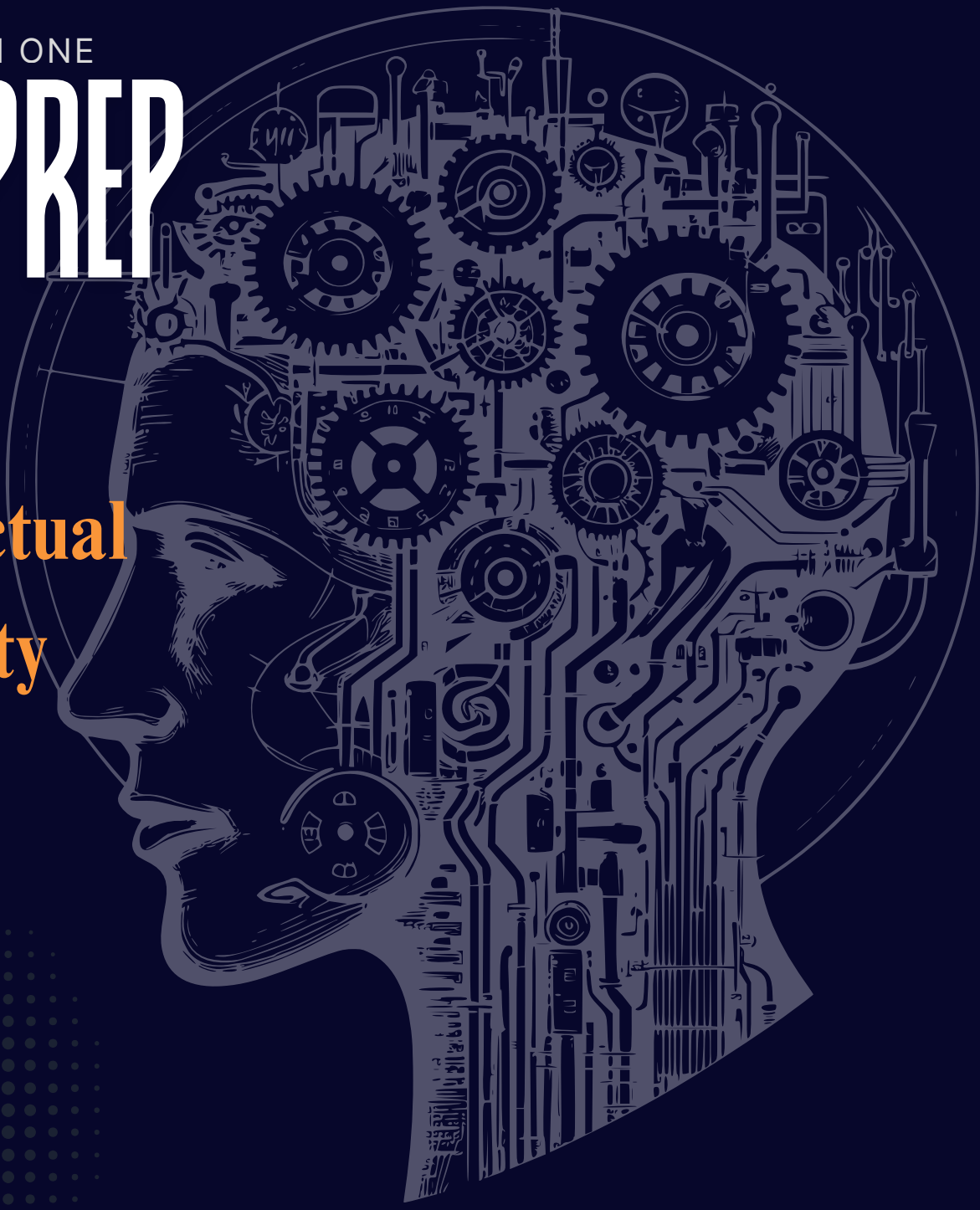
EDITION ONE

RASPREP

Module 1

Intellectual Property Basics



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RAS INTELLECT

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About the Company

At RAS Intellect, we turn ideas into powerful assets.
We help innovators — from solo founders to global enterprises — protect and profit from their intellectual property through expert patent, trademark, copyright, and IP strategy services. Our team simplifies the complexities of IP law, guiding you from ideation to enforcement with precision and clarity. Wherever innovation happens, RAS Intellect ensures it's protected and positioned to grow.

Vision
At RAS Intellect, we envision a world where innovators and creators thrive — empowered by robust intellectual property protections that fuel creativity, drive collaboration, and support sustainable innovation.

Mission
To empower innovators and creators by safeguarding their intellectual assets through strategic, customized IP solutions and enabling them to compete, grow, and lead in an innovation-driven world.

How We Protect Innovation: Our Services
Tailored IP solutions across protection, strategy, and capacity building.

- **IP Protection & Strategy**
  - Patents Filing
  - Trademark Registration
  - Copyright Filing
  - Design Filing
  - International Filing
  - Prosecution Services
  - Drafting of Technology Transfer Agreements
  - Patent Filing Support under SIPP Scheme for Startups- **No Professional cost/ hidden charges**
  - IC Layout Design
  - Plant Variety Protection
  - IP Policy Drafting
  - Licensing Agreements
  - Industry-Research Institute Collaborative Agreements
  - Confidentiality Agreement (Non-Disclosure Agreements)
  - Incubation center setup
  - Section **8 company** formation
  - Tailored training through **RASPREP** and capacity-building programs to foster IP awareness
  - Geographical Indication

Recent Milestones

Recognitions and Contributions from 2024–2025

- **National IP Outreach Mission – Viksit Bharat**

Dr. Ruchi represented RAS Intellect Solutions as a panelist in the "IPR for Women in Business" session organized by PHDCCI, contributing to the national dialogue on IP for inclusive innovation.

- **National IP Yatra 2025 – ASSOCHAM & MSME Ministry**

As co-panelist at this MSME Ministry-supported event, Dr. Ruchi addressed "Maximizing IP Value for Startups & MSMEs," underscoring the firm's expertise in IP commercialization.

- **National Intellectual Property Awards 2024 – Ministry of Commerce & CGPDTM**

Dr. Ruchi was invited to the prestigious IP Awards held at Bharat Mandapam, New Delhi, recognizing RAS Intellect's national contribution to IP literacy and strategy.

- **Leadership & Innovation Milestone – TiECON 2025**

Honoured by the Governor of Punjab, Dr. Ruchi received an award at TiECON 2025 for excellence in research and innovation leadership.

Building IP Foundations for Viksit Bharat

A visionary collaboration with Punjab School Education Board (PSEB)

In alignment with the national vision of **Viksit Bharat@2047**, RAS Intellect is collaborating with the **Punjab School Education Board (PSEB)** to introduce Intellectual Property (IP) education in schools across Punjab.

This initiative aims to embed IP awareness and foundational knowledge within the school curriculum — empowering students and educators to understand, create, and protect innovation from an early age. By nurturing IP consciousness at the grassroots level, we are shaping a generation of future-ready innovators equipped to lead India toward self-reliance and global competitiveness.

Meet the Founder

Visionary leadership driving India's IP revolution

Dr. Ruchi Singla

Director & CEO, RAS Intellect Solutions Pvt. Ltd

- Over 20 years of experience in academic research, intellectual property strategy, and innovation leadership
- Recognized among the **Top 50 Mentors in India** for contributions to national mentoring initiatives
- Serves as a **Regional Mentor of Change** under the **Atal Innovation Mission**, NITI Aayog
- Successfully guided **over 2,300 patent filings** across diverse fields, including AI, drones, and cybersecurity
- Established **three Centres of Excellence** during her academic leadership, fostering innovation ecosystems
- Licensed Indian Patent Agent (No. 5887) and Certified Canadian Patent Administrator by **the Intellectual Property Institute of Canada**
- Secured **over ₹15 crores** in funding for research, innovation, and startup incubation projects
- Empaneled as an **IP Facilitator under the Startup India Scheme (SIIP)** to support early-stage ventures
- Regular speaker and co-panelist at national forums including **TiECON, ASSOCHAM, and PHDCCI**
- Former **Director of Research & Innovation at CGC Landran** and **Director at ACIC RISE Association,** supported by NITI Aayog

At the intersection of policy, education, and intellectual property, Dr. Ruchi Singla is building a more innovation-ready India.

Chapter 1
WHAT IS INTELLECTUAL PROPERTY?

Intellectual Property is an intangible form of property that originates from human intellect and creativity. It is a product of human creation such as *inventions, literary and artistic works, designs, symbols, names and images.*

Intellectual Property Rights (IPRs) : IPRs are legal rights granted by the government to individuals or entities for their **original creations** including inventions, literary and artistic creations, designs, and symbols, names, or images used in commerce.

These rights provide creators with exclusive control over the **use, sale and distribution** of their creations for a specified period, safeguarding them from unauthorized use and promoting innovation by recognizing and rewarding creative efforts.

There are several distinct kinds of IPR, each safeguarding different types of intellectual creation:

Sr. No.	Kind of IPR	Types of Intellectual Creations Protected by IPR	Examples	Governing IP Law in India
1	Patent	New inventions or discoveries (products or processes) that are novel, non-obvious and industrially applicable	Drug formulation, machinery, new chemical processes, medical device	The Patents Act, 1970 (amended in 2005)
2	Copyright	Original literary, dramatic, musical, artistic works, cinematographic films, sound recordings and software	Books, movies, paintings, software codes	The Copyright Act, 1957 (amended in 2012)
3	Trademark	Distinctive signs, symbols, words, or logos used to identify and distinguish goods or services	Tata, Reliance, Amul logo, Airtel jingle	The Trade Marks Act, 1999
4	Design	Aesthetic shape, configuration, pattern or ornamentation of an article	Bottle shape, smartphone design, furniture look	The Designs Act, 2000

5	Geographical Indication (GI)	Products originating from a geographical region with qualities linked to that place	Darjeeling Tea, Mysore Silk, Banarasi Sarees	The Geographical Indications of Goods (Registration and Protection) Act, 1999
6	Trade Secret	Undisclosed business information giving competitive edge. Protection may be done in the form of confidentiality agreements.	Coca-Cola formula, customer lists	Not governed by a separate IP law; but Protected under contract law, equity and common law principles
7	Plant Variety Protection (PVP)	new, distinct, uniform, and stable plant varieties.	New rice, wheat or cotton variety developed through breeding	The Protection of Plant Varieties and Farmers' Rights Act, 2001
8	Semiconductor Integrated Circuit Layout Design	Original layout design of integrated circuits	Microchip and processor layouts	The Semiconductor Integrated Circuits Layout-Design Act, 2000

Constitutional Basis of Intellectual Property Rights in India:

The aspects of Intellectual Property Rights fall under **Item 49** of the **Union List (List I) in the Seventh Schedule** to the Constitution of India. As per Item 49, matters relating to *"patents, inventions and designs; copyright; trademarks and merchandise marks"* fall under the exclusive legislative jurisdiction of the Parliament of India. This provision empowers the Union Government to enact laws on various aspects of intellectual property rights.

