps stakeholders to take important decisions and adopt strategies involving R&D of product processes, investment in specific areas of technology and identifying Patent trends. NRDC is financing programmes like Programme for Inspiring Inventors and Innovators (PIII) and Programme for Development of Technology Inspiring for Commercialization (PDTC). The main features of the programmes are mentioned below:

5.2.7.3. Progra7mme for Inspiring Inventors and Innovators:

- Promotion & Propagation of Inventions and Innovations.
- Prize Award to Meritorious Inventions and open-source Technologies.
- Innovate India Conference.
- Intellectual Property & Innovation Facilitation.
- Intellectual Property and Technology Facilitation Centre (IPFC).
- NRDC-University Facilitation Innovation Centers.
- Patent Seminars, Patent Search.
- On-Line IPR & Knowledge Management Courseware for Certificate Programme.
- Technology Knowledge Management Programme.
- Techno-commercial Support to Scientists, Innovators and Student for process Trial and Validation of Technologies.
- Knowledge Management Programme for the promotion of

Innovations / Technologies.

5.2.7.4. Programme for Development of Technology Inspiring for Commercialization:

- Digital Knowledge Base (Innovation Portal) for Commercialization of Innovations.
- Digital Portal and Membership & Subscription.
- Technology Value Addition.
- Basic Engineering Design Package.
- Market Survey on assigned technologies.
- Development Projects and value addition for priority projects.
- Promotion of Innovation in Rural & North East Region.
- Entrepreneurship Development Programme in backward and rural areas through Innovative Appropriate Technology.
- Increase Shelf-life of Fruit & Vegetables through Innovative Appropriate Technology.
- Organic Fruits Cultivation & Processing Programme at Mizoram (MFCP Certified Programme).
- Promotion of Technology Commercialisation in the country and abroad.
- Dissemination of Information through R&D-Industry Meet, Conferences, Seminars, Workshops, Exhibitions, Foreign Exhibition, Publication, etc.

5.2.7.5. ASEAN-India **-** Under the overall aegis of the ASEAN-India Science, Technology and Innovation Cooperation Program, NRDC has developed a portal, namely the ASEAN-India Innovation Platform (Research Innovation Component). NRDC shall create and develop a databank of technologies/ Innovations, etc. available in India and the ASEAN Members States under a single platform and make it available for transfer and commercialization for Indian as well as ASEAN entrepreneurs. The

collaborating partners of NRDC are National Innovation Foundation and FICCI. In the portal, the innovators can share their technology and the buyer can access the available technology for its commercial exploitation.

The main objectives of the portal are:

- Creation of extensive database/research work and IPs.
- Creation of a single platform to access the technologies developed in India and ASEAN countries.
- Facilitation of technology seekers and technology owners through an interactive and dynamic portal.
- Bridging the technological gap between inventor, industry, manufacturers & academia of ASEAN countries.
- Helping the member countries in networking with people to share ideas, experiences, problems faced and their solutions.
- To work as a single source of information for ASEAN countries about inclusive innovation, sectors, such as health, education, food and agriculture, environment and natural resources, science and technology, etc. are the thrust area.
- Helping at networking the industries of ASEAN and India with the IP knowledge bases for employment and wealth creation.

5.3 Technology Information Forecasting and Assessment Council (TIFAC), New Delhi (http://tifac.org.in)

The importance of undertaking technology forecasting and assessment studies on a systematic and continuing basis was highlighted in the Government of India's Technology Policy Statement (TPS) of 1983. Therefore in 1985, TIFAC was established as an autonomous body, registered as a Society in 1988, under the Department of Science and Technology. It is an important cog in filling a critical gap in the overall S&T system of India. Its mission is to assess the *state-of-art* of technologies and set directions for future technological developments in India in important socio-economic sectors.

5.3.1. Patent Facilitation Centre

TIFAC is also a nodal agency for carrying out IPR related activities in the country. In 1995 a Patent Facilitation Centre (PFC-https://tifac.org.in/index.php/admin-finance/patent) was set up in TIFAC with four fold objectives (https://tifac.org.in/index.php/about-us/mandate):

- Introducing Patent information as a vital input in the process of promotion of R&D programmes.
- Providing patenting facilities to scientists and technologists in the country for Indian and foreign Patents on a sustained basis.
- Keeping a watch on development in the area of IPR and making important issues known to policymakers, scientists, industry, etc.
- Creating awareness and understanding related to Patents and the challenges and opportunities in this area, including arranging workshops, seminars, conferences, etc.

In order to fulfill these objectives, PFC carries out dedicated activities, such as:

Facilitation of IP Protection - PFC acts as a facilitator to provide support (legal, technical and financial) for obtaining Patents emanating from research funded by DST, GoI to educational institutions and central/state government departments/agencies. These Patent and IP applications are drafted and filed through Patent attorneys empanelled by PFC-TIFAC. PFC also attends to the requests from public and private sectors for patent search, novelty and inventiveness free of cost/nominal charge.

As per the latest data available (Annual Report, 2017-18) PFC has facilitated the filing of about 1500 Patents in India and abroad, out of which nearly 250 Patents have been granted.

Table 5.4: IPR related statistics of Patent Facilitation Centre.

Activities	Total
Patent & IPR awareness workshops	424
IPR bulletin	122 issues
Facilitation of filing of Patent applications	Filed: 1500; Granted:250
Registration Geographical Indications	7
Patent search reports	1200
PICs	20
Training Programme	~20
Special reports	47
Women Scientists Scheme (WOS-C)	311 Women trained in 6 batches; 119 Patent agents

Source: https://tifac.org.in/index.php/admin-finance/patent

Awareness Creation - PFC delivers many talks and organizes workshops to create IPR awareness amongst students, researchers, scientists and professors belonging to universities and other educational institutes, R&D institutions, industries, NGOs and government departments. PFC also publishes an IPR Bulletin to spread awareness across the country about Patents and other IPRs IP related matters. PFC has also prepared FAQs on IPR in various Indian languages.

Patent Information Centres (PICs) - To provide IPR related services, PFC has opened 24 PICs in various states of India. Now, this programme is being administered by DST. The PICs are playing the role of a 'Consultant and Guide' *w.r.t.* IPR, especially Patents, at the State level, by providing guidance in the filing Patent applications, extending the Patent search services and also assisting PFC in conducting workshops in their respective states. In addition, PICs are working on registration of potential aspects, such as Geographical Indications (GI), the inclusion of IPR in course curriculum, supporting IPR Cells in the academic sector.

Registering Geographical Indications - PFC has taken the initiative to protect many items of traditional excellence originating from a particular geographical area as defined by 'The Geographical Indication of Goods (Registration and Protection) Act'. Registration certificates were issued for including Kangra Tea, Kullu Shawls, Muga Silk and Malda Mangoes. Now PICs are independently handling GI related work in the States.

IPR Cells in Universities - PFC has successfully set up IPR Cells in Universities (IPCU) with the help of PICs. There are 84 IPCUs in different universities in the states. IPCUs have been created to guide university academicians in matters related to IPR like Patent searches, IP audit of universities and protecting such inventions through PICs which in turn approach PFC for filing and processing Patent applications and maintaining granted Patents. The ownership of a Patent would rest with the universities. The aim is to have an IP cell in each university within a few years. Now it is directly handled by DST and PICs at the state level.

Training Programmes - PFC is also actively involved in imparting IPR related training programmes on dedicated topics, such as Patent drafting, Patent searches, etc. Usually, the training programmes are being conducted in association with other organizations, such as DRDO, DAE, UNIDO, Indo-US S&T Forum (IUSSTF), National Institute of Health, USA, etc.

Women Scientist Scholarship Scheme (WOS-C)-KIRAN IPR) - Many young Indian women are well qualified in the domain of science/engineering/medicine or allied areas but are unable to pursue their career due to domestic and social reasons. To bring back these young talented women into mainstream, DST, GoI started an interesting scheme, the Women Scientists Scheme (WOS-C), popularly known as KIRAN-IPR, which provides avenues in the area of IPR to unemployed women scientists sitting at home. The one-year course work can be carried out from home for 11 months and thus maintain a good balance between professional and domestic demands. Only for a month, women scientists are required

to spend time in TIFAC, New Delhi. After the orientation programme, candidates have to join 11 months of job training at various Patent agencies throughout the country. The scheme is being implemented by the PFC of TIFAC on behalf of DST. The major objectives of the scheme are:

- Empower talented and skilled women who have studied science, engineering, medicine and allied areas to contribute effectively to the advancement of science and technology in the country.
- Develop a pool of women scientists geared up in creating, protecting and managing IP in India.
- Train talented and meritorious women in laws related to the protection of IP, management of IPR, determination of novelty and originality of IP, ascertaining patentability of an invention, searches of databases related to Patents and allied databases and other aspects of IPR, enabling them to seek specialized employment or be self-employed.
- Develop a core of professionals for preparing reports on various aspects of IPR.

This scheme has been highly successful. Nearly 600 women scientists have been trained, out of which 270 have cleared the Patent Agent Examination conducted by the Patent Office of India. Sixty percent of these women are pursuing their career in the area of IPR and some of them are self-employed and have become entrepreneurs.

Looking at the success of this scheme, PFC set up three coordination centres at Centre for International Cooperation in Science (CICS), Chennai; IIT, Kharagpur and CSIR-Unit for Research & Development of Information Products (URDIP), Pune for facilitating the training of candidates. The candidates for the scheme are selected based on all India online examinations followed by the interviews.

Database on Indian Patents - PFC has developed three CD-ROM databases on Indian Patents:

Ekaswa-A - contains the database related to Patent applications filed in India as published in the issues of the Gazette of India (Part III, Section 2) from 1st January 1995 to 1st December 2004.

Ekaswa-B - contains the database related to Patent applications accepted and notified for the opposition in the Gazette of India (Part III, Section 2) published for the same period i.e. from 1st January 1995 to 31st December 2004.

Ekaswa-C - for Patent applications published in Official Journal of Patent Office from January 2005 till June 2008. These databases can be accessed online (www.indianpatents.org.in) free of cost.

Counselling and Advisory Role - PFC has been played an important role in preparing guidelines for the Ministry of Science and Technology for handling IP related matters of research projects funded by DST. PFC has been widely accepted as the national nodal point for higher education institutes, government bodies, NGOs, entrepreneurs, scientists, foreign embassies, etc. for seeking information and guidance on IPR related matters. PFC plays a crucial role in policy formulation and future planning in the area of IPR and related matters.

TIFAC Internship Programme - This Programme provides an opportunity for students to work in the technology foresight and technology road-mapping exercises under the supervision of TIFAC Scientists. Under this programme, students are assigned specific topics to get familiar with emerging trends in the domain of cutting-edge technologies. About 80 students have benefited from this programme. In return, TIFAC too gets benefits from the interaction with enthusiastic young minds with fresh thoughts and technical insights.

Foresight Training - TIFAC conducts programmes on technology foresight with hands-on training in various areas for industry and institutions. Foresight Methodologies being used are Scenarios,

Delphi, Brainstorming, Horizon Scanning, Patent Analysis, etc. These programmes are helpful in understanding future technologies.

National Innovation Project - In 2007-08, TIFAC prepared a Detailed Project Report (DPR) for the National Innovation Project (NIP) for unleashing India's innovation potential. This project was supported by the World Bank. The task was assigned to be executedbased on national and international best practices to improve, expand and scale-up ongoing innovation-led initiatives and to introduce fresh initiatives for greater impact on growth andpoverty. The main components of the DPR were:

Component I- Fortify innovation management & capacity building for strengthening the IPR system.

