RESEARCH METHODOLOGY & INNTELECTUAL PROPERTY RIGHTS – 21RMI56

MODULE 3

Introduction to Intellectual Property: Role of IP in the Economic and Cultural Development of the Society, IP Governance, IP as a Global Indicator of Innovation, Origin of IP History of IP in India. Major Amendments in IP Laws and Acts in India.

Patents: Conditions for Obtaining a Patent Protection, To Patent or Not to Patent an Invention. Rights Associated with Patents. Enforcement of Patent Rights. Inventions Eligible for Patenting. Non-Patentable Matters. Patent Infringements. Avoid Public Disclosure of an Invention before Patenting.

Process of Patenting: Prior Art Search. Choice of Application to be filed. Patent Application Forms. Jurisdiction of Filing Patent Application. Publication. Pre-grant Opposition. Examination. Grant of a Patent. Validity of Patent Protection. Post-grant Opposition. Commercialization of a Patent. Need for a Patent Attorney/Agent. Can a Worldwide Patent be obtained? Do I Need First to File a Patent in India? Patent Related Forms. Fee Structure. Types of Patent Applications. Commonly Used Terms in Patenting. National Bodies Dealing with Patent Affairs. Utility Models.

Introduction

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 etc.

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 special rights to use, sell, distribute, offering for sale and restricting others from using invention without his prior permission.

Broadly, IP comprises of two branches i.e.

Copyrights and Related Rights: Refers 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 software's/databases.

Industrial Property Rights: Refers to the Patents, Trademarks, Trade Services, Industrial Designs and Geographical Indications.

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

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 practiced rigidly, it may have a negative impact on the progress of society. For example: **Trade-Related Aspects of Intellectual Property Rights (TRIPS).** 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 avoid the negative impact of IPR, certain laws, have been enacted to maintain a balance between the interests of creators/inventors & community. For example: **Protection of Plant Varieties and Farmers Rights (PVP&FR) Act, 2001.** PVP & FR provides 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.

A patent can be **revoked** in favor of compulsory licensing by the government during an emergency or a natural calamity. If an invention 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.

India is enriched with massive biodiversity and genetic resources and their use is embodied **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. 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.

IP Governance

Every nation has dedicated agencies for laying out the guidelines, implementation and enforcement of IP related matters. In India, 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. Other government dedicated organizations/departments to promote patent-ecosystem (patent awareness, patent filing and patent commercialization) in India are: **Technology Information Forecasting and Assessment Council (TIFAC), National Research Development Corporation (NRDC) Cell for IPR Promotion and Management (CIPAM), etc.**

In order to create a hassle-free exchange of IP related activities amongst all the nations, 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.

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.

History of IP in India

1. Patents

The first patent related legislation in India was Act VI of 1856, adapted from the British Patent Law of 1852. The objective 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 Indian Patents and Designs Act, 1911 (Act II of 1911)

The Amendments of this act are:

- 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.

The Patents Act 1970

The second amendment to the 1970 Act was made through the Patents (Amendment) Act, 2002. 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.

Further Amendment: 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 ever greening of 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.

2. Copyrights and Related Rights

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.

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.

In third phase, The Copyright Act 1957 was enacted, superseding the Indian Copyright Act, 1914. 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 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 & other owners;
- Exception of copyrights for physically disabled to access any works.

3. Trademarks

The first statutory law related to Trademarks (TM) in India was the Trade Marks Act, 1940. It was followed by the incorporation of provisions of TM stated in the Indian Penal Code, Criminal Procedure Code and the Sea Customs Act. Further, Trade Marks Act, 1940 was rechristened as Trade and Merchandise Marks Act, 1958 and later this Act was repealed by the Trade Marks Act, 1999

4. Geographical Indications

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

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.

6. Semiconductor Integrated Circuits and Layout Designs

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.

7. Plant Varieties

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. India adopted the Protection of Plant Varieties and Farmers Rights (PVP&FR) Act, 2001, as a *sui generis* regime protecting not only new plant varieties but also farmer's rights.

8. Traditional Knowledge (TK)

It is the ancient and indigenous knowledge held by any community or a group of people. TK was verbally passed on to future generations. TK 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. The Government of India has created a digital library termed as Traditional Knowledge Digital Library (TKDL) as a repository of 250,000 formulations of various systems of Indian medicine.

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 Act of British Patents and Designs Act in 1907, 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.