Why is IP Important?

- Intellectual property is a cornerstone for **fostering innovation, entrepreneurship and economic growth.** Following are the reasons why IP is so important for building a strong innovation ecosystem of the country.
- **Incentivizing creativity:** IP rights grant creators exclusive control, allowing them to regain time and investment, thereby encouraging ongoing innovation.
- **Monetary Benefits:** The main advantage of having IP are guarantee of returns of R&D expenses, exclusive rights and increase in value of the company.
- **Promotes Knowledge Sharing:** Encourages public disclosure of inventions in exchange for protection, contributing to the global knowledge base.
- **Drives Economic Growth:** IP assets contribute significantly to GDP, attract foreign investment and enable monetization through licensing, technology transfer and commercialization.
- **Promotes Collaboration:** IP can be leveraged as collateral, licensed for revenue or used to attract institutional partnerships key for initiatives like TISC collaborations.
- **Protecting consumers and brand integrity:** Trademarks help consumers identify authentic products and maintain trust, while IP enforcement combats counterfeiting.
- A robust IP strategy unlocks licensing opportunities, access to funding and value-enhancement for businesses.
- **Access to Government Support:** In India and globally, inventors with IP rights can access government schemes, grants and startup incentives, particularly through programs like: Startup India; MSME IP facilitation

THE HISTORICAL BACKGROUND AND EVOLUTION OF IP LAWS IN INDIA

Early Legislation (British Era)

1856 The first legislation in India relating to patents was the Act VI of 1856. The objective of this legislation was to encourage inventions of new and useful manufactures and to induce inventors to disclose secret of their inventions

1857 The Act was repealed by Act IX of 1857 due to lack of British Crown's approval.

1859 *Act XV* of 1859 introduced; granted exclusive privileges only for useful inventions; extended priority period to 12 months.

1872 Consolidated into The Patterns and Designs Protection Act to include designs.

1883 & 1888 Amendments to align Indian law with UK law, protecting novelty and exhibition disclosures.

Consolidation under Patents and Designs Act, 1911

1911 The Indian Patents and Designs Act, 1911, (Act II of 1911) replaced all the previous Acts. This Act brought patent administration under the management of Controller of Patents for the first time.

1920 Priority rights with foreign countries

1930 Provisions for secret patents, government use, rectification of register and term extension from 14 years to 16 years.

1945 Introduced filing of provisional specifications and 9-month deadline for complete specification.

Post-Independence Reforms

1949 After Independence, it was felt that the Indian Patents & Designs Act, 1911 was not fulfilling its objective. It was found desirable to enact comprehensive patent law owing to substantial changes in political and economic conditions in the country. Accordingly, the Government of India constituted a committee under the Chairmanship of Justice (Dr.) Bakshi Tek Chand, a retired Judge of Lahore High Court, in 1949 to review the patent law in India in order to ensure that the patent system is conducive to the national interest.

Justice Bakshi Tek Chand Committee recommended: reforms to prevent abuse of patent rights; and suggested compulsory licensing for food, medicines and essential devices.

1950 & 1952 Amendments to enforce compulsory licensing and public interest provisions.

Rajagopala Ayyangar Committee & Major Reform

1957 Committee formed; submitted its report in 1959; recommended retaining patent system but with major reforms and formed the basis of the Patents Bill, 1965, which lapsed.

1967 Revised bill introduced, referred to Joint Parliamentary Committee

1970 Enactment of the Patents Act, 1970 (repealed 1911 Act for patents; however the 1911 Act continued to be applicable to designs).

1972 Most provisions of the 1970 Act came into force on 20th April 1972 with publication of the Patent Rules, 1972.

Post-TRIPS (Trade-Related Aspects of Intellectual Property Rights) Amendments

1995 India joined WTO and became **TRIPS compliant.**

1999 *Patents (Amendment) Act, 1999: introduced a mailbox system that permitted the filing of product patent applications, particularly in pharmaceuticals and agrochemicals. However, the examination of these applications was deferred and scheduled to begin only after 31st December 2004.* Meanwhile, the applicants could be allowed **Exclusive Marketing Rights (EMR)** to sell or distribute these products in India, subject to fulfilment of certain conditions.

2002 *Patents (Amendment) Act, 2002* – introduced significant changes and replaced Patent Rules, 1972 with **Patent Rules, 2003.**

2005 *Patents (Amendment) Act, 2005* – came into force from **1st January 2005**. Allowed product patents in pharmaceuticals and agrochemicals in compliance with TRIPS.

A Brief Overview of Major Amendments to the Indian Patents Act

Sr. No.	Year of Amendment	Key Changes Introduced	Impact
1	1999	Introduced Mailbox Facility for product patent applications. Allowed Exclusive Marketing Rights (EMRs); **EMRs valid for 5 years** or until product patent granted	First step toward TRIPS compliance
2	2000	Amended definitions of invention. Introduced **compulsory licensing provisions.** Allowed **publication of patent applications** after 18 months. Patent term fixed to **20 years** for all inventions.	Made the law more TRIPS-compliant; improved transparency and accessibility of patent system
3	2005	Allowed product patents in all fields including pharma. EMRs removed. Modified pre-grant and post-grant opposition mechanisms. Removed provisions excluding product patents in food, chemicals, and drugs.	Fully implemented TRIPS; significant impact on **pharmaceutical** sector and innovation landscape.

Under the provisions of section 159 of the Patents Act, 1970 the Central Government is empowered to make rules for implementing the Act and regulating patent administration. Accordingly, the Patents Rules, 1972 were notified and brought into force w.e.f. 20.4.1972. These Rules were amended from time to time and a brief overview is as given below;

A Brief Overview of Major Amendments to the Indian Patents Rules:

Sr. No.	Year of amendments	Key amendments	Impact
1	1972	Introduced rules under the Patents Act, 1970	Created the foundation for patent filing, grant, and administration
2	2003	Replaced 1972 rules, enabled e-filing, modern forms	Modernized and digitized the Indian patent system
3	2005	Allowed product patents, revised opposition process	TRIPS compliance; important for pharma and chemicals
4	2006	Introduced Form 27 (working of patents), email & digital signature filing	Increased transparency and promoted digital filings
5	2016	Introduced expedited examination for startups, full e-filing, video hearings	Faster patent processing, especially for startups and innovators
6	2019	Extended expedited exam to more applicants (e.g., women, govt), reduced fees for education sector	Promoted inclusive innovation and ease for academic institutions
7	2020	Simplified Form 27, submission once a year for multiple patents	Reduced compliance burden on patentees
8	2021	Recognized educational institutions as a separate category with reduced fees	Encouraged research and patent filings by academic bodies
9	2024	Ø RFE deadline reduced to 31 months (earlier it was 48 months) Ø Form 3 simplified Ø Grace period allowed (Form 31) Ø Form 27 now once in 3 years Ø Inventor certificate (Form 8A) Ø Filing of Divisional application from provisional specification allowed Ø Time-bound opposition process	Major procedural ease, faster grants, reduced paperwork, inventor recognition

10	2025 –not in force yet [Draft Patent (Amendment) Rules, 2025]	Ø Introduced adjudication for offences (via Jan Vishwas Act) Ø Introduced Electronic complaint (Form 32) & appeal (Form 33) Ø Digital communication & penalties structure Higher fines for non-compliance: • Unauthorized patent claims: ₹10 lakh + ₹1,000/day • Failure to furnish info: up to ₹1 lakh + ₹1,000/day; false info: min ₹25 lakh Ø Penalty for Unauthorized practice by non-registered patent agents : INR 5 lakh + INR 1,000 per day for ongoing offenses.	Streamlined enforcement and introduced civil penalties instead of criminal prosecution.

These amendments make the Indian patent system more transparent, streamlined and aligned with global best practices and international compliance standards, thereby enhancing ease of innovation and protection for inventors. The filings for IP rights have considerably increased and the Intellectual Property Offices are also getting revamped in terms of capacity building. The Patent Office started functioning as International Searching and Examining Authority since October 2013. It is encouraging to note that more applicants are now choosing IPO for international search. Applicants registered as Start-ups and those who have chosen Indian Patent Office as ISA or IPEA in the corresponding international application can avail of the facility of Expedited Examination. To ensure quality in all our operations, a dedicated Quality Assurance Division has been set up in the Patent Office.

India's Role in the International IP Landscape

India plays a dual role in the international IP landscape as a responsible global IP player committed to international treaties, and as a proponent of equitable access and public interest.

India is the member of Major International IP Treaties; details are given below:
WTO – TRIPS Agreement: India is a founding member of the World Trade Organization and complies with the **TRIPS Agreement** (1995), aligning its IP laws with global standards.
WIPO: India is a member of the **World Intellectual Property Organization** and has signed several key treaties:

- Paris Convention (1883)
- Berne Convention (1886)
- Patent Cooperation Treaty (PCT) (1998)
- Madrid Protocol (for trademarks) (2013)
- Budapest Treaty (for microorganisms) (2001)
- Marrakesh Treaty (for access to published works by visually impaired persons) (2014)

Integration of India's TKDL into global patent search systems: India plays crucial role in promoting Traditional Knowledge and Biodiversity via developing the Traditional Knowledge Digital Library (TKDL) to prevent biopiracy and misuse of Indian traditional knowledge in international patent systems. The TKDL is successfully integrated into key global patent search systems, including the EPO, USPTO and WIPO, enabling international patent examiners to prevent the grant of patents on traditional knowledge that already exists in the public domain.

India's evolving IP framework stands at the crossroads of tradition and technology, empowering innovation while ensuring that its IP laws remain modern, inclusive and globally aligned, fostering a future-ready ecosystem for creators and entrepreneurs.