Component II- Providing support to SMEs for research leading to new technology development through suitable adoption/adaptation.

Component III- Strengthening technology commercialization by taking innovations to market, including grass-root/ rural innovators.

CHAPTER – 6

INDIAN WEB-PORTALS FOR PATENTS AND TECHNOLOGIES

One of the essential criteria for the grant of a Patent is the commercial applicability of the invention. Thus a Patent may be a complete product/technology (e.g. an enzyme) or a part of a product/technology (e.g. many patented chips used in a single mobile phone). The Patents and technologies developed by Higher Education Institutions (HEIs) and National Research Laboratories (NRLs) need to be advertised so as to bring the attention of the industries. One of the successful methods is the creation of dedicated web portals for this purpose. In India, there are many webportals displaying the products and technologies of various organizations. The important ones are listed below in table 6.1:

Table 6.1: Major Indian web-portals on patents and technologies.

S. No.	Patents and Technologies – Web-Portal and URL	Salient Features
1.	**Indian Patent Advanced Search System** **URL:** https://ipindiaservices.gov.in/publicsearch	• An Improvised Version of Previous Search Engine (IPAIRS) of the Office of CGPDTM • Full-text search of granted and filed published applications • Patent related forms can be accessed from the website freely • Searching parameters available in the search engine are: *1. Application Date (range of dates)* *2. Title* *3. Abstract* *4. Claims* *5. Description* *6. Application Number* *7. Patent Number [For Granted*

		Patent] *8. Applicant Name* *9. Inventor Name* *10. Inventor Country* *11. Inventor Address* *12. Filing Office* *13. International Patent Classification (IPC)* *14. PCT Application Number* *15. PCT Publication Number* *16. Field of Invention* *17. Patent Assignee Country* • Provides current status of the application (filing date, priority date, publication date, in force, under extension period, abandoned, granted, etc.) • Keyword search is possible but should be highly focused • Supports Boolean operators and wild cards for searching Patents • Requires expertise to search for information • Gives information for Patents only • Does not provide information on technologies • Time-consuming for bulk data search as Captcha codes need to be entered for every single search
2.	**CSIR Technology Portal and Patent Database** **URL:** http://techindiacsir.anusandhan.net	• Provides active Patent list and technologies available for transfer • Lists Patent as per the technology domains • Provides link (URL: http://www.patestate.com) for patent portfolio access and easy browsing of Patent based on the type of industrial application • Coverage: >3200 active Patent, >700 across 38 CSIR laboratories & 39 outreach centers classified in 25

		Subject Domains • Contains a separate technology transfer database and active Patent database • Search option is available for Patent number, Title, Application, Applicant, Inventor, IPC classification code, abstract and country • Two or more fields search is possible by using "AND" or "OR" Boolean operators • Data can be filtered for a date range, industrial application name or CSIR laboratory name wise
3.	**Biotechnology Industry Research Assistance Council (BIRAC) Technology Portal** **URL:** http://birac.nic.in/technologyportal.php	• Provides a list of Patent sorted and segregated into different technology domains along with information about inventors • Display list of technologies according to different stages of development (products in the market, products ready to enter the market, products ready for licensing and technology transfer, under validation, early-stage technologies, etc.) • Services provided by BIRAC: **1. Patent Searches** ➢ *Patentability Search* ➢ *Freedom-To-Operate Search/Clearance Search* ➢ *Validity/Invalidity Search* ➢ *State of the Art Search/Prior Art Search* **2. Patent Drafting, Filing and Prosecution** **3. Patent Analytics** ➢ *Patent/Technology Landscaping* ➢ *IP (Patent/Technology) Mapping* **4. IP Policy Development and Process Set-up**

		5. Patent Portfolio Management **6. Technology Management Offerings** ➢ *Technology Evaluation* ➢ *Technology Marketing* ➢ *License Negotiation* **7. IP and Technology Management Awareness and Capacity Building Programs** • Inventor name, search result provides a description of the technology and unique property of technology
4.	**I-STEM (Indian Science, Technology and Engineering Facilities Map)** **URL:** https://www.psa.gov.in/i-stem https://www.istem.gov.in/	• I-STEM a national web-portal developed by the Office of Principal Scientific Advisor (PSA) to assists researchers to locate the specific facilities • Other participating agencies are DST, New Delhi, MeitY, New Delhi, UGC, New Delhi, and MHRD, New Delhi • Total institutions registered with I-STEM – 532 (https://www.istem.gov.in/institutions). • Total equipment available – 19605 (https://www.istem.gov.in/equipment) • Patented Products - 378 • Publications -529 • Technologies -570 • Total institutions representatives list has been provided (https://www.istem.gov.in/institution_representatives) • R&D facilities map, Services map and supplier map have been provided for the various states. (https://www.istem.gov.in/institution_representatives) • In digital catalogue the information regarding patents, publications, and technologies/products have been provided.

5.	**National Research Development Corporation (NRDC) Web Portal** **URL:** http://fccollc.com/nrdclive/	• Web-portal has a sector-wise (13 sectors) list of technologies available with NRDC • Sector-specific technologies are represented graphically • Technology developers can post their technology details directly to the website through registration • Search filtering options are not available
6.	**Asian and Pacific Centre for Transfer of Technology (APCTT) web portal** **URL:** http://apctt.org/technology-offer	• Provides a sector-wise list of technologies • Covers a wide range of technology sectors • Provides a link for various global technology databases • Details of Patent are not available • Data filter options not provided
7.	**TIME IS (Technology Innovation Management & Entrepreneurship Information Service)** **URL:** http://www.techno-preneur.net	• Created by DST in collaboration with FICCI for guiding and assisting the entrepreneurs through different entrepreneurship programs in India • Provides documents related to Patents' laws and Acts. • Provides a list of technologies ready for commercialization • Wide range of technology sectors has been covered. • Provides information about new studies and innovations in major technology sectors and technology trends • Provides projects details which are compiled field wise and budget-wise (under process and completed) • Does not provide searching and filtering options
8.	**Techpedia** **URL:** http://techpedia.sri	• Techpedia, an initiative at Shared Research Infrastructure for Science, Technology and Innovation (SRISTI)

	sti.org	by DST, Govt. of India • Links needs of the industry and grass root level innovators • Provides industry defined project-wise list of technologies • Provides a list of assistive technologies for differently-abled persons • Patent related details not available • Searching and filtering options not provided
9.	**National Innovation Foundation (NIF) Technology Catalogue** **URL:** http://nif.org.in/technology-catalogue/28 **Intellectual Property Management (IPM)** **URL:** http://nif.org.in/ipr	• Till date >1200 Patent applications have been filed in India by NIF and its associate organizations and out of these, 142 Patents have been granted • Provides a sectorwise list of innovations • Details of various offices to file a Patent and related forms are mentioned • In addition to Patent, details of other IPR, such as design and Protection of Plant Varieties (PPV) Farmers Rights (FR) are also available • Patent details cover many bibliographic fields (innovator's name, innovation title, state from, the application number, priority date and current status)
10.	**Indian Council of Medical Research (ICMR)** **URL:**http://www.icmr.nic.in/ipr/icmr_technology_available_for_collaboration_%2828%29.htm	• No dedicated portal for Patents of ICMR • Some of the affiliated institutes have provided the list for Patents • Provides a list of technologies available for collaboration. • Provides details of technologies and stage of development of technologies.
11.	**Defense Research and Development Organization (DRDO)**	• Lists technologies sorted according to different research areas • Procedure to use DRDO technologies for Indian industries is provided

	Technology web page **URL:** http://www.drdo.gov.in/drdo/English/index.jsp?pg=homebody.jsp	• Provides details of technologies developed • Granted/active patents by DRDO are available with the Patent number and filing date • Search option and graphical representation are not available
12.	**Indian Space Research Organisation (ISRO) Technology Transfer Page** **URL:** https://www.isro.gov.in/isro-technology-transfer/patent	• Lists all the Patents granted to ISRO • Title, application number, and Patent number details are available • Details of technologies transferred are available • Information regarding Copyrights and Trademarks of the organization has been provided • Detailed technologies offered by the organization can be accessed • The Patent list provided is limited to ISRO owned Patents • List contains only granted Patents • Search option and graphical representation are not provided • Technologies are not segregated fields wise • The limited number of Patents available
13.	**The Department of Atomic Energy (DAE)** **URL:** http://www.dae.nic.in/?q=node/954	• Bibliographic details of Patents (title, application no., date of filing, Patent no. and type of application) are available • Provide the list of Patents owned by DAE • Search option and graphical representation is not provided • Patents are not sorted based on technology areas
14.	**Indian Council of AgriculturalResearch (ICAR-IARI)**	• Does not have any dedicated ICAR webportal for technology/ Patents by the organization • Patent information can be obtained

	URL: http://www.icar-iior.org.in/index.php/about-dor	from websites of individual institutes affiliated with the organization

Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf
Note: *The details of the portals have been accessed from the respective websites of the organizations.*

After going through these webportal, a few gaps were observed, such as:

- There is no single webportal providing comprehensive information on all the Patents (filed, granted and licensed/ commercialized) in India.
- There is no webportal of MoE, UGC, AICTE displaying the patents as well as technologies by the HEIs in India.
- There is no uniformity in the type of information provided by various webportals.
- It needs expertise to operate the InPASS search engine.

It is high time these gaps are filled up so as to make a robust and vibrant patent ecosystem in India. Such an initiative will also address the major concern of the industry to make 'Patent Search' and 'Patent Commercialization' friendly.

CHAPTER – 7

A STUDY ON PATENTS (GRANTED & COMMERCIALIZED) BY INSTITUTES OF HIGHER LEARNING AND NATIONAL RESEARCH LABS OF INDIA

7.1. Global Ranking of Select Asian Countries

It is a known fact that institutes of higher learning and national research laboratories of India are adept in publishing their research work but very low on translating their research into patents, products and technologies. A glance at Table 7.1 reveals that India is one of the top nation in the number of publications but lags behind many nation in the indicator of patents' protection.

Table 7.1: Global rankings of asian countries in R&D indicators.

Indicator	Global Rankings				
	Singapore	**Japan**	**Rep. of Korea**	**China**	**India**
Publications[a]	37	6	13	1	4
Citable Documents H-index[b]	23	6	17	13	21
Patent Protection[c]	28	5	37	19	47
Gross expenditure on R&D, %GDP[b]	17	5	2	13	57
R&D Manpower[b] *(Researchers, FTE/mn pop)*	6	13	3	48	78

Sources: *a - SCImago,* (n.d.). SJR-SCImago Journal & Country Rank (accessed on Sept. 30, 2020) https://www.scimagojr.com/countryrank.php?year=2019*)*

*b - Global Innovation Index Report (*https://www.globalinnovationindex.org/gii-2020-report#)

c - IPRI Report 2020 (https://internationalpropertyrightsindex.org/)

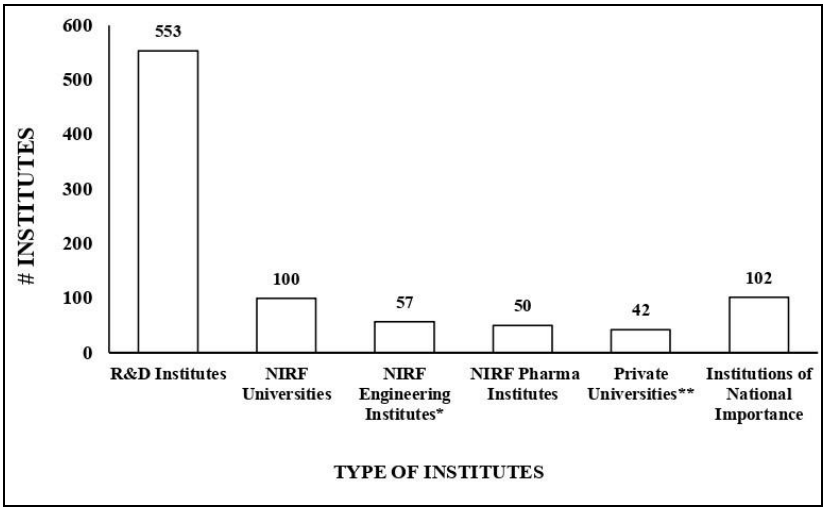
7.2. Patents and Publication Profile of Indian Institutes

To strengthen the translational research ecosystem of India, it is imperative to understand the status of publications and Patents of

institutes of India. With this goal in mind, a study was carried out on 904 institutes (Fig. 7.1) by DST-Centre for Policy Research at Panjab University, Chandigarh, with the following objectives:

- Identify institutes excelling in the generation of Patents and publications.
- Identifying institutes publishing a large number of research papers but low on Patents.
- Translational Research Ecosystem of the institutes.
- Reasons for poor licensing of Patents.