10. Biodiversity Conservation

Biodiversity is an inseparable part of human livelihood. In 1988, the "National Forest Policy" was passed, which brought revolutionary changes in the conservation and management of biodiversity. Acts & 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 Act, 2006;
- National Biodiversity Action Plan, 2009;
- National Environment Policy, 2006 and a few more.

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.

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

Conditions for Obtaining a Patent Protection

The set criterion which must be fulfilled for a product or a process to qualify for the grant of a patent are:

1. 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.

2. 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.

3. Capable of industrial application - *For the benefit of society.*

The invention is capable of being made or used in any industry.

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. Most of the inventor prefers the former option. Only a minor 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 (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 (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.

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. 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. 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.

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.

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. penicillin's (an antibiotic that kills microbes) and its derivatives.

Non-Patentable Matters

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

1. Invention contrary to public morality - a method for human cloning, a method for gambling.

2. Mere discovery - finding a new micro-organism occurring freely in nature, laws of gravity.

3. 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.

4. Frivolous invention - dough supplemented with herbs, merely changing the taste of the dough, 100 years calendar, bus timetable.

5. Arrangement or rearrangement - an umbrella fitted with a fan, a torch attached to a bucket.

6. Inventions falling within Section 20(1) of the Atomic Energy Act, 1962 - inventions relating to compounds of Uranium, Beryllium, Thorium, Radium, Graphite, Lithium & more as notified by the Central Government from time to time.

7. 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.

8. Topography of integrated circuits - protection of layout designs of integrated circuits is provided separately under the Semiconductor Integrated Circuit Layout Designs Act, 2000.

9. Plants and animals - plants and animals in whole or any part including seeds, varieties & species and biological processes for the production or propagation of plants and animals are excluded from the scope of protection under patents.

10. Traditional knowledge - an invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties.

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:

1. 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.

2. 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. Following reliefs are made available to the patentee:

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

NOTE: 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 case of national emergency or other circumstances of extreme urgency after notifying the owner.

Avoid Public Disclosure of an Invention before Patenting

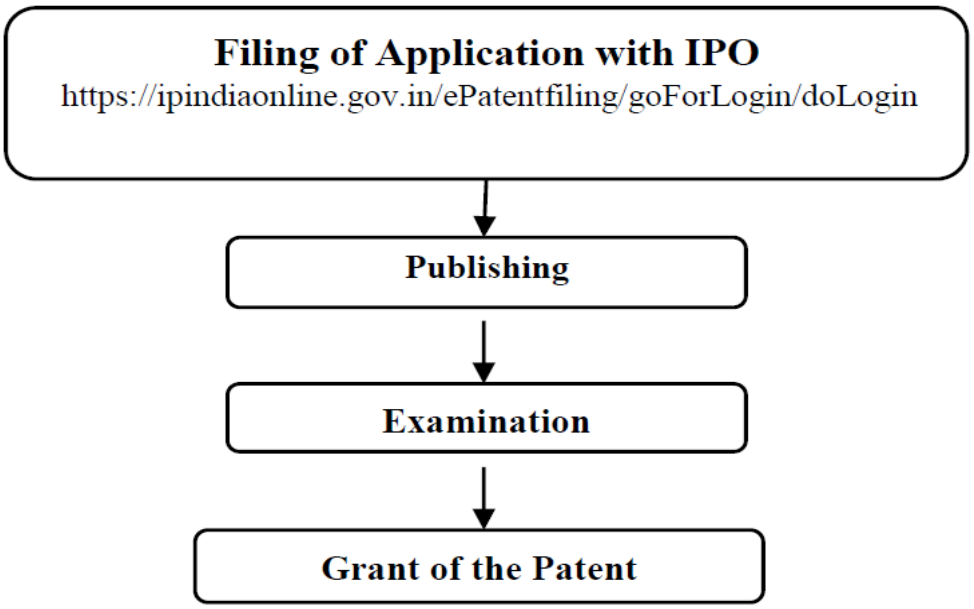
Generally, an invention that has been either published or publicly displayed cannot be patented, as the claimed invention will lose the "Novelty" criterion. However, under certain circumstances, the Patents Act provides a grace period of 12 months for filing a patent application from the date of its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

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.

Process of Patenting

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

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



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 & 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 Non-Patent Literature (NPL)

Non-Patent Literature (NPL)

- Scholarly publications: Handbooks, Textbooks, Withdrawn Patents, Encyclopaedias, 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.