Chapter 2
THE DIFFERENT KINDS OF IP

The Main IP Rights:

The core forms of Intellectual Property Rights i.e. Patent, Trademark, Copyright and Design; play a crucial role in protecting the creations of the mind, offering legal recognition and exclusive rights to inventors, artists, designers and brand owners, thereby fostering innovation, creativity and economic growth.

a) Patent: A **patent** refers to the **exclusive right granted by the Indian government** to an inventor or assignee for an **invention**, which is **New** (novel); Involves an **inventive step** and is **capable of industrial application** (as per **Section 2(1)(j)** of the Act). It allows the patent holder to **make, use, sell, offer for sale and import** the patented product or process for a **limited period.** Term of protection is **20 years from the filing date.**

b) Copyright: **Copyright is an exclusive legal right granted to the creator of original works of authorship,"** including **literary, dramatic, musical and artistic works, and cinematograph films and sound recordings.** Copyright confers the creator the exclusive right to **Reproduce** the work in any form (print, digital, etc.); **Publish or perform** the work publicly; **Translate or adapt** the work into other formats or languages; Distribute the work commercially (sell, rent, broadcast, etc.); **Authorize others** to exercise any of these rights (through licensing or assignment). **Term of protection is Lifetime of the author plus 60 years after their death** (for literary, artistic works).

c) Trademark: "Trademark" means a mark capable of being represented graphically and which is capable of **distinguishing the goods or services of one person from those of others and may include the shape of goods,** their **packaging** and **combination of colors**. Trademark registration helps consumers identify the source of goods or services; Protects the reputation and goodwill of a brand; Grants the owner the exclusive right to use the mark and take legal action against infringement. **Term of protection is 10 years from the date of registration; renewable indefinitely every 10 years.**

d) Design: "Design" means only the features of **shape, configuration, pattern, ornament or composition of lines or colours applied to any article,** whether in two-dimensional or three-dimensional form or in both forms, by any industrial process or means, which in the finished article appeal to and are judged solely by the eye. Design registration provides protection to original, new and visually appealing designs; prevent unauthorized copying of industrial designs; encourage innovation in product look and feel. **Term of protection is 10 years initially, extendable by 5 more years (total 15 years).**

Other forms of IP:

Apart from Patents, Trademarks, Copyrights, and Designs, Indian law also recognizes several specialized forms of Intellectual Property Rights that protect traditional knowledge, agricultural innovation, confidential business information, and technological designs. These include:

- **Geographical Indications (GIs),** protected under the Geographical Indications of Goods (Registration and Protection) Act, 1999. GIs are used to identify goods originating from a specific geographical location that possess qualities, reputation or characteristics unique to that region—for example, Darjeeling Tea, Banarasi Sarees, Basmati Rice, Phulkari and Mysore Sandalwood. Term of protection is 10 years (renewable indefinitely every 10 years).
- **Trade Secret:** Trade secret refers to confidential business information such as formulas, methods, or strategies that provide a competitive edge. Although trade secrets are not governed by a specific statute in India, they are protected through contractual agreements and confidentiality clauses. Term of protection is not fixed can lasts as long as secrecy is maintained.
- **Protection of Plant Varieties and Farmers' Rights (PPVFR):** PPVFR is a specialized law that grants rights to both plant breeders and farmers for developing or conserving plant varieties. India is one of the few countries that officially support both farmers' rights and plant breeders' work. For example, farmers and breeders can register new crop varieties if they are clearly different, consistent and reliable. Term of protection is 15 years for crops and 18 years for trees and vines.
- **Semiconductor Integrated Circuits Layout-Design:** Semiconductor Integrated Circuits Layout-Design rights protects the original layout designs of semiconductor integrated circuits used in electronic devices. These layout-designs must be original and not commercially exploited for more than two years before registration. The law ensures that creators of complex chip designs receive exclusive rights over their configurations. Term of protection is 10 years from date of filing or first commercial exploitation, whichever is earlier.

These unique types of IP protection reflect India's commitment to building a comprehensive IP ecosystem that supports both new inventions and age-old traditional knowledge.

Overlapping IP Rights

Overlapping Intellectual Property (IP) Rights arise when a single product, innovation, or creation is safeguarded by multiple types of IP protection. The strategic use of overlapping intellectual property (IP) rights plays a crucial role in maximizing the protection value, and longevity of innovation. When a single product, creation, or innovation is safeguarded by more than one form of IP such as patents, trademarks, copyrights or design rights; it creates a layered defense that offers several key advantages.

Importance of Overlapping Intellectual Property Rights

- **Strengthen Legal Protection:** If one form of IP is challenged or expires, others can still offer protection. For example, a product design might lose patent protection but remain protected by copyright or design rights.
- **Enhance Enforcement Power:** Multiple IP rights provide more legal tools to prevent unauthorized use. A company can choose the most effective or favorable legal route depending on the situation.
- **Increase Commercial Value:** Investors and collaborators often place greater value on products with robust IP portfolios, as such portfolios indicate lower risk and a stronger market position.
- **Create Competitive Advantage:** Layered IP protection makes it harder for competitors to copy or imitate a product, helping maintain market exclusivity.
- **Support Long-Term Strategy:** Different IP rights last for different periods (e.g., patents vs. trademarks), so overlapping them can ensure longer-lasting protection overall.

In essence, overlapping IP rights form a comprehensive and flexible framework that not only defends innovation but also enhances its market potential and strategic significance.

Example of overlapping IP Rights:

1) A **smartphone** is a complex product involving various elements:

- ***Aesthetic appearance*** *protected under* ***Design Rights:*** The **aesthetic appearance** of the smartphone, including its shape, color and layout of the user interface, can be protected under the **Designs Act.** This safeguards the visual appeal and unique look of the device.
- ***Technical invention protected under Patent Rights:*** The **technical inventions** behind the smartphone, such as new hardware components, battery technology or innovative camera mechanisms, can be protected by patents. Software-related inventions may also qualify if they meet patentability criteria.
- ***Software programs and applications*** *protected under* ***Copyright:*** The **software programs and applications** running on the smartphone, the operating system's source code, as well as original artistic works like icons, graphics and user manuals, are protected under **copyright law.**
- ***Brand name protected under Trademark Rights:*** The **brand name**, logos, slogans and even the distinctive shape of the smartphone (if it has acquired distinctiveness) can be protected as **trademarks,** helping consumers identify the source of the product.

A smartphone exemplifies how a single product can embody multiple forms of innovation ranging from technical inventions and software code to creative design and brand identity. By leveraging overlapping IP rights such as patents, design rights, copyrights and trademarks, the product can be comprehensively protected and its value fully secured in the marketplace.

1)A **new pharmaceutical drug** often involves multiple layers of intellectual property protection.

- *Active Pharmaceutical Ingredients (APIs) or process to synthesis drug protected under* **Patent Rights:** The **API** or the **process to synthesize** the drug is usually protected by patents. This grants exclusive rights to manufacture, sell or use the drug for 20 years from the patent filing date.
- **Brand name** *protected under* ***Trademark Rights:*** The **brand name** of the drug (e.g., "Panadol" or "Crocin") and its logo are protected by trademarks. This helps consumers identify the source and assures quality.
- ***Instruction leaflet and promotional material*** *protected under Copyright:* The ***instruction leaflet, or promotional literature*** related to the drug is protected under copyright law.
- ***Unique shape of drug pills protected under Design Rights:*** The **unique shape or appearance** of the drug's pill or packaging (if novel and distinctive) can be protected under design law.

This multi-layered strategy ensures the drug remains commercially protected long after core patents expire.

Chapter 3
PATENTS AND DESIGNS: PROTECTING INNOVATIONS AND CREATIONS

What is a Patent?

A patent is a legal right granted by the government to an inventor, allowing them to make, use, sell or share their invention for up to 20 years. Term of patent is 20 years (counted from date of patent filing).

Few Examples of innovation -process/product, that can be patented:

- *A new process to make bricks that uses 30% less water and dries faster;* as this innovation employs a novel manufacturing process and offers technical advantages in terms of water and time savings.
- *A Plant-Based Pesticide Composition with Insecticidal Activity and Bee-Safe Properties;* this invention employs novel composition with better safety and performance.
- *A Rapid Method for Producing Organic Fertilizer from Kitchen Waste;* this innovation employs new process that uses special microbes, enzymes or a unique step (like heat, aeration, or pH control) that speeds up decomposition.
- *A Compact Foldable Solar Panel Device for remote use;* this invention employs a foldable frame and flexible PV units, enabling compact storage and easy transport; thus having technical edge over the existing traditional portable solar.

Importance of Patent : Patent protection transforms ideas into income

- A patent gives inventor a legal right to protect his/her invention and to profit from it.
- A granted patent can attract investors, buyers or government grants.
- It helps prevent copycats or large firms from exploiting your idea.
- Patents are valuable business assets and often the basis for startups and licensing deals.
- Patents help in getting government tenders or public sector adoption (especially in sectors like agri-engineering, smart infrastructure and renewable energy).

For example: Tata Power Solar Systems Ltd patent portfolio plays a significant role in enhancing its competitive edge in the solar water pumping market. Under the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) Scheme, Ministry of New and Renewable Energy, (MNRE), the government invited tenders for supplying solar pumps to farmers. Patent protection gave the company a competitive advantage and allowed it to claim superior efficiency, exclusivity of technology and IP-backed innovation. As a result, the company successfully secured the tender. The granted patents strengthened their position in multiple state tenders.

Key risks of not filing a Patent

- Without patent protection, anyone can copy inventor's idea. Only patents can legally stop others from copying inventor's idea.
- Competitors can offer inventor's invention at lower prices, especially if they don't bear the R&D costs. Thus inventor will lose profit potential.
- Patents enable inventor to license or sell rights to his invention. Without patent protection, that revenue opportunity disappears.
- If another party files a patent on a similar concept before the true inventor, they can block him from using it even if he invented it.
- Investors typically prefer ventures with strong IP protection. Without a patent, inventor may struggle to secure funding or partnerships.

Patent - A Territorial Right:

A patent is a territorial right. It provides exclusive rights to the inventor only within the country where the patent is granted and recognized by law.

For example if a patent is granted in **India, it is valid only in India** and does **not** give the patent holder rights in the **USA, China, Europe,** etc., unless patents are filed and granted in those countries too.

There is **no such thing as a "worldwide patent"** or "Global Patent".

Eligibility Criteria for Patent Protection in India:

Patents can only be filed for inventions that meet the patentability criteria of novelty, inventiveness, and usefulness.

- **Novelty (New) i.e.** It should not exist before anywhere in the world. Novelty means that the invention must not have been published in India or elsewhere, must not have been publicly known or used prior to the filing and must not have been previously claimed in any patent specification filed in India or elsewhere.
- **Inventiveness (Unique and not obvious) i.e.** It should show some technical improvement or advantage over the existing solutions. An invention must have technical features that makes invention not obvious to a person skilled in the art
- **Industrial Applicability (Usefulness)** i.e. It must be practical. It should be usable in any kind of industry, including agriculture, manufacturing, or healthcare.
- **Invention should not fall under section 3 & 4** (indicating non- patentable inventions) of Indian Patent Act, 1970.