Figure 7.1: Break up of HEIs and R&D labs considered for the study.



Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf
**43 institutes from NIRF Engineering Institutes are included in INIs*
***8 Private Universities are included in the list of top 100 NIRF universities*

The first study *(Mapping Patents and Research Publications of Higher Education Institutes and National R&D Laboratories of India)* was carried out for the period 2010-2016 and the second study (Working/Non-working Profile of Patents Granted to HEIs and NRLs in India) was conducted for the period 2010-17. Details of the methodology and complete results can be accessed at http://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf

and https://cpr.puchd.ac.in/archives/. A glimpse of the data presented in the study is represented in tables 7.2-7.5.

Table 7.2: Top twenty institutions based on the research publications (2010-16).

S. No.	Institutes	Research Publications	S. No.	Institutes	Research Publications
1.	DU, New Delhi	15052	11.	VIT, Vellore	6267
2.	IISc., Bangalore	10852	12.	IIT, Roorkee	6028
3.	IIT, Kharagpur	8724	13.	IIT, Kanpur	5622
4.	BHU, Varanasi	8140	14.	AU, Chidambaram	5400
5.	BARC, Mumbai	7887	15.	IIT, Hyderabad	5398
6.	UoH, Hyderabad	7649	16.	PGIMER, Chandigarh	5380
7.	IIT, Delhi	7148	17.	GU, Ahmadabad	4871
8.	AIIMS, New Delhi	6591	18.	PU, Chandigarh	4733
9.	IIT, Madras	6440	19.	AMU, Aligarh	4588
10.	IIT, Bombay	6300	20.	IICT, Hyderabad	4534

Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf

Table 7.3: top twenty institutions based on patents granted (2010-16).

S. No.	Institutes	Patents Granted	S. no.	Institutes	Patents Granted
1.	IISc,Bangalore	174	11.	IIT, Kanpur	44
2.	CFTRI, Mysore	144	12.	CDRI, Lucknow	42
3.	NCL, Pune	114	13.	NIIH, Maharashtra	41

4.	IIT, Bombay	100	14.	CSMCRI, Bhavnagar	40
5.	IICT, Hyderabad	76	15.	ICT, Mumbai	39
6.	IIT, Delhi	56	16.	IIP, Dehradun	38
7.	JNCASR, Bangalore	53	17.	NII, New Delhi	37
8.	CLRI,Chennai	50	18.	AIIMS, New Delhi	31
9.	IIT, Madras	48	19.	DU, New Delhi	26
10.	NML, Jamnagar	48	20.	NIPER,Mohali	21

Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf

Table 7.4: Institutes excelling in research publications & patents granted (2010-16).

S. No.	Institute	Research Publications	Patents Granted
1.	DU, New Delhi	15052	26
2.	IISc, Bangalore	10852	174
3.	IIT, Delhi	7148	56
4.	AIIMs, New Delhi	6591	31
5.	IIT, Madras	6440	48
6.	IIT, Bombay	6300	100
7.	IIT, Kanpur	5622	44
8.	IICT, Hyderabad	4534	76

Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf

Table 7.5: Institutes excelling in research publications, but low on patents granted (2010-16).

S. No.	Institute	Research Publications	Patents Granted
1.	PGIMER, Chandigarh	5380	1
2.	IARI, New Delhi	3934	4
3.	Saha Institute of Nuclear Physics, Kolkata	2543	1
4.	IVRI, Izatnagar	2242	2

5.	BHU, Varanasi	8140	3
6.	UoH, Hyderabad	7649	5
7.	VIT University, Vellore	6267	3
8.	IIT, Roorkee	6028	1
9.	Annamalai University, Chidambaram	5400	1
10.	IIT, Hyderabad	5398	2
11.	Gujarat University, Ahmedabad	4871	0
12.	PU, Chandigarh	4733	2
13.	AMU, Aligarh	4588	2
14.	IIT, Guwahati	4205	0
15.	S.R.M Institute of S&T, Chennai	3509	4
16.	Sathyabama University, Chennai	3211	0
17.	Jawaharlal Nehru University, Delhi	2739	6
18.	IIT, Dhanbad	2323	3
19.	NIT, Rourkela	2275	0
20.	Bharath University, Chennai	2082	0

Source: https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.p

The analysis of the data collected indicated that:

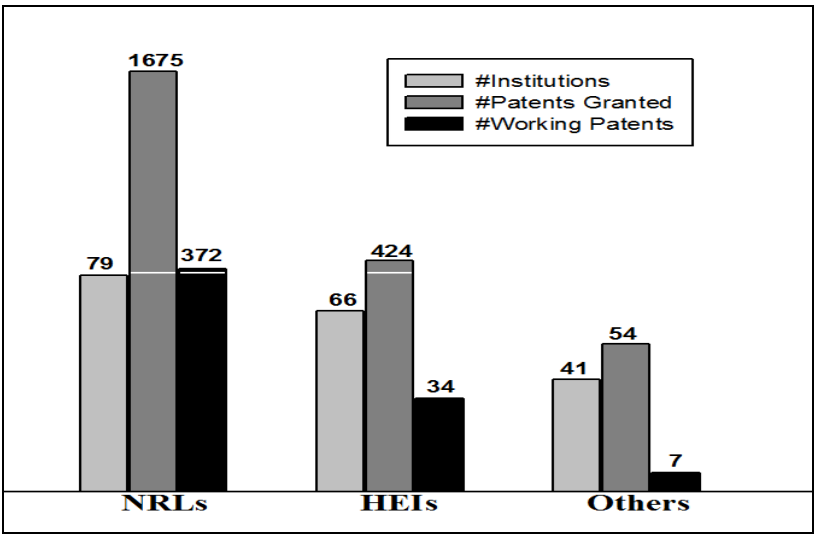
- Most of the institutes excelling in publications are low on Patents granted.
- A handful of institutes performing well in both domains are Delhi University, New Delhi; Indian Institute of Sciences, Bangalore; CFTRI, Mysore ; IIT, Delhi; AIIMS, New Delhi; IIT, Madras and a few more.
- The majority of the scientists have limited knowledge of Patents and practically no knowledge of Patent licensing/technology transfer/ technology readiness level.
- Institutes excelling in Patent regimes have dedicated centres/cells that assist students in Patent filing and technology transfer. In addition, institutions have robust IPR Policy, Technology Transfer guidelines, Industry-Academia Cell, Entrepreneurship Cell and regularly interact with industries.

- The Patent regime in other institutes can be strengthened by setting up above mentioned Cells/Centres for helping scientists in the domains of Patent filing and tech transfer.

7.3. Commercialization of Patents

In the second phase of the study, the commercialization of the Patents granted to all the 904 institutions was studied for the period 2010-17. Out of 1961 Patents granted (in India only), only 406 were licensed out to companies (Fig. 7.2). These were either granted in this period or maintained by the patentees by paying the Patent's maintenance fee. The number of Patents granted to National Research Labs (1675) was four times more than Higher Education Institutes (424). Similarly, National Research Labs licensed many more Patents (372) compared to 34 by Higher Education Institutes.

Figure 7.2: Breakup of granted patents and working patents of the institutions.



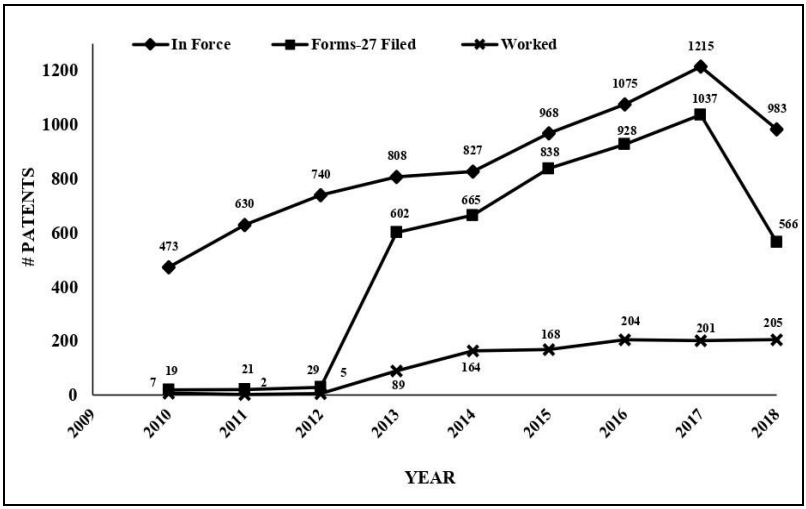
Percentage of working patents vs. granted patents i.e. NRLs (22%), HEI (8%) and Others (12%) Average percentage of working patents = 14%.
Others: Industries, PSU, Trust, Board, Corporations, Health Institutes, etc.

The data collected was further analysed to understand the trend over 8 years (2010-18) for the Patents which were active (in force) and licensed (worked). This information was sought from the

prescribed 'Form-27', which the applicant furnishes every year to the Patent Office, GoI. The results are provided in figure 7.3. The graph depicts that:

- Till 2017, a steady increase in the number of active Patents. (i.e. in force) was observed.
- From 2010-2012, the majority of the Patent grantee did not fill Form-27. Hence the true picture of licensing of Patents could not be attained.
- During 2012-2014, the number of worked Patents rose sharply from 5 to 164. After that, a gradual increase was observed with the maximum number of worked Patents was in 2018.

Figure 7.3: Year-wise statistics of patents (in force and worked) for the period 2010-18.



7.3.1. Common Reasons for Non-Working Patents

Once the Patent is granted, the patentee is required to fill a form (Form-27) in which the patentee is supposed to provide information regarding efforts made to commercialize the concerned Patent. The information gathered from these forms revealed various reasons for the non-commercialization of patents. The main reason for the non-licensing of patents was attributed to the fact that the product did

not meet industry standards. Scientists neither conducted a market survey nor interacted with the industry for the invention for which Patent was generated. The inventions required further R&D and scale up studies. Personal interactions with a few patentees revealed that they are not aware of the term ‘Technological Readiness Level’ - an important yardstick adopted by the industries to assess the preparedness of the technology to be industry-ready. Form-27 also indicated that many Patentees made a half-hearted effort by merely advertising the invention in the newspapers and advertising them on their official websites.