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+).

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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. 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 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.

Patent Application Forms: As per the Patent Act, 1970 and the Patents Rules, 2003, the application for the grant of patent is filed using **Form-1** and **Form-2**.

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. For Complete Application: "Description of the Invention", "Abstract", "Claims" and the manner in which invention has to be performed are required.

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.

Jurisdiction of Filing Patent Application

India has four offices for filing patent applications. 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.

1. **Northern Region:** Address: Intellectual Property Office Building, Plot No. 32, Sector 14, Dwarka, New Delhi-110078. Email: delhi-patent@nic.in
2. **Southern Region:** Address: Patent Office Intellectual Property Building, G.S.T. Road, Guindy, Chennai-600032. Email: chennaipatent@nic.in
3. **Western Region:** Address: Boudhik Sampada Bhawan, Antop Hill,S. M. Road, Mumbai - 400 037. Email: mumbaipatent@nic.in
4. **Rest of India:** Address: Intellectual Property Office Building, CP-2 Sector V, Salt Lake City, Kolkata-700091. Email: kolkatapatent@nic.in

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/journalpatents.htm

The purpose of publishing the application is to inform the public about the invention. The publication of an application is a mandatory step.

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.

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.

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.

Grant of 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.

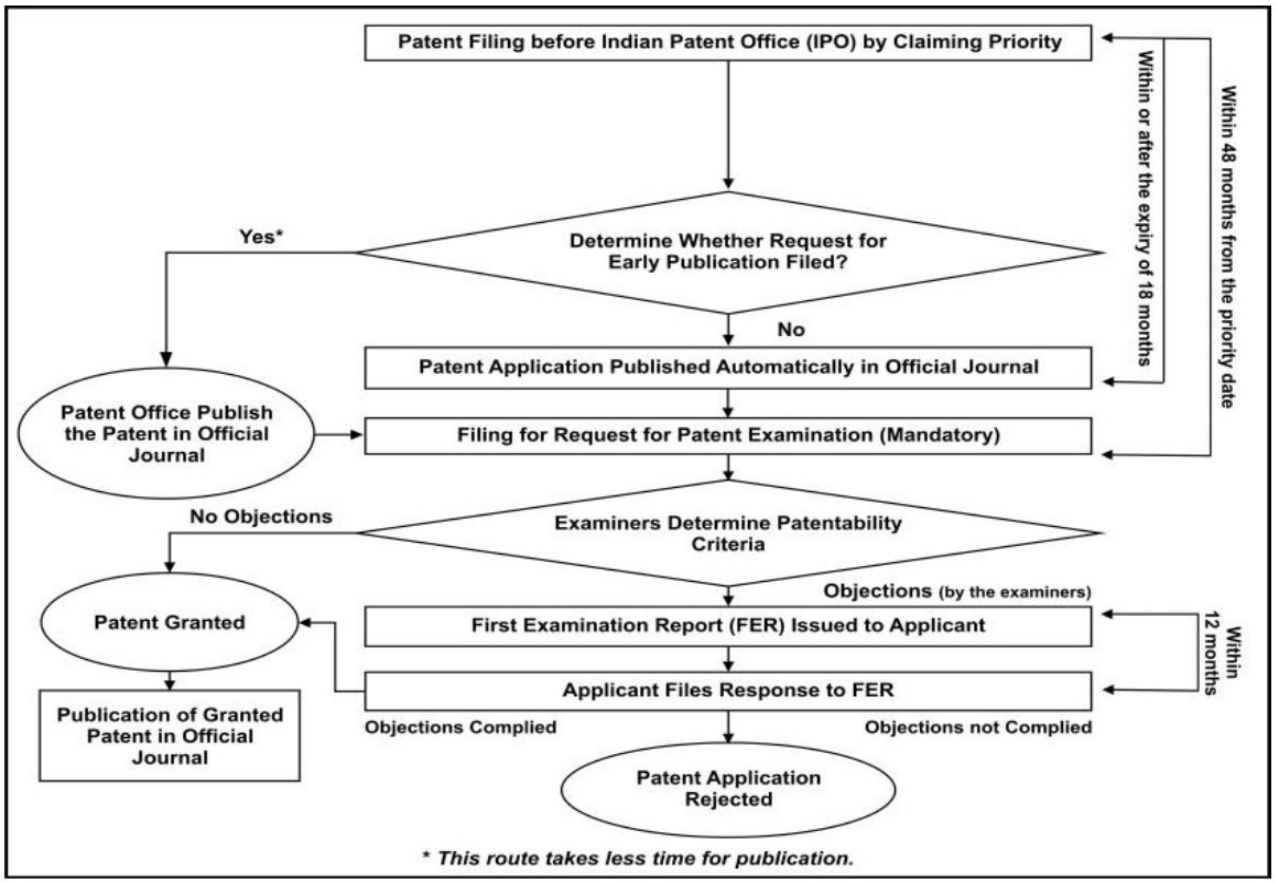

Figure 2.4: Flowchart for the process of filing a patent application.

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 results in cancellation of patent.

In some countries, patent protection may be extended beyond 20 years. Because the patent owner may sometimes not be able to benefit from his right for a considerable period after the grant of the patent.

Post-grant Opposition

Once the patent has been granted, it still can be challenged by anyone within one year from the date of publication of the grant of the patent. It 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 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 claim is not patentable as per Chapter II of Patent Act, 1970.
- The details/specifications of the invention do not sufficiently and clearly describe the invention.

Commercialization of a Patent

The patent owner may grant permission to an individual/organization/industry to make, use, & 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.

Although, the validity of the granted patent is for 20 years, the patentee is required to furnish information (Form-27), on an annual basis relating to the commercialization/selling of patent. It is called as "Working/Licensing of 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 grant of a patent, any person may submit an application to the Controller of Patents for grant of Compulsory Licensing, subject to 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.

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 means an agent or attorney who resides & practices in that country).

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. For 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.

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.

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