Non-Patentable Inventions:

The Section 3 of Indian Patents Act, 1970 explicitly defines a set of inventions that are not eligible for patent protection, regardless of their novelty or industrial applicability.

- **Section 3(a)** excludes any invention that is *frivolous or contrary to well-established natural laws*. For instance, claims involving perpetual motion or defiance of gravity without scientific basis fall under this clause.

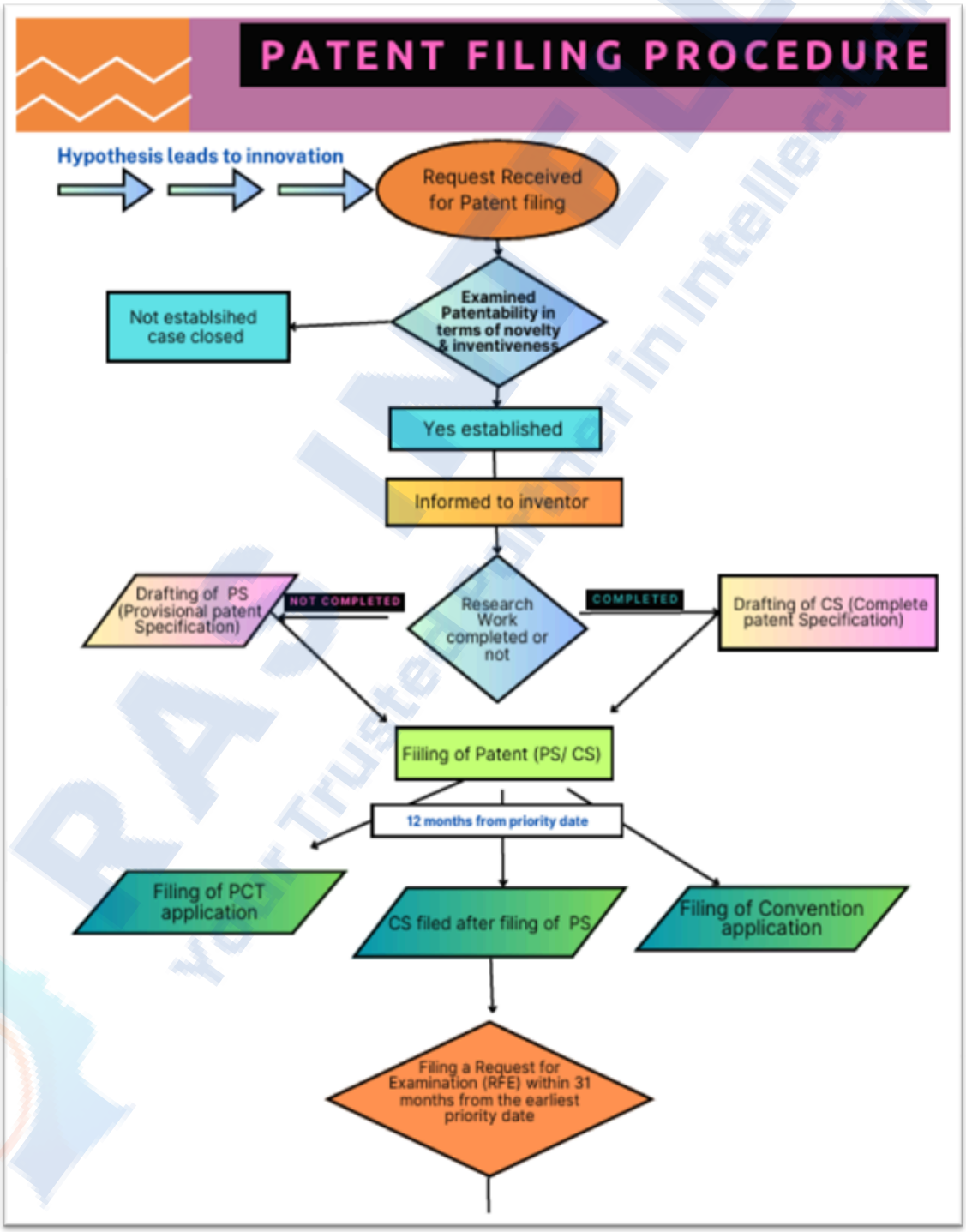
- **Section 3(b)** prohibits the patenting of inventions whose primary or commercial exploitation could be *contrary to public order or morality, or cause serious harm to human, animal or plant life or health or to the environment.* For example: a Biological weapons or A device to assist suicide. This sub section ensures that ethical and environmental considerations take precedence over commercial interests.
- **Section 3(c)** excludes the *mere discovery* of a scientific principle, the *formulation of an abstract theory,* or any *living or non-living substance occurring in nature.* For example Discovery of gravity or Discovery of a naturally occurring bacteria strain in soil.
- **Section 3(d),** mere discoveries of *new forms, properties or uses of a known substance* such as salts, esters or polymorphs are not patentable unless they significantly enhance the known efficacy of the substance. This clause aims to prevent "evergreening" of patents.
- **Section 3(e)** bars the patenting of *substances obtained by mere admixture,* where the resultant product is only an aggregation of the properties of its components, without a synergistic effect. e.g. Mixing Two Analgesic Drugs without any synergistic therapeutic effect.
- **Section 3(f),** a *mere arrangement or duplication of known devices*, each functioning independently in a known way, is not considered an invention. e.g. A fan combined with a light where both operate independently.
- **Section 3(h)** excludes *methods of agriculture or horticulture* from patentability, protecting traditional and essential public domain practices in farming.
- **Section 3(i)** prohibits patents on *medical, surgical, curative, prophylactic, diagnostic or therapeutic* treatments for humans or animals, maintaining accessibility of healthcare practices to the public.
- **Section 3(j)** bars the patenting of *plants and animals in whole or in part* (except microorganisms), including *seeds, varieties and species,* as well as any *essentially biological processes* for their *production or propagation.* However, microorganisms, if they meet the basic patentability criteria, may be patented in India.
- **Section 3(k)** excludes *mathematical or business methods, algorithms and computer programs* per se from being considered inventions, unless they demonstrate a novel technical application beyond the software itself.
- **Section 3(l)** excludes *mere schemes, rules or methods of performing mental acts or methods of playing games.*
- **Section 3(m)** states that *mere presentations of information* are not inventions.
- **Section 3(n)** rules out *topographies of integrated circuits,* as these are protected under a separate law in India i.e. the Semiconductor Integrated Circuits Layout-Design Act, 2000.
- **Section 3(o)** prevents the patenting of any invention which is in *effect a traditional agricultural or horticultural practice,* reinforcing the country's stand on protecting indigenous knowledge and farming systems.
- Finally, **Section 3(p)** makes it clear that inventions which are *traditional knowledge or which are aggregations or duplications of known properties of traditionally known components* are not patentable. This safeguards indigenous wisdom systems such as Ayurveda, Siddha, and tribal medicine from being patented without substantial innovation or modification.

As per Section 4 of Indian Patent Act, any invention related to atomic energy cannot be granted a patent in India. This restriction ensures that sensitive technologies associated with nuclear energy and atomic research are kept under government control due to national security and public safety concerns.

Important point: *If the invention is conceptualized but not fully developed (i.e., the inventor is still building or testing a prototype), a* ***provisional patent application*** *can be filed to protect the novelty of the innovative concept. The benefit of filing a provisional patent is that the inventor receives* ***12 months period*** *(from the date of provisional filing) to improve the process or prototype, test its performance and conduct validation studies. All of this data can be included when filing the* ***complete patent application.*** *However, the inventor* ***cannot add completely new subject matter*** *in the complete specification that was not disclosed in the provisional application.*

If the complete patent application is ***not filed within 12 months,*** *the provisional application will be* ***deemed abandoned.***

Patent Process in India



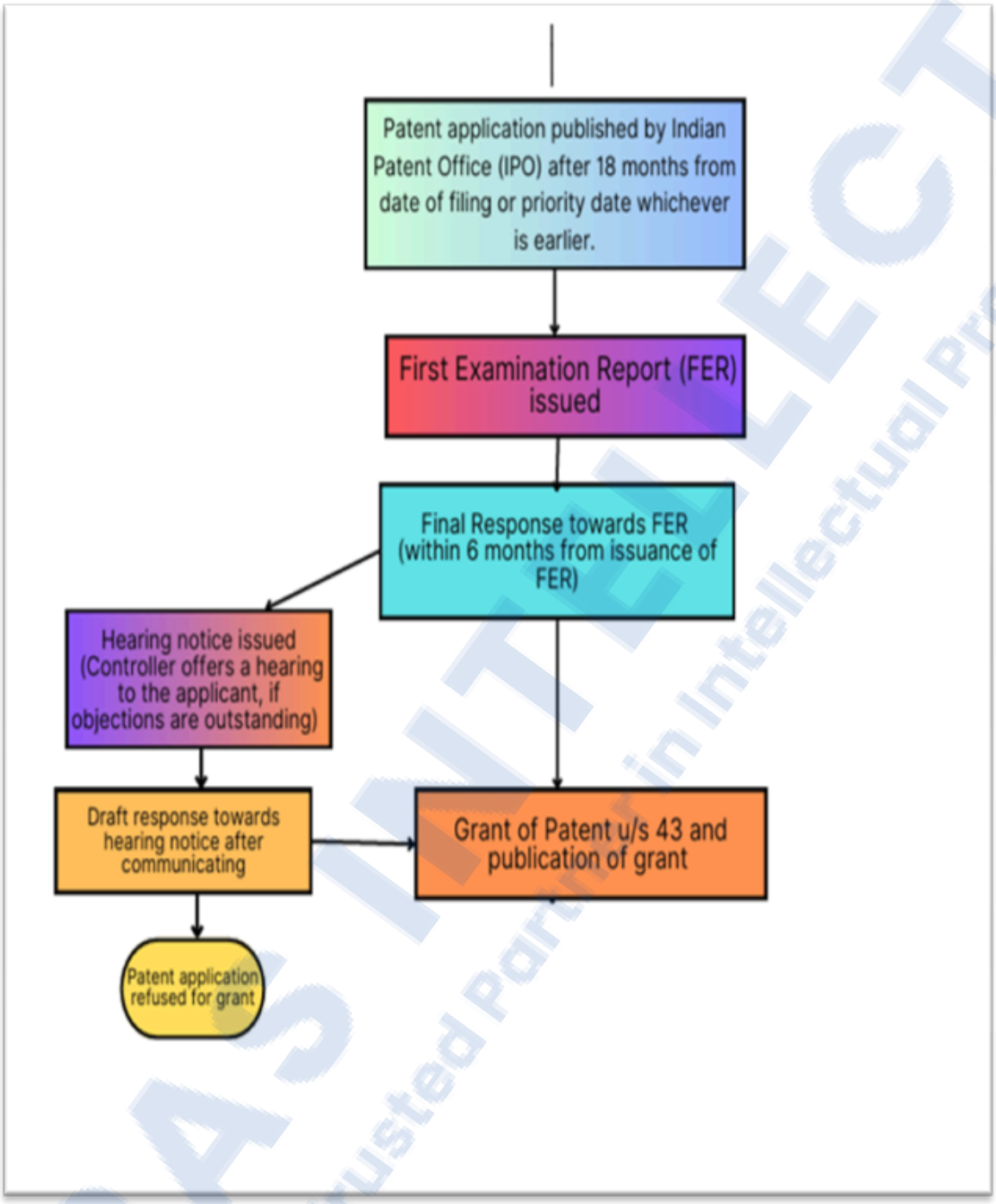


Figure 3.1: Flowchart depicting the patent filing process in India

What is Industrial Design?