In developed countries, research-oriented institutes have a dedicated ‘Commercialization Cell’ equipped with professionals for patent filing and commercialization. IITs in India have also adopted this model and are quite good at the translation of their research. As scientists are not aware of the wherewithal of the commercialization of their inventions, it is recommended that funding agencies set up ‘Lab to Market Centres’ in the universities showing potential in the domain of translational research. These Centres may provide services to the scientists in patenting, technology transfer and industry-academia connect.

CHAPTER – 8

EDUCATION AND TRAINING IN INTELLECTUAL PROPERTY

The 21st century has witnessed a strong emergence of innovative technologies and products in the country. The upsurge of innovations, building R&D collaborations, cross-border linkages and economic utility associated with the invention has brought the IPR to the forefront. With increased focus on IPR, academic institutes worldwide have introduced formal education and training to sensitize young students and researchers on the significance and implementation of IPR.

Some Indian education institutions have also introduced IPR related courses and training programs at graduation, post-graduation and PhD levels (Table 8.1).

Table 8.1: IP training programmes and courses in India.

S. No	Course	Host Institute	Link
A. Trainings			
1.	Public Training Awareness Programmes	Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM), Nagpur	http://www.ipindia.nic.in/public-training-schedule-rg.htm#:~:text=The%20Rajiv%20Gandhi%20National%20Institute,%2C%20Designs%2C%20Trademarks%2C%20Geographical%20Indications
2.	Training Services in: • Basic Programme	Banana IP Counsels, Bangalore	https://www.bananaip.com/ip-training-courses/

	• Advanced Programmes • Skill Developmer Programmes		
3.	Training Courses on: • Basics of Intellectual Property • Patent Search & Specification Drafting • IP & Commercialisat ion • IP Valuation • IP Licensing • Cyber Laws	IP Promotion Outreach Foundation, Ahmedabad	http://www.ippopl.co m/courses
4.	On-job IPR training through Knowledge Involvement in Research Advancement through Nurturing (KIRAN-IPR) scheme (erstwhile WOS-C)	Technology Information Forecasting and Assessment Council (TIFAC), New Delhi	https://tifac.org.in/ind ex.php/capacity-building/kiran-ipr
5.	Professional Training in Patent Laws & Practice	Institute of Patent Attorneys, India	http://www.ipaindia.c o.in/home.html
B. IPR Courses [Post Graduate (P.G.) Diploma, Certificate, Awareness]			
6.	P.G. Diploma in Intellectual Property Rights	Indira Gandhi National Open University, New Delhi	http://www.ignou.ac.in/ignou/aboutignou/school/s

	(PGDIPR)		ol/programmes/detail/249/2
7.	P.G. Diploma in IPR	Bioinformatics Institute of India, Noida	http://www.bii.in/Industry_Program_in_Intellectual_Property_Rights
8.	• P.G. Diploma in Patent Basics & Introduction to IPR • Certificate Course on Copyrights	GNA Patent Gurukul, Mumbai	http://www.patentgurukul.com/courses.php
9.	P.G. Diploma in Cyber Laws & Intellectual Property Rights (PGDCL & IPR)	University of Hyderabad, Hyderabad	http://cdvl.uohyd.ac.in/
10.	P.G. Diploma in Intellectual Property Rights Management (IPRM)	Institute of Intellectual Property Studies (IIPS), SVKM'S, NMIMS, Mumbai	https://iips.nmims.edu/academics/programs/
11.	P.G. Diploma in Intellectual Property Rights	BHU, Banaras	http://www.bhu.ac.in/syllabus/syllabus1/IPR.pdf
12.	P.G. Diploma in Intellectual Property Rights and Patent Management	Global Institute of Intellectual Property (GIIP), New Delhi	http://www.giipinfo.com/full_time_diploma.aspx#courses1
13.	Awareness Course on Intellectual Property Rights (Nip-001)	Indira Gandhi National Open University, New Delhi	http://www.ignou.ac.in/?q=ignou/aboutignou/school/sol/programmes/detail/363/2
14.	IPR Certificate Course	Institute of Patent Attorneys, New Delhi	http://www.ipaindia.co.in/ipr-course.html
15.	Advanced Course on Management	Society for Research and Initiatives for	http://www.sristi.org/cms/

	of Intellectual Property Rights in Agricultural Sector	Sustainable Technologies and Institution (SRISTI), Ahmedabad	
16.	Post Graduate Diploma in Patinformatics	CSIR -Unit for Research and Development of Information Products (CSIR-URDIP), Pune	https://pgdp.urdip.res.in/
C. IPR Law Courses [P.G. Diploma, Master of Laws (LLM), Bachelor of Laws (LLB)]			
17.	P. G. Diploma in Patents Law	NALSAR University of Law, Hyderabad	http://nalsarpro.org/Courses/ONE-YEAR-Post-Graduate-Diploma/Patents-Law/About-the-Course
18.	P.G. Diploma in Patent Litigation P.G. Diploma in Patent Law and Procedures	GNA Patent Gurukul, Mumbai	http://www.patentgurukul.com/courses.htm
19.	P.G. Diploma in Intellectual Property Rights Law	Centre for Intellectual Property Rights, Research and Advocacy (National Law School of India University), Bangalore	https://ded.nls.ac.in/post-graduate-diploma-in-intellectual-property-rights-law-pgdiprl/
20.	P.G. Diploma in Patent Law and Practice	Shri Vile ParleKelavani Mandal's, Institute of Intellectual Property Studies, Mumbai	https://iips.nmims.edu/academics/programs/
21.	**LLM (Intellectual Property)**	Amity Law School (ALS), New Delhi	https://www.amity.edu/course-details.aspx?fd=FzNymoX3dH0=&cfn=WzVKtGkvKo4=

22.	LLB Degree in Intellectual Property Rights (IPR)	Indian Institute of Technology (IIT), Kharagpur	http://www.iitkgp.ac.in/topfiles/law.php
23.	Intellectual Property Law Specialist	Asian School of Cyber Laws, Pune	https://www.asianlaws.org/intellectual-property-law-specialist.php
24.	P.G. Diploma in Patent Law & Practice (PGDPLP)	Institute of Intellectual Property Studies (IIPS), SVKM'S NMIMS, Mumbai	https://iips.nmims.edu/academics/programs/
D. Online Courses			
25.	IP Protection and Commercialisation	Federation of Indian Chambers of Commerce and Industry (FICCI), New Delhi	https://www.ficciipcourse.in/ippro comm/course/training-material
26.	Online Certification Course in IPR & Pharmaceuticals R&D	FICCI, New Delhi	https://www.ficciipcourse.in/ccipr/course/training-material
27.	Online Certification Course in Intellectual Property	FICCI, New Delhi	https://www.ficciipcourse.in/ippro/course/training-material
28.	• Intellectual Property • Entrepreneurship and IP Strategy (IIT Kharagpur) • Patents Drafting for Beginners (IIT Madras) • Patents Law for Engineers and Scientists (IIT	National Programme on Technology Enhanced Learning (NPTEL)* and IIT Madras through MOOCs-SWAYAM**	https://swayam.gov.in/nd1_noc20_hs18/preview

	Madras) • Patent Search for Engineers and Lawyers (IIT Kharagpur)		
29.	Intellectual Property • LLB, LLM and Diploma Programmes in IP Laws	National Law University (NLU), New Delhi through MOOCs-SWAYAM	http://nludelhi.ac.in/moocs.aspx
30.	Courses on Intellectual Property Rights /Copyright Handling	National Mission on Education through Information and Communication Technology (NME-ICT) that consists of 7 IITs and IISc, Bangalore through MOOCs-SWAYAM	https://www.aicte-india.org/downloads/MHRD%20moocs%20guidelines%20updated.pdf

** NPTEL-National Programme on Technology Enhanced Learning*
*** MOOCs-Massive Open Online Courses; SWAYAM - Study Webs of Active Learning for Young Aspiring Minds*

8.1. WIPO e-Learning Centre - A Global Online Platform

WIPO has developed an online platform, 'WIPO e-Learning Centre', which caters to the portfolio of IP courses and training. It targets an audience comprising students, researchers, teachers, inventors, business managers, government officials, policymakers and IP professionals. These courses use interactive distance learning methodologies for stimulating innovation culture amongst the audience. It offers a number of courses and training programs under the following subheads:

- WIPO Academy-[JTIP] Judicial Training on Intellectual Property.
- WIPO Academy-[PDP] Professional Development Program.
- WIPO Academy-[AIP] Academic Institutions Program.
- WIPO Academy-[WSS] Summer School on Intellectual Property.

- WIPO Academy-[DL] Distance Learning Programmes.
- UPOV Training-[UPOV] Distance Learning Courses.

The interested person can select a course/training of his interest from the Education and Training Portfolio. (https://welc.wipo.int/acc/index.jsf?page=select_program.xhtml&lang=en) under each subhead as mentioned above. WIPO offers introductory as well as advanced courses fulfilling the need of wider learners.

8.2. Other Online Platforms Offering Courses in IP

1. **Coursera** (https://www.coursera.org/) - Highly experienced and qualified instructors from world-renowned universities and industries teach courses in the domain of IPR. These courses are being offered free of charge. Paid courses are also available that provide additional quizzes/projects and a 'Course Certificate' is issued upon completion. A number of IPR courses are available, such as Intellectual Property Law; Protecting Business Innovations via Patent; Patenting in Biotechnology; Patent Law; Innovation Management, etc. The list of IPR related courses can be accessed from https://www.coursera.org/courses?query=intellectual%20property.

2. **Edx** (https://www.edx.org/) - It is one of the most trusted platforms founded by the Massachusetts Institute of Technology (MIT), US and Harvard University, the US that provides excellent means of education and knowledge to the learners. It offers a number of courses in IPR and Business Innovation Management, such as Intellectual Property Law and Policy (Part-1 & Part-2), Big Data and Intellectual Property Law and Practice, Intellectual Property Rights: A Management Perspective, etc.

3. **Udemy** (https://about.udemy.com/) - It is yet another online platform connecting world class instructors with students. It offers IPR courses, such as Patent and Trademark: Learn the Patent and Trademark Process; Patent Pending: Drafting a Provisional Patent Applications; Patent and Intellectual Property (IP) Boot camp, etc.

Candidates interested in taking up the IPR (especially Patent) as a profession can also take up 'Patent Agent' and 'Patent Examiner'

examination hosted by the Office of the Controller General of Patents, Designs & Trademarks (http://www.ipindia.nic.in/ index.htm), Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, GoI. 'Patent Agent' is an authorized person by law and registered with the Indian Patent Office to deal with the matters related to Patent applications. Anyone with graduation in science & engineering can appear for the above-mentioned examination. Patent Examiner is an employee at the IP Office with scientific/engineering background to examine the Patent applications filed at the office.

8.3. Suggestive Readings

IPR itself is a vast subject and there is plenty of reading content available in the public domain. The researchers can access the Patents documents from numerous platforms like

- InPASS (http://ipindiaservices.gov.in/publicsearch)
- Espacenet (https://worldwide.espacenet.com)
- Patentscope (https://patentscope.wipo.int/search/en/search.jsf)
- Google Patents (https://patents.google.com/advanced),
- USPTO (https://www.uspto.gov/), etc. and Non-Patent Literature (NPL) from various journals and conference proceedings. The patent documents provide every technical detail about the invention, whereas NPL forecasts the promising technologies in the market. By accessing above mentioned literature, the inventors can plan their IP strategies.