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

Types of Patent Applications

1. 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.

2. Ordinary Application: A patent application filed with complete specifications and claims but without claiming any priority date.

3. 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.

4. Divisional Application: When an application claims more than one invention, the applicant may divide the application and file two or more applications. This application divided out of the parent one is known as a Divisional Application.

5. 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.

6. 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.

Commonly Used Terms in Patenting

Inventor: Inventor Creator of an invention.

Applicant: Organization/individual/industry that files a patent application or applies for a patent.

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

Licensee: Organization/individual/industry which obtains a license of the patent from the Patentee for commercialization purpose.

Assignee: A person in whose name patent has been assigned legally.

In force: The applicant is paying the annuity (renewal fee) for the patent to keep it alive (Active Patent).

Working of a Patent: The selling of a patent to an individual/party for commercial exploitation is called as working of a patent.

Patent Specification: Patent specification is a written description of the invention & the way of representation and process of making and using the same.

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.

Priority Date: The claimed date on which the first application for the invention is filed.

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.

National Phase Application: An application filed to obtain patents in different countries simultaneously based on a single International/PCT application.

Patent Revocation: The revocation means cancellation of the patent due to certain reasons, such as lack of patentability or wrongfully obtaining a patent.

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.

National Bodies Dealing with Patent Affairs

Departments/organizations/bodies dealing with various aspects of patents are:

- Indian Patent Office (IPO),
- Department for Promotion for Industry and Internal Trade (DPIIT)
- Technology Information, Forecasting and Assessment Council (TIFAC)
- National Research Development Corporation (NRDC).

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.

RESEARCH METHODOLOGY &
INNTELECTUAL PROPERTY RIGHTS – 21RMI56

Assignment Questions:

1. Define IP & IPR. Explain the branches of IP.
2. Explain the role of IP in the Economic & Cultural Development of the Society.
3. Discuss various organizations/agencies deal with various aspects of IP.
4. Mention the major amendments of Patents (Amendment) Act, 2002.
5. Define patent. Explain the Conditions for Obtaining a Patent Protection.
6. Mention various non-patentable matters.
7. What is patent infringement? Discuss the categories of infringements.
8. With flowchart, briefly explain the steps involved in the grant of a patent.
9. What are the choices for patent application to be filed? Mention the patent application forms & explain the concept of 'claims'.
10. What is Pre-grant opposition & Post-grant opposition? Explain.
11. Explain Commercialization of a Patent and Licencing of a Patent.
12. Discuss different types of patent applications.
13. Explain the concept of Utility Models.
14. List few important patent application forms.
15. Define the following terms related to patenting:

    i) Licensee. ii) Priority Right. iii) Patent Claims. iv) Patent Revocation.
    v) Priority Date. vi) National Phase Application. vii) Patent Specification.