A design under the Indian Designs Act, 2000 refers to the visual features of a product such as its shape, pattern, ornamentation, lines or colors that are applied to an article in either 2D, 3D, or both forms. The design must be something that is seen and judged purely by the eye, not related to how the product works.

Any new and original design can be registered under the Design Act, 2000, provided it meets specific criteria i.e.:

- Design must be unique and novel.
- It should not previously published/commercially used in India or elsewhere.

Important point: *If a design has been published, used commercially, or displayed publicly before the date of filing, it loses its novelty, and the patent office will reject it.*

Examples (items that can be registered): Wooden toys and decorative items; golden zari work and floral patterns on fabric, metal handicrafts like vases, lamps, specific designs and patterns derived of Pichwai paintings, Kundan and patterns and stone settings in Meenakari jewelry designs, carved wooden furniture, textile designs- Leheriya, Blue Pottery, Packaging design -Bottle or box design etc.

By registering their designs, the local artisans, manufacturers, and craftsmen can protect their intellectual property, increase their market value, and preserve their cultural heritage.

Damage/losses faced by creators- if design is not registered:

- No Legal Protection: Without registration, others can copy the design, and the creator has no legal right to stop them.
- Lack of Exclusivity: Unregistered designs can be used by anyone, so competitors can easily make and sell similar products.
- Lower Profits: Competitors can copy the design and sell it at a lower price, which can reduce the original creator's profits.
- Reputation Damage: If others copy the design, the creator’s reputation for originality and quality can suffer.
- Missed Business Opportunities: Unregistered designs can’t be licensed or sold as easily, meaning the creator misses out on extra income.

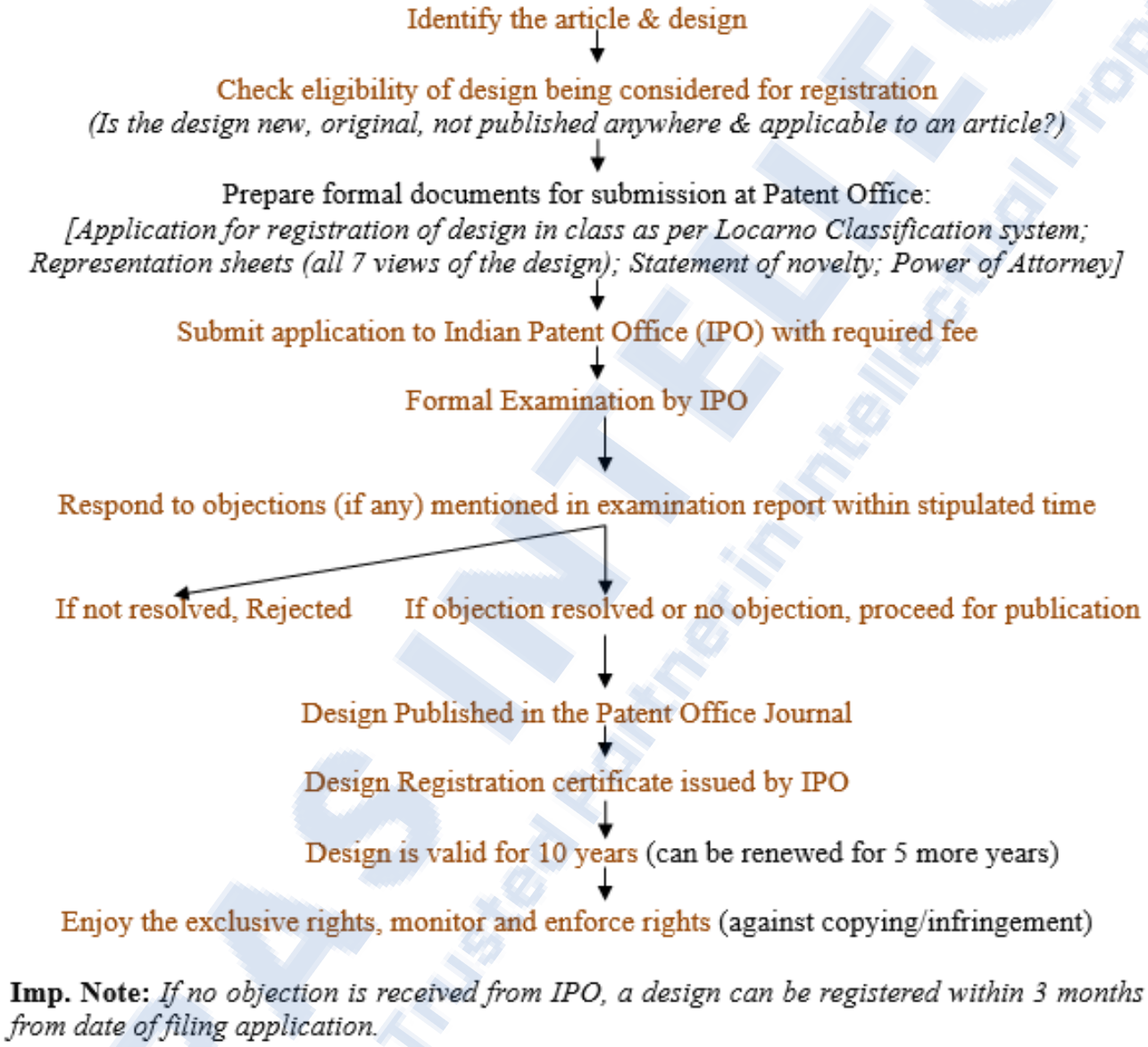
Importance of Design Registration:

A design registration helps to-

- Prevent others from copying your unique designs.
- Build brand trust among high-end buyers, increase the brand’s value and facilitate international expansion.
- Add value to your products and charge better prices
- Get legal protection and take action anywhere in India

Design process in India

The design filing process in India is managed by the Office of the Controller General of Patents, Designs & Trademarks under the Ministry of Commerce and Industry. India offers a robust framework for protecting designs, which is critical for industries reliant on visual appeal, including handicrafts, glass art and furniture design. Detailed step wise procedure is as under;



Imp. Note: *If no objection is received from IPO, a design can be registered within 3 months from date of filing application.*

Figure 3.2: Flowchart depicting the design filing process in India

Chapter 4
COPYRIGHT: THE RIGHT TO CREATE

What is Copyright?

According to the Copyright Act 1957, "Copyright" is a right given by the law to creators of literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings where the right includes, inter alia, rights of reproduction, communication to the public, adaptation and translation of the work.

In other words, "Copyright" is a type of Intellectual property, giving the creator of a creative work an exclusive right to reproduce, publish, sell, make copies, distribute, license, adapt, display, perform, and use the creative work.

Copyright does not protect an idea but its expression. An idea is a concept or a thought or a general theme but the expression of an idea is a specific way expressed through words, images, music, or other creative forms for conveying the idea. For example, if someone writes a poem about the moon being lonely, the theme "loneliness of the moon" is an idea which can not be protected by copyright and anyone can use the theme but the specific words, structure, imagery and all which has been used by the creator to create his original work on the idea "loneliness of the moon" can be copyright protected. Copying the exact line of the poem is not allowed after copyrighting the poem, although others are allowed to use the same idea to create their original and novel poem by using different words.

What is the purpose of Copyright?

- Copyright registration facilitates the creators to have ownership and control over their work, helping them to have a control over the use of his creative work.
- Financial Benefits: Creators can earn royalties by licensing their creative works.
- Legal Protection: Copyright registration helps to have legal protection over a creative work by preventing unauthorised copying, reproduction, distribution of the creative work.

Works which can be Protected by Copyright in India:

- Literary works (including software and databases)
- Dramatic, Musical, and Artistic works
- Cinematograph Films and Sound Recordings
- Pantomimes and choreographic works (if written down, or otherwise expressed in tangible medium)
- Motion pictures and other audio-visual works
- Architectural works

Ownership and Duration of Copyright:

- **Who is the first owner of a registered Copyright?**
  a. The Author, in relation to a literary or dramatic work.
  b. The Composer, in relation to a musical work.
  c. The Artist, in relation to an artistic work other than a photograph.
  d. The photographer, in relation to a photograph.
  e. The Producer, in relation to a cinematograph film or sound recording.
  f. The Producer, in the case of a sound recording.
  g. The Person creating the original work, in relation to any literary, dramatic, musical or artistic work which is computer-generated.

- **Duration of registered copyright protection in India?**
  - The general rule is that copyright lasts for 60 years. In the case of original literary, dramatic, musical and artistic works the 60-year period is counted from the year following the death of the author. In the case of cinematograph films, sound recordings, photographs, posthumous publications, anonymous and pseudonymous publications, works of government and works of international organisations, the 60-year period is counted from the date of publication.

Copyright Registration Process in India:

As shown in Figure 4.1, the online copyright application process in india is as follows:

- Prepare the application including Form XIV along with the Statement of Particulars (SoP) and Statement of Further Particulars (SoFP) and submit it online with requisite fees.
- Following the submission of application, a diary number will be issued which will mark the start of the countdown of mandatory 30-day waiting period for objections.
- The application is examined and request of hearing is generated if required.
- Approval or rejection of the application from the Registrar based on the applicant's response to all types of objections arose during the examination and the 30-day waiting period for objections.
- A certificate of registration is issued and the application officially enters into the Register of Copyrights.