Recently, the Government of India has announced the statement **'One Nation One Subscription'** to facilitate the researchers in India. The government will negotiate for and purchase a single, unified subscription from a consortium of publishers of various scientific books and journals. This literature/information will be available to all the government-funded institutions and all the taxpayers, free of cost. Some of the open access readings related to Books, Acts & Rules, Policy, Manuals, and Reports which can be accessed online for free of charge are mentioned below:

8.3.1. Policy, Acts & Rules

1. National Intellectual Property Rights Policy (http://iitk.ac.in/siic/d/sites/default/files/National_IPR_Policy_12.05.2016.pdf).
2. Acts & Rules for IPRs in India (https://ipindia.gov.in/).

8.3.2. Manuals

WIPO Intellectual Property Handbook. (https://www.wipo.int/publications/en/details.jsp?id=275)

1. Manual of Patent Practice and Procedure of Patent Office, IPO, India. https://ipindia.gov.in/writereaddata/Portal/Images/pdf/Manual_for_Patent_Office_Practice_and_Procedure_.pdf
2. Research Handbook on the World Intellectual Property Organization. https://www.eelgar.com/shop/gbp/eelgar/product_flyer/printpage/id/16412/

8.3.3. Reports

1. International Property Rights Index (https://www.internationalpropertyrightsindex.org/full-report).
2. Global Innovation Policy Convention (https://www.iprconference.com/).
3. Annual Reports of Office of CGPDTM (https://ipindia.gov.in/annual-reports-ipo.htm).
4. Global Competitiveness Report (http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf**).**
5. Global Innovation Index (https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2020.pdf).

8.3.4. Books*

1. Intellectual Property Rights (Authors: Pandey Neeraj, Dharni Khushdeep), (ISBN: 978-81-203-4989-6).

2. Indian Patent Law and Practice (Authors: K.C. Kankanala, A.K. Narasani, and V. Radhakrishnan), (ISBN: 9780198089605).
3. Dictionary on Indian Patent Law (Authors: Nanita Kalia, Bindu Sharma), (ISBN: 978-9381849477).
4. Transforming Dimension of IPR: Challenges for New Age Libraries (National Law University, Delhi), (ISBN: 978-93-84272-03-6).
5. Intellectual Property - A Power Tool for Economic Growth (Author: Kamil Idris), (WIPO).
6. Fundamentals of Intellectual Property Rights (Authors: Ramakrishna B, Anil Kumar H.S), (ISBN: 978-1-946556-32-5).
7. Fundamentals of Intellectual Property Law (Authors: Stephen M. McJohn, Lorie Graham), (ISBN: 978-1634252539.
8. How to Invent and Protect Your Invention: A Guide to Patents for Scientists and Engineers (Authors: Joseph P. Kennedy, Wayne H. Watkins), (ASIN: B008S2N0EK).
9. The Copyright Book: A Practical Guide (Author: William S. Strong), (ISBN: 978-0262529907).

8.3.5. Open Access Websites/Portals

1. Publication by WIPO (https://www.wipo.int/publications/en/).
2. NPTEL (https://nptel.ac.in/courses/110/105/110105139/).
3. Spicy IP (https://spicyip.com/resources-links/ip-books-open-access).
4. LexisNexis (https://lexisnexis.in/index.php?route=product/category&path=25_92).

***Note:-** These are prominent books suggested by IP experts. Although there are many other books available online as well as offline.

CHAPTER – 9

SUMMARY OF INTELLECTUAL PROPERTY

9.1. Patents

Definition: Patent is an exclusive right granted for an innovation that generally provides a new way of doing something or offers a new technical solution to a problem.

Eligibility Criteria: Invention must be novel (new; not in the public domain), not obvious to the person (s) skilled in the art and must be of industrial use.

Acts & Laws: In India, Patents are governed by the Patent Act, 1970.

Administration: The administration of matters pertaining to patents is carried out by the Office of CGPDTM, under DPIIT, Ministry of Commerce and Industry, GoI.

Right: A patent owner has the right to decide who may or may not use the patented invention.

Validity: Patent Rights are protected for a period of 20 yrs. In return, the process of the invention must be disclosed inthe public domain.

Exceptions: As per Section 47 of the Act, a patent may be used by any person for teaching and research purposes. It will not be considered an infringement.

Items that cannot be patented: According to The Patent Act, 1970, the following items fall under the category of no-patentability criteria: a discovery, scientific theory or mathematical method; a computer program; a presentation of information; a procedure for surgical or therapeutic treatment, or diagnosis, to be practised on humans or animals; Software and business methods; Medical methods; Perpetual motion machines; Inventions which are contrary to Law or Mortality or injurious to public health; and Mere arrangement or re-arrangement of known devices.

Treaties /Conventions/Agreements: To ensure and regulate the hassle-free exchange of IPR related activities amongst all the nations, the United Nations (UN) has created an organization called the World Intellectual Property Organization (WIPO) in Geneva. This agency is at the forefront of imparting knowledge about IP and governs international filing and registration of IP through various Conventions and Treaties like Paris Conventions, Patent Cooperation Treaty (PCT), Budapest Treaty, Strasbourg Agreement Concerning the International Patent Classification, Patent Law Treaty, etc.

Additional Information:

- Patents are awarded not only for major scientific breakthrough but also for minor improvements over existing inventions.
- Avoid public disclosure of an invention before patenting: Generally, an invention that has been either published or publicly displayed cannot be patented, as the claimed invention will lose the 'Novelty' criterion.
- In our daily life, we use many patented items, such as toothbrush, toothpaste, shoes, pen, eyeglasses, textiles, mobile phones, wristwatch, bicycle, scooter, car, television, cold drinks, beverages and many more.
- A single product may contain several inventions (patents) e.g. the laptop computer, car, and mobile phone contain scores of inventions, working together.
- 'Prior Art Search' (information lying in the public domain before the filing of the patent application) is a critical step prior to the filing of the Patent application.
- There is no such term as 'Universal Patent' or 'World Patent' or 'International Patent' as the patent rights are territorial. An application for a patent must be filed with a 'Patent Office' of the country in which one wishes to seek patent protection.
- If one wishes to seek patent protection in several countries worldwide, it is preferred to file an international patent under the Patent Cooperation Treaty (PCT).
- In general, Indian residents are required to file the patent

application first in India.

9.2. Copyrights and Related Rights

Definition: 'Copyrights' refer to the legal rights provided by law to the original creator of the work in the fields of literature and computer software. The 'Related Rights' encompasses the author's work in the fields of dramatics, sound recording, film/video recordings, paintings, architecture, etc.

Eligibility Criteria: To qualify for Copyright protection, a work must exist in some **physical (or tangible)** form. The Copyright work has to be **original** i.e. the author created it from independent thinking void of duplication. It may appear similar to already existing works but should not be the same. The original work may lack in quality or quantity or aesthetic merit or all these parameters; still, it will pass the test of copyrightable work.

Acts & Laws: Copyright Act, 1957 of India. This Act provides rights of reproduction, communication to the masses, adaptation and translation of the work.

Administration: The administration of matters pertaining to Trademarks is carried out by the Office of CGDPDTM, Department for Promotion for Industry and Trade (DPIIT) under the Ministry of Commerce and Industry, GoI.

Rights: Copyrights provide exclusive rights to the author in the areas of publication, distribution, and usage. A Copyright owner enjoys two types of rights i.e. **Economic Rights** (or Proprietary Rights) and **Moral Rights** (or Personal Rights). **Economic Rights** are associated with financial benefits accruing from the sale of copyrights. **Moral Rights** include 'Right of Paternity' and 'Right of Integrity'. The 'Right of Paternity' - even if the Copyright has been licensed to another party, the original author of the work retains the right to claim authorship. The 'Right of Integrity'- the original author has the right to prevent misuse of the work e.g. alterations/additions/deletions in work resulting in misrepresentation of the said work or harming the honour and reputation of the author.

Validity Period: In general, the validity of Copyright is for 60 years. This period starts either from the year after the death of the author (in case of literature, dramatic, musical and artistic works) or

from the date of publication of the work (in case of cinematograph films, sound recordings, photographs, posthumous publications, works of government and works of international organisations).

Exceptions to Rights: The Act provides for certain exceptions to infringement of Copyright, and is termed as 'Fair Use Doctrine'. A few examples of 'Fair Use Doctrine' are the use of copyrighted work for personal use i.e. studies or research, reproduction of the work by teachers or scientific researchers, making copies (up to 3) of copyrighted material and playing songs/music during b*onafide* religious ceremonies including a marriage function.

Items that cannot be registered as Copyrights: The works not under the jurisdiction of Copyrights include ideas, concepts, facts, titles, names, slogans, short phrases, short word combinations, methods, or factual information. Certificates are not considered as Copyrightable subject matter as there is not much scope for creativity.

Treaties/Conventions/Agreements: India is a member of the following Conventions: Berne Convention for the Protection of Literary and Artistic Works, 1886; Universal Copyright Convention, 1952. Rome Convention is for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, 1961; TRIPS Agreement, 1995.

Enforcement: Using the copyrighted work without the consent of the copyright owner is termed 'infringement'. The owner can take legal action against the infringement of his rights.

Additional Information:

- In India, the following classes of Copyrights exist: **Literature (**Books, Essays, Research articles, Oral speeches, Lectures, Computer Programme, Software, Databases); **Dramatics (**Screenplays, Dramas); **Sound Recordings (**Recording of sounds); **Artistic (**Drawing, Painting, Logo, Map, Chart, Photograph, Work of Architecture, Engraving, Craftsmanship); **Musical:** Musical notations). A musical work need not be written down to enjoy Copyright protection. **Cinematograph Films** (visual recording such as motion pictures, TV programmes; sound recording), etc.

- The Copyright symbol © (the letter C in a circle), or the word. 'Copyright', or the abbreviation 'Copr.' The elements for sound recordings generally require the same three elements, except the symbol is ℗ (the letter P in a circle) instead.
- The duration of the existence of the physical form may vary from a very short period to many years. Even hurriedly scribbled notes for an impromptu speech is considered copyrightable material.
- It is not necessary to register a work to claim Copyright. Once a work is created via any medium, the work receives automatic Copyright safety. There is no formal request to be submitted to the office of the Copyright, for acquiring Copyright.
- Copyright registration does not confer any rights. It is merely a *prima facie* proof of an entry in respect of the work in the Copyright register maintained by the Registrar of Copyrights.
- The person who created the work is considered as the first (original) holder (owner) of the copyright.
- In case the author is an employee and has been contracted to do the work by a proprietor (of the company/firm/society /organization, etc.), the owner of the Copyright shall be the proprietor.
- The person delivering a speech is the first owner of the Copyright.
- There can be more than one legal holder of a single copyright e.g. a musical sound recording has many rights holders, such as the lyricist, music composer, singer, musicians and sound recorders.
- The Copyright registration for a Website, as a whole, is not possible. However, different components of a website can be granted Copyright registration.
- A computer or mobile App qualifies for Copyright registration. An Application (App) is a complete, self-contained computer program designed to perform a specific task.

- Creative work is not protected and enforced automatically worldwide because Copyright laws are territorial by nature i.e. Laws are valid only within the country in which they have been created. To secure protection to Indian works in foreign countries, the author needs to apply separately to each country or through dedicated international 'Conventions on Copyright and Neighbouring (related) Rights', provided a country is a member of such Conventions.
- Copyrights and Internet:One should be careful of Copyright/fair use principles when downloading material from the internet. Note that material may have been placed on the internet without the author's permission.
- If someone swipes your picture/song/video from the internet and uses it (without seeking your consent), it is a Copyright infringement.