Criteria for registering a Copyright in India:

- The work should be original, and novel.
- The work should be expressed in a tangible form such as written form, recorded form, drawn form, etc.
- The work should fall on the eligible copyright category as per the Indian Government.
- Each work should be of one expression of a particular idea, not infringing any other existing work.

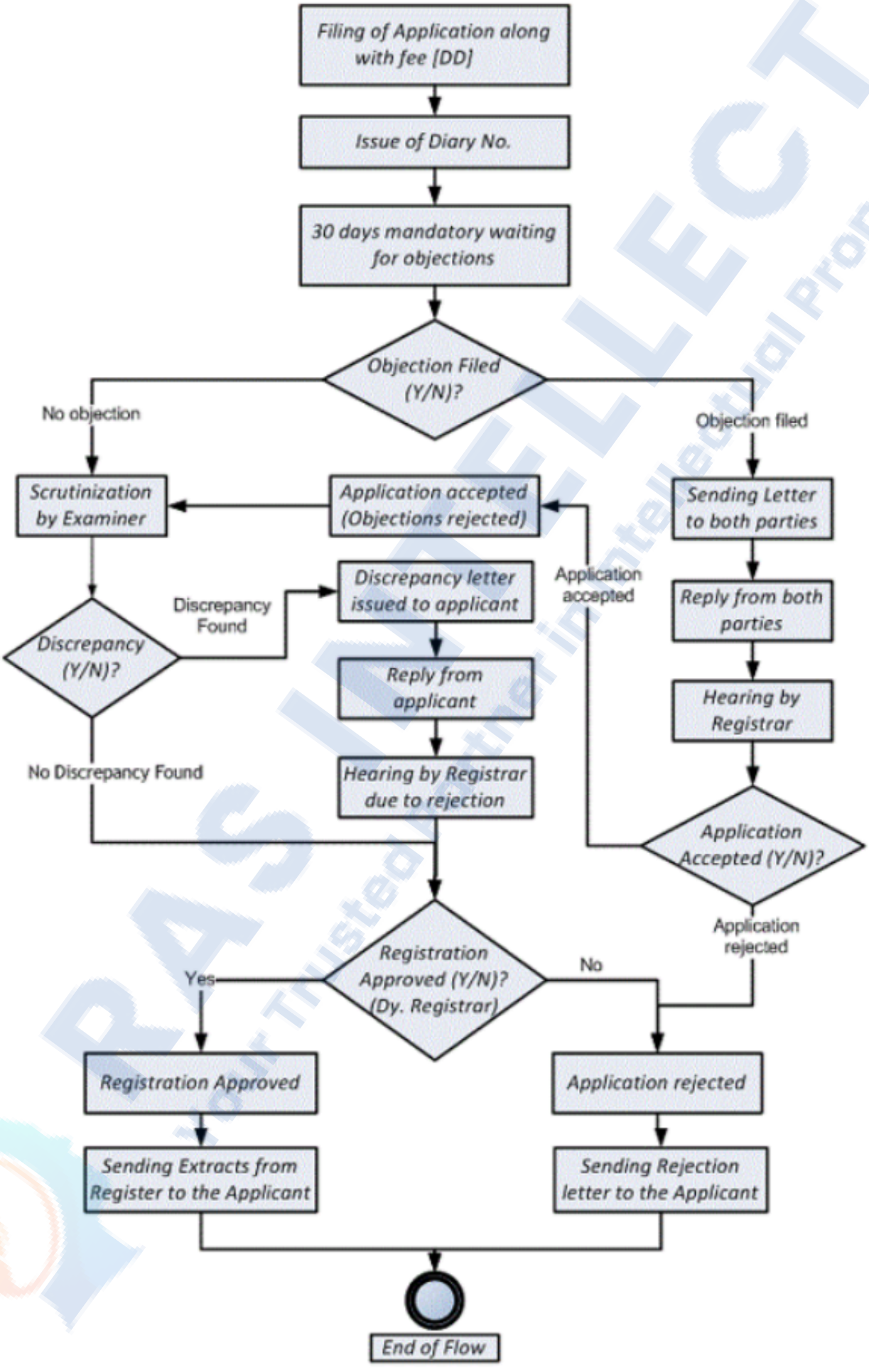


Figure 4.1: Flowchart depicting the copyright registration process in India

Non-Registrable Copyrights in India

- Lack of novelty and originality.
- The work is not expressed in a tangible form.
- The work does not fall on any eligible copyright category.
- The work is an idea not the expression of it.
- The work is not one expression of a particular idea.
- The work is infringing any other existing work.

NOTE:

As per the Copyright Act 1957 and the Copyright Rules 2013

- A "Performer" including an actor, singer, musician, dancer, acrobat, juggler, conjurer, snake charmer, a person delivering a lecture or any other person who makes a live performance of any visual or acoustic presentation, could have the right to make a sound recording or visual recording of the performance, reproduce the sound recording or visual recording of the performance, broadcast the performance, communicate the performance to the public otherwise than by broadcast, which subsists for 25 years.

- "Broadcast" means communication to the public by any means of wireless diffusion, whether in any one or more of the forms of signs, sounds or visual images or by wire where the broadcaster get protection for 25 years for the right to re-broadcast the broadcast, cause the broadcast to be heard or seen by the public on payment of any charges, make any sound recording or visual recording of the broadcast, make reproduction of such sound recording or visual recording where such initial recording was done without licence or, where it was licensed, for any purpose not envisaged by such licence, and sell or hire to the public, or offer for such sale or hire, any sound recording or visual recording of the broadcast.

- Copyrights of works of the countries mentioned in the International Copyright Order are protected in India, as if such works are Indian works.

Chapter 5
TRADEMARKS: BRAND IDENITY AND CONSUMER TRUST

What is Trademark?

Trademark, is a type of Intellectual Property, identifying a particular source of goods or services, helping anyone to distinguish the source from those of others, and preventing confusion of customers. A trademark could be a logo, a word, a phrase, a design, a symbol, a particular shape, a color, a sound, a smell, or any of their possible combination.

According to The Trademark Act 1999, any "mark" which falls under the umbrella of the act and is eligible to get protection under The Trademark Act 1999, could be any of a device name, a brand name, a heading, a label, a ticket, a name, a signature, a word, a letter, numeral, a particular shape of a good, a packaging style, a logo, a slogan, a sound, a color, a symbol, an aroma, combination of colors, or any combination thereof.

What is the purpose of Trademark Registration?

- Registered Trademark identifies, protects a particular brand and grants exclusive rights to use the mark
- Registering a trademark increase the brand value of a company
- A registered trademark offers legal protection against any unauthorized use of it and in case of any dispute the trademark registration makes easier for the owner to win over the dispute
- Protects brands against unauthorized registration of same type of mark by other parties and helps prevent others from using similar trademarks with related goods or services
- Registered trademark acts as a distinct identifier of a particular provider of goods and/or services
- Registered trademark helps to build consumer loyalty assuring the quality of goods and/or services leading to repeat purchases
- Trademark registration helps to have partnerships easily.

Duration of registered Trademark protection in India?

A registered trademark is protected for 10 years since its registration, and after the completion of the initial 10 years the registered trademark could be renewed every 5 years to keep the trademark active indefinitely.

Explanation of Trademark Symbols

TM For **Unregistered** Trademarks

SM For **Unregistered** Service marks

® For **Registered** Trademarks with the Indian Trademark Office.

Types of Trademarks:

A Trademark are be classified into a category based on the form, nature, and the elements it contains. Following are the types of trademarks:

- **Word Marks:** A trademark consisting only of words, letters, or numbers, such as "Nike" or "Coca-Cola", etc.
- **Logo Marks or Design Marks:** A trademark consisting of a design or graphic element, such as the Apple logo, the Nike swoosh, McDonald's golden arches, etc.
- **Combination Marks:** A trademark combining both word and graphic element, such as Adidas where the registered trademark gives protection of both the name and the three iconic stripes, etc.
- **Service Marks:** A trademark for identifying services, not goods, such as FedEx, American Express, etc.
- **Collective Marks:** A trademark, representing an organization or an association and used by its members, such as "Organic" label, "Jewellers of America", etc.
- **Certification Marks:** A trademark indicating a specific standard or criteria, a product is maintaining, such as "Fair Trade Certified", "ISO", etc.
- **Trade Dress:** Overall look or packaging of a product, signifying its source, such as the shape of Coca-Cola bottles, Tiffany blue boxes, etc.
- **Sound Marks:** Trademarks consisting a sound or jingle for identifying a brand, such as NBC chimes, the Intel "bong", etc.
- **Color Marks:** Trademarks consisting of a specific color or a combination of colors, identifying a brand, such as Tiffany blue, John Deere's green and yellow, etc.

Well-Known Trademarks or Well-known marks:

A trademark which has global recognition, even if it is not registered, is known as a Well-Known Trademark or Well-known mark, such as **Coca-Cola, Apple, Nike, etc.** These trademarks have stronger protection against infringement, without the need of having registration, as these are recognized as Well-Known Trademarks or Well-known marks.

Conventional vs. Non-Conventional Trademarks

- **Conventional Trademarks:** Traditional types of trademarks which as widely recognized in this area, graphically representable, commonly used and also straightforward to register and enforce, are known as the conventional trademarks, such as Word marks, Logo marks, Combination marks, etc.
- **Non-Conventional Trademarks:** Unique or less traditional trademarks which go beyond words and logos, often face challenges in proving distinctiveness, making their registration more complex and less common, are known as the non-conventional trademarks, such as sound marks, color marks, shape marks, smell marks, motion marks, taste marks. In India although sound marks and shape marks got recognition, but smell and taste marks are still facing challenges for registration.

The Trademark Registration Process in India

- Conduct a Trademark search to ensure the mark is unique and not conflicting with any existing trademark.
- File an application through the IP India portal once the uniqueness of the trademark is confirmed through proper search. During trademark application one must provide different details about the mark such as applicant's name, address, representation of the trademark, and details about the goods or services, relevant forms along with the fees.
- After submission of application, the application gets examined to ensure it complies with the law and doesn't conflict with any existing trademark. The owner of the trademark receives an examination report bearing objections at this stage for which he needs to respond within a stipulated time for further processing.
- The trademark application gets published in the official trademark journal, giving opportunity to the public to see the proposed trademark and file an opposition if needed. During this phase a four months mandatory waiting period has to be maintained.
- If all the opposition arose during the examination process are successfully addressed and no opposition is received within the four months of publication or all the opposition filed by a third party during the four months mandatory waiting period since publication are addressed successfully, then the applied trademark will be registered, following which the owner will receive a registration certificate granting exclusive rights to use the trademark.
- A registered trademark remains valid for 10 years since the application date, following which one must renew it every 5 years to enjoy the granted exclusive rights over the registered trademark.