9.3. Trademarks

Definition: A Trademark (or Trade Mark) is a unique symbol that is capable of identifying as well as differentiating products or services of one organization from those of others. The word 'Mark' stands for a sign, design, phrase, slogan, symbol, name, numeral, devise or a combination of these. Essentially, the Trademark is anything that identifies a brand to a common consumer.

Eligibility Criteria: Distinctiveness - it should be unique and should not be having similarities to the existing marks. Descriptiveness -Trademark should not be describing the description of the concerned goods or services. However, descriptive words may be registered if they acquire "secondary meaning", such as the brand name 'Apple' of a company manufacturing electronic gadgets.

Acts & Laws: In India, Trademarks are governed under The Trademarks Act, 1999 and ruled under Trademarks Rules, 2002**.**

Administration: The administration of matters pertaining to Trademarks is carried out by the Office of CGPDTM, GoI under DPIIT.

Rights: Following rights are conferred to a Trademark holder: Right

to exclusive use; Right to seek statutory remedy against an infringement; Right of registered trademark holder of the identical trademark; Right to assign; and Right to alter registered trademark.

Validity: In India, a registered Trademark is valid for 10 years. The period can be extended every 10 years, perpetually.

What cannot be registered as Trademarks: The marks which cannot distinguish the goods or services of one person from that of another cannot be registered; Descriptive trademarks cannot be registered;hurt religious sentiments, are obscene cannot be registered; Well-known Trademark cannot be registered even if the goods are not similar.

Treaties/Conventions/Agreements: The Madrid Agreement for International Registration of Marks (1891); Nice Agreement for International Classification of Goods and Services (1957); the Trademark Law Treaty (TLT) (1994); Vienna Agreement (1973) for the Classification of Figurative Marks.

Additional Information:

Designation of Trademark Symbols

Represents that the Trademark is unregistered. This mark can be used for promoting the goods of the company.

Represents that the Trademark is unregistered. This mark can be used for promoting brand services.

Represents a registered Trademark/Service. The applicant of the registered Trademark is its legal owner.

Classification of Trademarks: Goods and Services under Trademarks are classified as per the 'Nice Agreement' (1957) administered by WIPO.

Registration of a Trademark is Not Compulsory: However, registration provides certain advantages to the proprietor of the Trademark. In case of legal suits, a registered Trademark can serve as potent evidence of the lawful proprietorship of the Trademark. No legal course of action can be taken against the unlawful use of an unregistered Trademark.

Types of Trademark Registered in India: Distinctive General Word (‘Apple’, an IT company); (Distinctive Personal Names (‘Ford’, an Automotive company); Picture (Allegator, a textile company); Number (‘4711’, a perfume company); Slogan (‘Drink it to believe it’, a cold drink company). Sound or smell is registrable as a mark, as long as it is distinct and can be reproduced graphically.

9.4. Industrial Designs

Definition: The word ‘Design’ is defined as the features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article. The main object of registration of industrial Designs is to protect and incentivize the original creativity of the originator and encourage others to work towards the art of creativity.

Eligibility Criteria: Design must be novel or original and should be significantly distinguishable from the already registered Designs existing in the public domain.

Acts and Laws: In India, Industrial Designs are governed under ‘The Designs Act’, 2000 and ‘Design Rules’, 2001 and have been amended from time to time.

Administration: The administration of matters pertaining to Industrial Designs is carried out by the Office of CGPDTM, GoI under DPIIT.

Rights: Registration of Design ensures the exclusive rights of the applicant on the Design. The Design registration confers a monopolistic right to the proprietor by which he can legally exclude others from reproducing, manufacturing, selling, or dealing in the said registered Design without his prior consent. The owner can prevent the registered Design products from piracy and imitation.

Validity: The registered Designs are protected for 10 years in India and can be extended by 5 years after making a renewal application.

Items which cannot be registered as Industrial Design: Flags, emblems or signs of any country, and any Industrial Design which is against public moral values.

Treaties/Conventions/Agreements: Hague Agreement for international registration (1925); Locarno Agreement (1968) for

international classification

Additional Information: Designs are registered in different classes as per the Locarno Agreement, 1968.

9.5. Geographical Indications

Definition: A GI is defined as a sign which can be used on products belonging to a particular geographical location/region and possesses qualities or a reputation associated with that region. In GI, there is a strong link between the product and its original place of production.

Eligibility: The goods should be essentially attributable to any geographical origin and in case where such goods are manufactured things, one of the activities of either the production or of processing or preparation of the goods concerned must take place in a territory, region or locality, as the case may be.

Acts/Laws: In India, GI is governed under the Geographical Indications of Goods (Registration & Protection) Act, 1999 and the Geographical Indications of Goods (Registration & Protection) Rules, 2002. The two common methods of protecting a GI are *Sui generis* systems (i.e. special regimes of protection) and under certification or collective mark systems.

Administration: The administration of matters pertaining to GI is carried out by the Office of CGDPDTM, under DPIIT, Ministry of Commerce and Industry, GoI.

Rights: A GI holder has the right to gift, sell, transfer/grant a license, mortgage, or enter into any other arrangement for consideration regarding their product. The holder of GI has the right to use and take legal action against a person who uses the product without his consent.

Validity: Time limit of the GI tag is 10 years and can be renewed from time to time for a further period of 10 years each.

Items that cannot be registered as GI: Non-Registerable GIs are the ones that would be contrary to any law, contains scandalous or obscene matter and any matter likely to hurt the sentiments of society.

Treaties/Conventions: International Agreements for GI Administered by WIPO - Madrid Agreement (1891) for the International Registration of Marks; Nice Agreement (1957) for the International Classification of Goods and Services for the Registration of Marks; Lisbon Agreement (1958) for the Protection of Appellations of Origin.

Additional Information:

- The ownership/holders of GI (registered) can be the producers, as a group/association/cooperative society, or association or in certain cases, government too.
- GI products registered in India belong to the domains of handicrafts, agricultural, foodstuffs, alcoholic beverages, etc. The first GI tag in India was granted in 2004 to Darjeeling Tea and the latest being Kashmir Saffron and Manipur Black Rice (Chakhao) in 2020. A total of 370 GI have been registered in India till May 2020. Nearly 58% of these belong to handicrafts, followed by agriculture (30%). Other categories belong to foodstuff, manufacturing, and natural goods. A few standout GI are Mysore Silk (Karnataka), Kashmir Pashmina (Jammu & Kashmir), Banaras Sarees (Uttar Pradesh), Phulkari (Punjab, Haryana, Rajasthan). Tirupathi Laddu (Andhra Pradesh).
- Registered GI products are granted a tag, which is printed on the registered products. The tag confirms the genuineness of the product in terms of its production (by set standards) and location of production.
- GI registered products can be grown/produced in any part of the world using standards laid down by the GI Registry. However, these products cannot be labelled as GI as they are not produced/manufactured in a specific geographical location, as mentioned in the official records maintained by the Office of GI.
- GI certified goods are classified under 34 different classes.
- India is among the geographically and traditionally rich countries. The scope of generating GI products in India is enormous. However, till May 2020, a total of 370 GI have been registered in India.

Generic GI **-** When a GI-certified product becomes more popular by the name of the origin of the place, it is termed as Generic GI. For example, Camembert Cheese. Camembert is the name of the place in France where this special cheese is produced. In food places, merely saying the word Camembert denotes Camembert cheese.

Homonymous GI **-** When two or more products, which have been granted GI status, are spelt or pronounced alike, but their source of origin is different (usually in different countries), such GI are termed as Homonymous GI. One of the examples of the homonymous GI is a wine named 'Rioja', which is a GI for wine produced in two countries (Argentina and Spain). In such a case, the applicants (of GI) need to prove different characteristics of their products. People may get confused if two Homonymous GI's are being sold at the same place.

Difference between GI and Appellation of Origin - In the case of an appellation of origin, the link with the place of origin is very strong. This generally means that the raw materials should be sourced in the place of origin and that the processing of the product should also take place there. In the case of GI, a single criterion attributable to the geographical origin is sufficient, be it quality or another characteristic of the product – or even just its reputation.

9.6. Trade Secrets

Definition: Trade Secret deals with a practice or a process of a company that is generally not known outside the company. The confidential secret provides the company with a commercial advantage over its rivals and is often a product of internal R&D. Trade Secret document comprises of 'technical information' involving manufacturing processes, experimental research data, formulas, recipes, software algorithms, and 'commercial information' comprising of marketing strategies and a list of product/process recipients. The document may also have a combination of elements, each of which by itself is in the public domain, but where the combination, which is kept secret, provides a competitive advantage.

Eligibility: For a product/process to qualify as a Trade Secret, the information should be of commercial value, should not be in the public domain, and known to a limited group of people. The legal

owner/s of the secret must ensure taking reasonable steps to keep the secret information and agreements (if any) confidential.

Acts/Laws: In India, there is no specific legislation regarding Trade Secrets. However, these are governed under Section 27 of **'**The Indian Contract Act, 1872.

Administration: This aspect of IP is governed under the Indian Contract Act and administered by the Ministry of Law and Justice.

Rights: The owner of the Trade Secret has the legal right to use the secret for economic gains and can sell the secret to anybody for any length of time.

Validity: Contrary to the other forms of IP, a Trade Secret protection has no time period. Many Trade Secrets are more than 100 years old. In addition, there is no formal registration procedure/form to be followed/filled for maintaining a Trade Secret. In simple terms, Trade Secrets are protected without registration. Also, there is no annual renewal fee for keeping the Trade Secret a secret.

Exceptions: A trade secret owner cannot stop others from using the same technical or commercial information if anyone develops such information independently by himself through the reverse engineering or marketing analysis or the owner himself declares it publically.

Non-Trade Secret Items: The items having toxic substances cannot be protected under trade secrets.

Enforcement: If somebody acquires the secret through illegal means or indulge in dishonest use of a Trade Secret acquired through legal agreement, the rightful owner can approach the court to seek an injunction and/or claim financial damage accrued as a result of dishonest commercial practice. If a person/company independently develops a process/technology/product which is already a Trade Secret, it is not considered a violation of Trade Secret protection. The newly developed process/technology can also claim Trade Secret rights.

Treaties/Conventions/Agreements: Paris Convention, 1883 for the Protection of Industrial Property and TRIPS Agreement, 1995 deal partly with the protection of Trade Secret.

Additional Information:

- Trade Secrets are not subject to being "infringed," as with Patents and Copyrights, but are subject to theft.
- Renowned Trade Secrets: Coca-Cola, Google Algorithm, Kentucky Fried Chicken, Dr. Pepper (non-alcoholic, fizzy drink), Listerine (for treatment of allergies, pimples, psoriasis, and insect bites), Lena Blackburne's Baseball Rubbing Mud (for roughing the surface of base-ball) and McDonald's Big Mac Special Sauce Recipe.

9.7. Traditional Knowledge

Definition: Traditional Knowledge (TK) comprises know-how, knowledge, skills and practices that are traditionally originated and are passed from generation to generation in a community. TK is unique for a community and mark as a cultural identity of the community. Some of the practical examples of TK of India which have gained worldwide popularity are Ayurveda, Unani, Medicinal Formulations (including components, such as turmeric, neem, etc.).

Protection of TK: TK based on knowledge is not conventionally protected under IP systems. Most of the countries have developed a *sui generis* system for protecting TK that is inclined towards the dissemination and preservation of TK rather than legal protection associated with it. To protect the spiritual identity and essence of TK in the community/country, means of protection are not totally in tune with the current system of IP protection. TK protection is a way to recognize traditional sources of knowledge and to enable indigenous communities and governments to have a say in the use of such TKs by others.