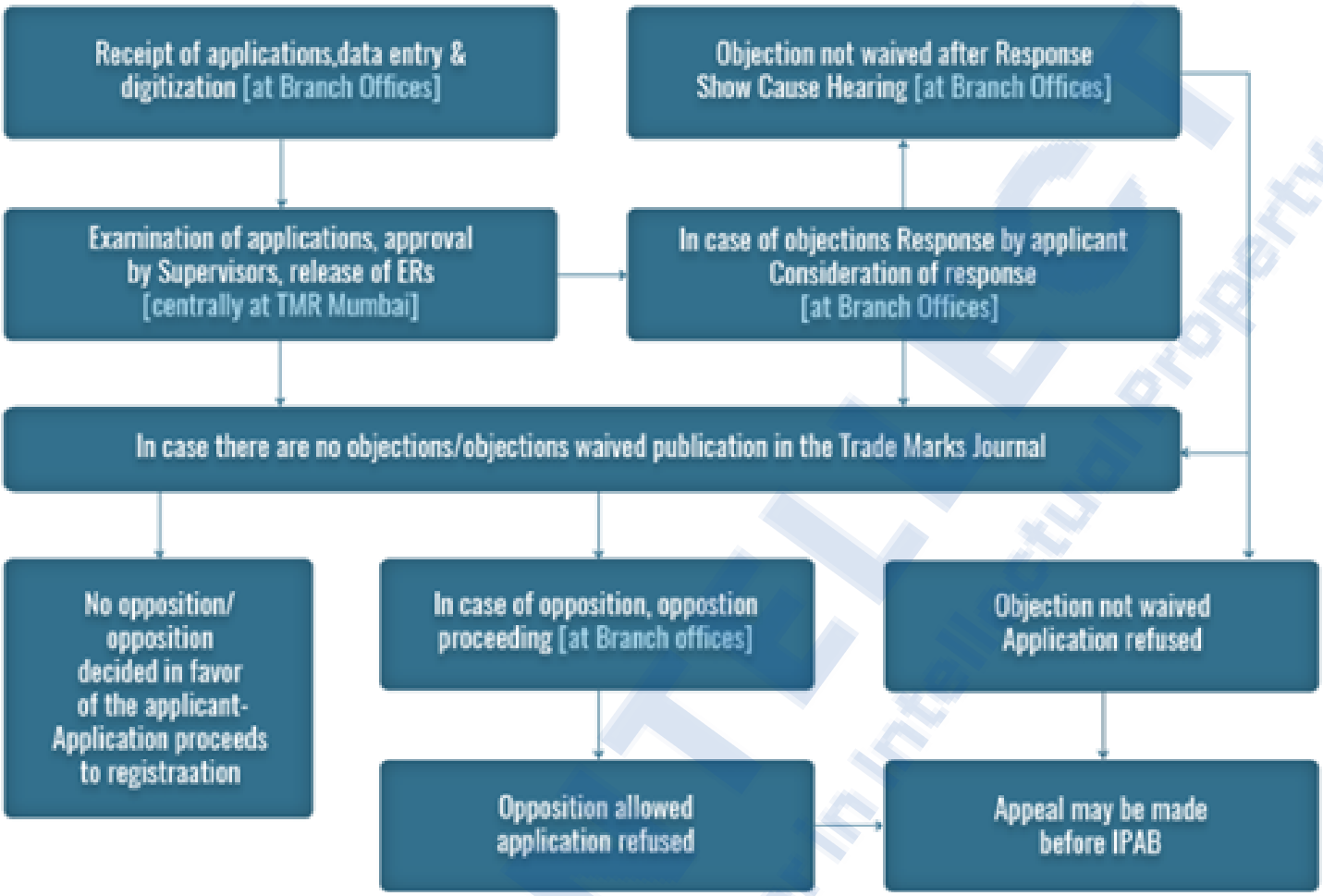


Figure 5.1: Flowchart depicting the trademark registration process in India

Non-Registrable Trademarks in India

- Lack of Distinctiveness: Generic, Common, Descriptive Trademarks.
- Deceptive Marks: Trademarks which can mislead consumers about its nature, quality, and origin.
- Obscene or Scandalous Content: Trademarks having immoral, or offensive language or imagery.
- Trademarks hurting Religious Sentiments: Marks offending religious beliefs of any community.
- Well-known Trademarks: The trademarks similar to any well-known trademarks are not eligible for registration in India.
- Prohibited by Law: National symbols, emblems, well-known names and image.
- Infringing Marks: Trademarks that infringe registered trademarks or copyrighted works.
- Geographical Names, Chemical names, common personal names: Trademarks same as any geographical names, chemical names, common personal names are not registerable.
- Trademarks same as International Non-Proprietary Names (INN) are not registerable.

Criteria for Trademarks in India

- The trademark should be distinguishable
- The trademark should not be generic, or descriptive
- The trademark should be visually represented
- The trademark should not be deceptive or offensive
- The trademark should not be contrary to public morality or order
- The trademark should not include any national symbols, flags, emblems, names, images of living persons, Geographical Indications

Who can file a Trademark Application?

A person who claims to be the proprietor of the trademark in relation to goods and /or services may apply for the registration of a Trademark. For the purpose of making an application of Trademarks, "Person" includes:

- A Natural Person,
- A Body Incorporate,
- A Partnership Firm,
- HUF, Association of Persons (in case of collective Trademarks), Joint Proprietor
- A Trust,
- A Society,
- A Government Authority/Undertaking

NOTE:

As per the Trademarks Act 1999, and the Trade Marks Rules 2017

1. There are 45 classes to distinguish different types of Trademarks, among which 1-34 classes are for Goods and 35-45 classes are for Services.
2. Territorial Jurisdictions of TMR Offices
    - MUMBAI: The State of Maharashtra, Madhya Pradesh, Chhattisgarh and Goa.
    - AHMEDABAD: The State of Gujarat and Rajasthan and Union Territories of Daman, Diu, Dadra and Nagar Haveli.
    - KOLKATA: The State of Arunachal Pradesh, Assam, Bihar, Orissa, West Bengal, Manipur, Mizoram, Meghalaya, Sikkim, Tripura, Jharkhand and Union Territories of Nagaland, Andaman & Nikobar Islands.
    - NEW DELHI: The state of Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Delhi and Union Territories of Chandigarh.
    - CHENNAI: The state of Andhra Pradesh, Telangana, Kerala, Tamil Nadu, Karnataka and Union Territories of Pondicherry and Lakshadweep Island.
3. Trademarks same as International Non-Proprietary Names (INN) are not registerable.

Chapter 6
IP IN THE DIGITAL AGE

The digital age has fundamentally transformed the landscape of intellectual property (IP), bringing with it a unique set of challenges and opportunities. While the core principles of IP law—protecting creations of the mind such as inventions, artistic works and brand identifiers—remain the same, their application in a world of instant global communication and easy replication of digital content is constantly evolving.

The New Frontier of Intellectual Property

Intellectual property in the digital age encompasses a wide array of creations that exist in virtual form. This includes:

- **Copyrights:** Protecting original literary, musical and artistic works. This now extends to e-books, digital music, streaming videos, software code and even viral dance videos and digital art.
- **Patents:** Safeguarding new and useful inventions. In the digital realm, this includes algorithms, computer processes and other technological advancements.
- **Trademarks:** Protecting brand identities. This now covers online logos, domain names and brand identifiers used on social media and e-commerce platforms.

Key Challenges in the Digital Age

The very nature of the internet, with its seamless global reach and ease of sharing, has created significant hurdles for IP protection.

- **Digital Piracy and Copyright Infringement:** The unauthorized reproduction and distribution of copyrighted material, such as movies, music and software, is rampant. File-sharing platforms, unauthorized streaming sites, and the effortless copying of digital files make it incredibly difficult for creators to control their work and receive fair compensation.
- **Online Counterfeiting and Trademark Infringement:** Businesses face the challenge of protecting their brands from impersonation, fake accounts and the sale of counterfeit products that can damage their reputation and mislead consumers.
- **The Rise of AI:** Artificial intelligence presents novel questions about authorship and ownership. Who owns the copyright to a piece of art or a piece of music created by an AI? As AI systems become more sophisticated, existing laws built on the concept of human creativity are being tested.
- **Technological Advancement Outpacing Legal Frameworks:** The speed of technological innovation often outstrips the ability of legal systems to adapt. By the time a new law or regulation is put in place, the technology it was meant to address may have already evolved, presenting new challenges

Opportunities and Solutions

Despite these challenges, the digital age also presents new opportunities and tools for IP management and enforcement.

- **Global Reach and New Revenue Streams:** The internet allows creators and businesses to reach a global audience with unprecedented ease. Platforms like YouTube, Spotify and various e-commerce sites enable creators to monetize their work and build a brand on a worldwide scale.
- **Technological Enforcement:** IP owners are increasingly using technology to combat infringement. This includes:
  - **Digital Rights Management (DRM):** Technologies designed to control access to and usage of digital content.
  - **AI-Powered Monitoring:** AI tools are being developed to detect copyright and trademark violations in real-time, helping to identify and remove unauthorized content.
  - **Blockchain Technology:** Blockchain offers a transparent and immutable ledger that can be used to securely track ownership of digital assets and streamline royalty payments, offering a potential solution to piracy and ownership disputes.
- **Evolving Legal Frameworks:** Legal systems are attempting to catch up with the digital world. International agreements like the WIPO Copyright Treaty of 1996 have been established to protect digital works across countries. Additionally, many national laws are being amended to include provisions for digital content, such as allowing creators to issue takedown notices for infringing content on online platforms.

IP and Biotechnology

Biotechnology, a field that uses living organisms and biological systems to create new products and technologies, has been a driving force of innovation for decades. From genetically modified crops and personalized medicines to industrial enzymes and biofuels, its impact is undeniable. However, the intersection of biotechnology and intellectual property (IP) has ignited a fierce and ongoing debate, primarily centered on the ethical and legal challenges of patenting life forms and biological inventions.

The Foundation of the Debate: Patenting "Products of Nature"

The core of the controversy lies in the fundamental principle of patent law: a patent can only be granted for an "invention" that is new, non-obvious and useful. Traditionally, "discoveries" of natural phenomena, laws of nature and abstract ideas were considered unpatentable. The question that has haunted IP law since the dawn of modern biotechnology is: a genetically modified organism an invention, or is it a discovery of something that already existed in nature?