Link between TK and TCE: TK is also linked to Traditional Cultural Expressions (TCEs), commonly known as 'Expressions of Folklore'. It includes folklore expression in the form of music, dance, art, designs, signs and symbols, names, performances, architecture forms, ceremonies, narratives and handicrafts and any other form of artistic/cultural expressions. TK and TCE form a part of the heritage of the traditional and indigenous community. Some of the prominent TCEs of India include Bharatnatyam of Tamil Nadu, Kuchipudi of Andhara Pradesh, Kalaripayattu martial art of

Kerala and many other traditional practices.

TK and TCE represent the face of the community and its people. These people are given due credit and fair and equitable sharing of the benefits arising from the commercial exploitation of TK and TCE. The execution of the TK protection system led to the revocation of Patents filed in the US and other countries on the medicinal properties of turmeric, neem, amla, etc. which are very well documented in ancient Indian texts.

Agreement on TK: The major agreements that shaped the development of the *sui generis* system for the protection of TK include 'Convention on Biological Diversity (CBD), 1993', 'Nagoya Protocol, 2010' , International treaty on 'Plant Genetic Resources for Food and Agriculture' of the Food and Agriculture Organization (FAO), 2001, 'International Union for the Protection of New Varieties of Plants (UPOV), 1991'. Agreement on TRIPS through the 'Doha Declaration, 2001' directed TRIPS to include a perspective on the protection of TK in alignment with CBD. 'WIPO's Intergovernmental Committee (IGC) on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, 2000' directed all member States to comply with the protection of TK.

Protection of TK: India is the only country to set up an institutional mechanism for the protection of TK. The TK documentation is undertaken by the Ministry of Science and Technology and Ministry of AYUSH through the creation of the Traditional Knowledge Digital Library (TKDL) that acts as a central repository of India's TK and has played a major role in the cancellation and withdrawal of foreign patent applications based on India's TK. The digital library is the major source of documenting India's TK in the name of the traditional community as TK holders. The documented TK in the name of TK Holders (community/tribe/local government body/state government/central government) acts as a tool to protect TK from any unlawful rights over existing TKs and to get exclusive IP rights over such TK.

India has taken various legislative and administrative measures to ensure that the TK is protected and fair means of benefit sharing emerging out of TK is undertaken.

Acts/Laws: India has no separate legislation for protecting TCEs, but these can be protected under TK Protection System, Copyrights, Geographical Indications and Trademarks.

Administration: India has created Traditional Knowledge Digital Library (TKDL) and Traditional Knowledge Resource Classification (TKRC) to protect Indian traditional medicinal knowledge and prevent its misappropriation at International Patent Offices**.**

9.8. Semiconductor Integrated Circuits Layout Design (SICLD)

Definition: 'Semiconductor Integrated Circuit' is defined as the product having transistors or any circuitry elements, which are formed on a semiconductor/insulating material which is designed to perform an electronic circuitry function. 'Layout-Design' means a layout if circuitry elements like transistors, resistors, capacitors, etc. and lead wires connecting all components have been articulated in a semiconductor integrated circuit.

Eligibility: The layout design should be original, there must be distinctiveness in the Design, it must be novel and capable of distinguishing from any other layout Design, and the Design must not be exploited commercially anywhere in India or a Convention Country.

Acts/Laws: Semiconductor Integrated Circuits Layout Design Act, 2000 and Semiconductor Integrated Circuits Layout Design Rules, 2001.

Administration: In India, the administration of the SICLD is under the control of DPIIT, Ministry of Commerce and Industry, GoI.

Rights: The owner of the SICLD has the exclusive right to reproduce by any means the registered layoutdesign or any substantial portion of it.

Validity: Ten years from the date of filing an application. If the design is already being used, the date of protection will be counted from the date of first commercial exploitation anywhere in India or in any country, whichever is earlier. If the creator is already using the design, he will get the ownership automatically.

Treaties/Conventions: Washington Treaty on Intellectual Property in respect of Integrated Circuits, 1989. India has signed this treaty, but it is not in force as of now. The international legal framework has kept it open to the member countries to protect such designs under the *sui generis* law.

Acts Not Considered as an Infringement: The acts like scientific evaluation, analysis, research or teaching, do not constitute an act of infringement. If a person, on the basis of scientific evaluation or analysis of a registered Layout-Design, creates another Layout-Design which is original within the meaning of Sub-section (2) of Section 7 of The Semiconductor Integrated Circuits Layout-Design Act, 2000, that person shall have the right to incorporate such another Layout-Design in a Semiconductor Integrated Circuit. Such incorporation or performance of any act shall not be regarded as infringement.

Additional Information:

- Although the first use of the layout design anywhere is sufficient to claim protection, the creator should register the design to avoid infringement.
- Any person who contravenes and infringes a registered Layout-Design, as per the provision under the Act, will be punished with imprisonment for a term extendable to three years and imposition of a fine ranging from ₹ 50, 000 to 10,00,000, or with both.

9.9. Protection of Plant Varieties and Plant Breeders Rights

Plant Variety: A new plant variety [Any variety that fulfils the Distinctness, Uniformity and Stability (DUS) criteria] can be registered as the Plant Breeder's Rights (PBRs) to encourage the development of new varieties of plants. Under the unique system of IPR, protection to new plant varieties is provided through 'Plant Breeder's Right' (PBR), granted to the breeder of the new plant variety. The protection is provided under the independent '*sui generis'* system *(sui generis system is a unique system in which new national laws and international norms are administered as per the requirement. Such systems are generally adopted for the IP protection of biodiversity and genetic resources in most of the countries).*

Need for Plant Protection as an IP: The development of new plant varieties with improved yields, better quality and higher pest and disease resistance have contributed immensely to agricultural productivity. Plant Breeders spend years developing new plant varieties with superior characteristics that require substantial financial investments. Therefore, IP protection of newly developed plant varieties offers a reward system for breeders and further encourages them to develop new plant varieties.

Treaties/Conventions/Agreements: To include plant variety protection under the realm of IP, two main treaties have played an important role. Union Internationale Pour la Protection des Obtentions Végétales (UPOV) (English version - International Convention for the Protection of New Plant Varieties), was held in 1961 in Paris and TRIPS Agreement (1995).

In alignment with TRIPS Agreement, India selected the *sui generis* system over patent under the 'Plant Variety Protection and Farmers Rights (PVP&FR) Act, 2001'. The Ministry of Agriculture and Farmers Welfare, Government of India, has established 'Plant Variety Protection and Farmer's Rights (PVP&FR) Authority' based in New Delhi. The plant breeders and farmers can register their new plant varieties with PVP&FR Authority and subsequently claim their ownership rights associated with the registered plant variety.

The PVP&FR Authority issues a 'Certificate of Registration' for a new plant variety under PVP&FR Act, 2001 that grants exclusive rights to plant breeder (or licensee/agent/successor) to produce, market, sell, import or export and distribute the registered variety.

Eligibility: Novelty - Plant variety (propagated and harvested material) has not been exploited earlier than one year in India and earlier than four years outside India; Distinctiveness - Plant variety is distinct in its essential characteristics from other plant varieties; Uniformity - all plants of the plant variety show the same characteristics (subjected to variation in generations due to propagation) and Stability - through many generations, essential characteristics of the plant should not change in terms of quality and content.

Types of Plant Varieties Registered under PVP&FR Act, 2001: Different types of plant varieties that can be registered in India under the PVP&FR Act are as follows:

- **New Variety** - A new variety that confers the criteria of Novelty, Distinctiveness, Uniformity & Stability (NDUS).
- **Extant Variety** - A variety can be registered as an extant variety if it is - i) notified under Section 5 of Seeds Act,1966 or ii) is a farmer's variety or iii) variety whose common knowledge prevails and available in the public domain.
- **Farmer's Variety** – This is a variety that is traditionally cultivated and developed by the farmers in the field. These varieties can be a wild relative of any variety of which farmer has a common knowledge.
- **Essentially Derived Variety** - This is a variety that is derived from a new variety of extant variety or farmer's variety.

Plant Varieties which cannot be Registered in India: Plant variety whose commercial exploitation is detrimental for the environment or public order or public morality or health or human/animal/plant life; Plant variety that involves the use of technology which is detrimental to human/animal/plant life; Plant variety that belongs to the genera or species which is not listed in the notification issued by the Government of India.

Validity: The protection period varies depending on plant variety. Trees and Vines - 18 years, Extant Varieties - 15 years (from the time variety was government notified under Seed Act, 1966); other crops - 15 years.

Plant Breeders Rights (PBRs): The exclusive rights granted to the breeders are to produce, sell, market, distribute, export or import the registered plant variety. However, such rights are exempted for using plant variety for research purposes.

Farmer's Rights: In order to protect and encourage the farmer's contribution to conserving and improving plant genetic resources, farmer's rights were introduced. These rights protect farmers from the stringent IPR, such as patents that confers monopoly over the product/technology patented. PVP&FR Act 2001 describes farmer

as the 'cultivator (cultivating the land himself or through direct supervision), or one who conserves and preserves any wild species or traditional varieties, or a breeder who adds value to such wild species and traditional varieties through selection and identification of their useful properties'. The 'Farmer's Rights' under PVP&FR Act, 2001 are as follows:

- ***Rights on seed*** - provides rights to the farmers to save seeds, use seeds and share, exchange or sell seeds to other farmers.
- ***Right to register*** - provides farmers with the right to register their traditional plant varieties and procure exclusive rights over their registered variety.
- ***Right to reward and recognition*** - farmer's contribution to agriculture is rewarded by means of the award presented by the National Gene Fund under PVP&FR Authority.
- ***Right to benefit sharing*** - farmers or tribal communities that contributed to the development of new crop varieties are entitled to equitable sharing of benefits that emerge from the new crop variety. In addition to this, India has enacted the 'Biological Diversity Act, 2002' for preserving biological diversity existing in India along with establishing legal mechanisms for equitable sharing of benefits emerging from traditional biological resources (that also consist of plant varieties and plant products) and Traditional Knowledge.
- ***Right to compensation for losses*** - The registered new plant varieties are subjected to sell with a number of claims over their performance and successful cultivation conditions. In case the registered plant variety does not perform as claimed, then farmers are provided with compensation for the losses.
- ***Rights against undisclosed use of traditional varieties*** - this right protect farmers' interest when a breeder commercially exploits traditional variety and does not disclose it. The claim can be filed by any person on behalf of the farmer/tribal or local community.
- ***Right to access to seed*** - this right directs the breeders of the registered plant variety to meet seed demands of the farmers at a reasonable price.

- ***Right to free service*** - The farmers are exempted from fees to be paid during stages of registration of plant variety.
- ***Right to protection against accusations of infringement***- this right protects the farmers from infringement and other legal accusations levied upon him due to his legal ignorance in using other's plant varieties.

Compulsory Licensing: PVP&FR Act, 2001 exercises the principle of Compulsory Licensing (CL), subject to the situation when plant variety is not available to the public at a reasonable price after three years of registration. The interested person can file an application to PVP&FR Authority for a grant of CL through Form PV-28.

9.10. National Biodiversity Authority

India is a megadiverse country with 2.4% of the world's land area and accounts for 7-8% of all recorded species, including species of plants and species of animals. Due to certain inevitable things happening in the country like population explosion, climate change and lax implementation of environmental policies, several species of plants and animals are facing the threat of extinction. To ensure and regulate the sustainable use of the resources, National Biodiversity Authority (NBA) was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002). The NBA has its Headquarters in Chennai, Tamil Nadu. It is an autonomous statutory body that comes under the Ministry of Environment, Forest and Climate Change, Government of India. The prominent functions of the NBA are:

- To facilitate and advise the Government of India on issues of conservation, sustainable use of biological resources and fair, equitable sharing of benefits of use arising out of the utilization of biological resources.
- To assist the State Governments in the selection of areas of biodiversity importance under Sub-Section (1) of Section 37 as heritage sites and measures to be adopted for the management of such heritage sites.

The authority has created dedicated boards in 28 states called as State Biodiversity Board (SBB). The important functions of the board are:

- Regulation of the matters relating to the conservation of biodiversity.
- Sustainable use of its components.
- Equitable sharing of the benefits arising out of the utilization of biological resources.
- To monitor the local level committees known as Biodiversity Management Committees (BMCs).

The NBA is supporting a total of 2,05,794 BMCs in 28 states of India. The committees are responsible for promoting conservation, sustainable use and documentation of biological diversity, including preservation of habitats, conservation of landraces, folk varieties and cultivators, domesticated stocks and breeds of animals and microorganisms, besides chronicling of knowledge relating to biological diversity.

Biological Diversity Act, 2002: The 'Biological Diversity Act' was enacted in 2002 to promote the conservation of biological resources in India and establishing mechanisms for equitable sharing of benefits arising from the use of genetic resources of the country. In compliance with the United Nation's guided 'Convention for Biological Diversity' (CBD), India became a party to CBD in 2002 and enacted the Biological Diversity Act. The Act describes the biological resources as '*plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material*' and biological diversity as '*the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of eco-systems*'

India has been exclusively tagged as a megadiverse nation that houses nearly 10% of the world's biodiversity. India possesses 22 agro-biodiversity hotspots possessing rich biodiversity. India has set up twelve national repositories for the safedeposit of various types of existing biological resources.

Treaties/Conventions/Agreements: Cartagena Protocol (2000; enforced in 2003) and Nagoya Protocol (2010; enforced in 2014).

Enactment of Biological Diversity Act, 2002: Ministry of Environment, Forests and Climate Change, Government of India has established:

- National Biodiversity Authority (NBA; at the national level).
- State Biodiversity Boards (SBB; at the state level; in 28 states).
- Biological Management Committees (BMCs; at the local level; 2, 05,794 BMCs set up).

NBA has authorized BMCs to create the People's Biodiversity Register (PBR), which is a legal document that contains an inventory of biological resources and knowledge available at the local level covered under BMC. These bodies also help in recognizing 'Biological Heritage Sites' in India that possess rich biodiversity e.g. Gharial Rehabilitation Centre, Lucknow, Uttar Pradesh.

Any foreign national or non-resident Indian or any foreign company cannot use the biological resources of India without prior permission and authorization from the NBA.

LIST OF ABBREVIATIONS

S. No.	Abbreviations	Description
1	ABC	Accessible Books Consortium
2	ADR	Alternative Dispute Resolution
3	AICTE	All India Council for Technical Education
4	AIIMS	All India Institute of Medical Sciences
5	AMU	Aligarh Muslim University
6	APCTT	Asian and Pacific Centre for Transfer of Technology
7	ARDI	Access to Research for Development and Innovation
8	ASPI	Access to Specialised Patent Information
9	AU	Annamalai University
10	AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
11	BARC	Bhabha Atomic Research Centre
12	BHU	Banaras Hindu University
13	BIRPI	Bureaux for the Protection of Intellectual Property
14	CBD	Convention on Biological Diversity
15	CDRI	Central Drug Research Institute
16	CD-ROM	Compact Disc-Read Only Memory
17	CEAC	Copyright Enforcement Advisory Council
18	CFTRI	Central Food Technological Research Institute
19	CGPDTM	Controller General of Patents, Designs and Trademarks
20	CICS	Centre for International Cooperation in Science
21	CIPAM	Cell for IPR Promotion and Management
22	CL	Compulsory Licensing
23	CLRI	Central Leather Research Institute
24	CSIR	Council of Scientific and Industrial Research
25	CSMCRI	Central Salt And Marine Chemicals

		Research Institute
26	DAE	Department of Atomic Energy
27	DIPP	Department of Industrial Policy and Promotion
28	DPIIT	Department of Promotion of Industry and Internal Trade
29	DRDO	Defence Research and Development Organization
30	DST	Department of Science and Technology
31	DU	Delhi University
32	DUS	Distinctiveness, Uniformity and Stability
33	EDV	Essentially Derived Variety
34	EPO	European Patent Office
35	FAO	Food and Agriculture Organization
36	FER	First Examination Report
37	FTA	Free Trade Agreements
38	GATT	General Agreement on Tariffs and Trade
39	GDP	Gross Domestic Product
40	GI	Geographical Indications
41	GIR	Geographical Indications Registry
42	Govt.	Government
43	GU	Gujarat University
44	HEI	Higher Education Institutions
45	IARI	Indian Council of Agricultural Research
46	ICMR	Indian Council of Medical Research
47	ICT	Indian Institute of Chemical Technology
48	ID	Industrial Designs
49	IEEE	Institute of Electrical and Electronics Engineers
50	IFC	Innovation Facilitation Centres
51	IGC	Intergovernmental Committee
52	IICT	Indian Institute of Chemical Technology
53	IIP	Indian Institute of Petroleum
54	IISc.	Indian Institute of Science
55	IISER	Indian Institutes of Science Education and Research

56	IIT	Indian Institute of Technology
57	ILO	International Labour Organization
58	IMTECH	Institute of Microbial Technology
59	InPASS	Indian Patent Advanced Search System
60	IOC	International Olympic Committee
61	IP	Intellectual Property
62	IPAB	Intellectual Property Appellate Board
63	IPAIRS	Improvised Version of Previous Search Engine
64	IPAS	Industrial Property Automation System
65	IPD	Intellectual Property Division
66	IPEA	International Preliminary Examination Authority
67	IPFC	Intellectual Property Facilitation Centre
68	IPIC	Intellectual Property in Respect of Integrated Circuits
69	IPM	Intellectual Property Management
70	IPO	Indian Patent Office
71	IPR	Intellectual Property Rights
72	IPRSL	Indian Performing Right Society Limited
73	ISA	International Searching Authority
74	ISRO	Indian Space Research Organization
75	IT	Information Technology
76	IUCN	International Union for Conservation of Nature
77	IVRI	Indian Veterinary Research Institute
78	JNCASR	Jawaharlal Nehru Centre for Advanced Scientific Research
79	JPO	Japan Patent Office
80	KFC	Kentucky Fried Chicken
81	MCC	Microbial Culture Collection
82	MHRD	Ministry of Human Resource Development *now Ministry of Education*
83	MoE	Ministry of Education
84	MSME	Micro, Small and Medium Enterprises
85	MTCC	Microbial Type Culture Collection
86	NBA	National Biodiversity Authority

87	NCL	National Chemical Laboratory
88	NDA	Non-Disclosure Agreement
89	NDUS	Novelty, Distinctiveness, Uniformity & Stability
90	NIF	National Innovation Foundation
91	NII	National Institute of Immunology
92	NIIH	National Institute of Immunohaematology
93	NIPER	National Institute of Pharmaceutical Education and Research
94	NIT	National Institute of Technology
95	NLU	National Law University
96	NML	National Metallurgical Laboratory
97	NPL	Non-patent Literature
98	NRDC	National Research Development Corporation
99	NRL	National Research Laboratories
100	OWA	Original Work of Authorship
101	PCT	Patent Cooperation Treaty
102	PCT-PPH	PCT-Patent Prosecution Highway
103	PDTC	Programme for Development of Technology Inspiring for Commercialization
104	PETA	People for the Ethical Treatment of Animals
105	PGIMER	Post Graduate Institute of Medical Education & Research, Chandigarh
106	PIC	Patent Information Centres
107	PIH	PepsiCo India Holding
108	PIII	Programme for Inspiring Inventors and Innovator
109	PLT	Patent Law Treaty
110	PPL	Phonographic Performance Limited
111	PU	Panjab University
112	PVP&FR	Protection of Plant Varieties and Farmers' Rights
113	R&D	Research and Development

114	RGNIIPM	Rajiv Gandhi National Institute of Intellectual Property Management
115	SBB	State Biodiversity Board
116	SCRIPT	Society for Copyright Regulation of Indian Producers for Film and Television
117	SG	Secretary General
118	SICLDA	Semiconductor Integrated Circuits Layout-Design Act
119	SICLDR	Semiconductor Integrated Circuits Layout Design Registry
120	SIPP	Scheme for Facilitating Start-ups Intellectual Property Protection
121	SISA	Supplementary International Search
122	SRISTI	Shared Research Infrastructure for Science, Technology and Innovation
123	STI	Science, Technology and Innovation
124	TCE	Traditional Cultural Expressions
125	TESS	Trademark Electronic Search System
126	TIFAC	Technology Information Forecasting and Assessment Council
127	TISC	Technology and Innovation Support Centres
128	TK	Traditional Knowledge
129	TKDL	Traditional Knowledge Digital Library
130	TLT	Trademark Law Treaty
131	TM	Trademark
132	TPS	Technology Policy Statement
133	TRIPS	Trade-Related Aspects of Intellectual Property Rights
134	TS	Trade Secrets
135	UN	United Nations
136	UNESCO	United Nations Educational, Scientific and Cultural Organization
137	UoH	University of Hyderabad
138	UPOV	International Union for the Protection of New Varieties of Plants
139	URDIP	Unit for Research & Development of

		Information Products
140	USA	United States of America
141	USITC	United States International Trade Commission
142	USPTO	United States Patent and Trademark Office's
143	VIT	Vellore Institute of Technology
144	WCT	WIPO Copyright Treaty
145	WIPO	World Intellectual Property Organization
146	WIPOCOS	WIPO Copyright Management System
147	WOS	Women Scientists Scheme
148	WPPT	WIPO Performances and Phonograms Treaty
149	WTO	World Trade Organization
150	YAHOO	Yet Another Hierarchical Officious Oracle

DISCLAIMER

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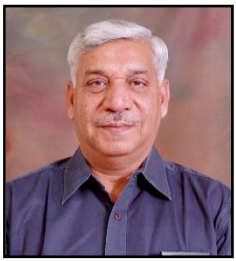

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The present book offers a clear and focussed view on all categories of Intellectual Property (IP); not only in terms of its concepts, methods and procedures, but also in the context of institutions offering IP courses, IP related web-portals, national/international organizations dealing with IP and patent status of higher education institutes of India. Though, India has a rich repertoire of IP classified entities in the domains of literature, arts, science, traditional medicines, food products, textiles, designs, etc. but registration of these items/inventions as IP is its Achille's heel. True potential of IP can be harnessed by stimulating awareness of IP in schools, colleges, universities and research institutions across India. To fill this gap, a few universities have started new courses and established research centres for enhancing IP knowledge.

However, imparting robust IP knowledge requires an updated quality text material, which is of paramount importance. This book provides an excellent resource material for a complete course on the fundamentals of IP. This book will be helpful to students, researchers, scholars and teachers engaged in this subject along with the general readers having an interest in the domain of Intellectual Property.

Prof. Gurpal Singh Sandhu
Honorary Director
Publication Bureau

81-85322-92-9

Price: ₹ 280

PUBLICATION BUREAU
PANJAB UNIVERSITY, CHANDIGARH