This question was famously addressed in the landmark 1980 U.S. Supreme Court case, Diamond v. Chakrabarty. Ananda Chakrabarty, a microbiologist at General Electric, had developed a bacterium capable of breaking down crude oil—a property that no naturally occurring bacterium possessed. The Supreme Court, in a 5-4 decision, ruled that this human-made microorganism was a "manufacture" or "composition of matter" and, therefore, patentable. This decision opened the floodgates for the patenting of genetically engineered life forms and marked a turning point for the commercial biotechnology industry.

The Ethical Challenges: Commodifying Life

The legal precedent set by *Diamond v. Chakrabarty* did not quell the ethical outcry. Opponents argue that patenting living organisms or their components—such as genes or DNA sequences—is morally wrong, as it essentially "commodifies" life. This raises profound questions:

- Ownership of Life: Is it ethical to grant a private entity a monopoly over a living organism, a seed or a gene, especially when these are the building blocks of life itself? Critics argue that this turns life into a mere commercial asset.
- Access and Control: Patents grant exclusive rights to the inventor for a limited period. In the context of biotechnology, this can lead to a single company controlling a crucial medical treatment, a life-saving drug or a staple crop. This can restrict research, stifle innovation, and make essential technologies unaffordable, particularly in developing countries.
- Biopiracy and Traditional Knowledge: Many biotechnological inventions, especially in agriculture and medicine, are based on traditional knowledge and genetic resources from indigenous communities. The patenting of these inventions without proper benefit-sharing or recognition is often labeled as "biopiracy," as it allows large corporations to profit from the knowledge and biodiversity of others.

The Legal Challenges: Defining "Invention" in Biology

Beyond the ethical considerations, the legal framework itself struggles to keep pace with the rapid advancements in biotechnology.

- Discoveries vs. Inventions: While the *Chakrabarty* case set a precedent for engineered life forms, the line between a "discovery" and an "invention" remains blurry. Is an isolated human gene, which exists in nature but has been removed and purified by human intervention, a discovery or an invention? The Supreme Court addressed this in the 2013 case *Association for Molecular Pathology v. Myriad Genetics*, ruling that naturally occurring DNA sequences cannot be patented, but cDNA (complementary DNA), which is created in a lab, can be. This distinction highlights the ongoing struggle to define what constitutes a patentable creation in the biological world.
- The "Non-Obvious" Requirement: Patent law requires an invention to be "non-obvious" to a person skilled in the relevant field. In biotechnology, where research is often collaborative and builds upon a vast pool of publicly available data, it can be difficult to prove that a particular genetic manipulation or biological process is not an obvious next step.
- Disclosure and Reproducibility: To obtain a patent, an inventor must provide a detailed written description of the invention sufficient for others to reproduce it. This "enablement" requirement is particularly challenging in biotechnology, where the complexity of biological systems makes it difficult to fully describe an invention in a way that guarantees its reproducibility. The WIPO-administered Budapest Treaty addresses this by allowing for the deposit of a microorganism with a specialized international authority, complementing the written disclosure.

IP and Traditional Knowledge

Traditional knowledge (TK) is a significant part of India's rich cultural and biological heritage. This knowledge, which includes traditional medicinal remedies, agricultural practices and artistic expressions, often exists outside of the conventional intellectual property (IP) framework. However, this has made it vulnerable to misappropriation, often termed "biopiracy," where foreign entities attempt to patent ancient knowledge for commercial gain without acknowledging or compensating its original holders.

In response to this challenge, India has taken a multi-pronged and proactive approach to protect its traditional knowledge and genetic resources from misappropriation. This approach combines legal safeguards with innovative defensive strategies, setting a benchmark for other countries with similar concerns.

India's Strategic Initiatives

To combat this, India has built a robust legal and institutional framework, combining "defensive" protection measures to prevent misappropriation with "positive" measures to assert its rights.

1. The Traditional Knowledge Digital Library (TKDL)

The cornerstone of India's defensive strategy is the **Traditional Knowledge Digital Library (TKDL)**. Established in 2001, the TKDL is a groundbreaking initiative that digitizes and documents India's traditional knowledge, particularly in medicinal systems like Ayurveda, Siddha, Unani and Yoga.

2. Legislative Frameworks

Beyond the TKDL, India has enacted and amended several laws to protect its genetic resources and associated traditional knowledge.

- **The Biological Diversity Act, 2002:** This landmark legislation aims to conserve biodiversity, promote its sustainable use and ensure the equitable sharing of benefits arising from the use of biological resources and traditional knowledge. It mandates that anyone seeking to access biological resources or associated traditional knowledge for research or commercial use must obtain prior informed consent from local communities and share the benefits. The Act established the **National Biodiversity Authority (NBA)** to implement its provisions.
- **The Patents (Amendment) Act, 2005:** This amendment introduced specific provisions to prevent the patenting of traditional knowledge. It states that an invention which is a mere aggregation or duplication of traditional knowledge is not patentable. It also requires patent applicants to disclose the geographical origin of the biological resources and the traditional knowledge used in their invention.

3. International Advocacy

India has been a leading voice in international forums, advocating for the recognition and protection of traditional knowledge. A major victory for India and other developing countries came recently with the **WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge**. This treaty, long championed by India, mandates that patent applicants disclose the country of origin or source of genetic resources and associated traditional knowledge used in their invention. This marks a historic step towards creating a global legal framework that holds users of traditional knowledge accountable.

IP in Entrepreneurship and Startups

Innovation is the key parameter of any startup. The unique ideas, products and services that an entrepreneur brings to market are the very foundation of their business. However, in a competitive landscape, these intangible assets are highly vulnerable to being copied, imitated, or stolen. This is where intellectual property (IP) becomes a critical strategic tool for entrepreneurs and startups, transforming abstract ideas into valuable, defensible assets.

The Four Pillars of IP for Startups

For new businesses, understanding and leveraging the four main types of IP is essential for long-term success.

1. **Patents:** Patents are the most powerful form of IP for protecting new and useful inventions. For a tech or biotech startup, a patent can be a "goldmine," granting the owner exclusive rights to make, use and sell their invention for a set period, typically 20 years. A strong patent portfolio can create a significant barrier to entry for competitors and is a major signal to venture capitalists and investors that a startup's core innovation is legally secured and has long-term value.
2. **Trademarks:** While patents protect what you invent, trademarks protect your brand identity. This includes your company name, logo, slogans and other identifiers that distinguish your products or services from others. A registered trademark is essential for building brand recognition and customer loyalty. For a startup, securing a trademark early on prevents competitors from using a similar brand identity and gives you the legal recourse to protect your reputation and market share.
3. **Copyrights:** Copyrights protect original works of authorship, such as software code, website content, marketing materials, music and art. In the digital age, where a startup's creative output is often its primary product, copyright is an automatic and vital form of protection.
4. **Trade Secrets:** A trade secret is any confidential business information that gives a company a competitive edge. Unlike patents, trade secrets are not registered and their protection is indefinite, as long as the information remains secret. Examples include secret formulas (like the Coca-Cola recipe), customer lists, unique business models and proprietary processes. For a startup, trade secrets can be a cost-effective way to protect core competitive advantages, relying on non-disclosure agreements (NDAs) and internal security protocols to maintain secrecy.

The Strategic Value of IP for Startups

For a new business, IP protection is more than a legal formality—it is a core business strategy.

- **Attracting Investment:** Investors, especially in tech-driven sectors, are often more inclined to fund companies with a well-protected IP portfolio. Patents and trademarks are tangible assets that can significantly increase a startup's valuation and serve as collateral for financing.
- **Securing a Competitive Advantage:** A patent can prevent larger competitors from simply copying a new product, while a trademark helps build a brand that is difficult to replicate.
- **Monetization and Revenue:** Beyond protecting a product, IP can be a source of revenue in itself. Startups can license their patented technology or copyrighted content to other companies, creating an additional income stream without having to manufacture or market the product themselves.

In the fast-paced world of entrepreneurship, innovation alone is not enough. A smart and proactive IP strategy is what transforms a groundbreaking idea into a sustainable and valuable business, safeguarding its future and securing its place in the market.

Chapter 7
CAREER AND OPPORTUNITIES AS A PATENT AGENT

The field of Intellectual Property (IP) offers a specialized and rewarding career path for individuals with a strong foundation in both science or technology and an interest in law. A Patent Agent is a unique professional who serves as a crucial link between innovators and the legal system, ensuring that groundbreaking ideas are properly protected. This chapter explores the diverse career avenues and essential skills for success in this dynamic profession.

The Core Responsibilities and Roles

A patent agent's day-to-day work is a blend of technical analysis, legal drafting and strategic counselling. The primary responsibilities include:

- **Drafting and Filing Patent Applications:**

A patent agent works directly with engineers, scientists and inventors to meticulously understand a new invention. They then translate this complex technical information into a formal patent application, crafting detailed specifications and a set of claims that precisely define the scope of the invention's legal protection. This requires a high degree of precision to ensure the application is legally sound and meets the requirements of the IPO, or other international offices like the European Patent Office (EPO) or those under the Patent Cooperation Treaty (PCT).

- **Patent Prosecution:**

Once an application is filed, it is examined by a patent examiner. The patent agent's role is to manage this process, which is known as prosecution. This involves responding to official communications from the patent office, addressing any objections raised by the examiner, and skillfully refining the claims to secure the patent grant. This iterative process demands strong analytical and persuasive skills.

- **Conducting Searches and Analyses:**

A fundamental part of the job is evaluating an invention's "patentability." This involves conducting extensive prior art searches to determine if the invention is truly new and non-obvious. Additionally, patent agents analyze existing patents to assess potential infringement risks for their clients or to gauge a competitor's IP landscape.

- **Advisory and Strategic Roles:**

Beyond the technical drafting, a patent agent provides strategic advice. They assist clients in developing and managing their IP portfolios, helping them identify what to protect and how to align their patent strategy with their overall business goals. This is particularly valuable for startups and R&D-focused companies.

Career Pathways and Professional Environments

The profession of a patent agent offers a variety of career opportunities and work environments, allowing for a flexible and progressive career path.

- **Law Firms and Corporations:** Many patent agents are employed by specialized IP law firms, where they work on a diverse range of cases for various clients. Alternatively, large corporations with significant R&D departments, especially in technology, pharmaceuticals and manufacturing, hire in-house patent agents to manage and protect their intellectual property assets.
- **Independent Practice and Freelancing:** A patent agent can also choose to work independently, serving as a consultant for startups, small businesses and individual inventors. This path offers greater autonomy and the opportunity to build a personal client base.
- **Transition to Patent Attorney:** For those who wish to expand their legal scope, becoming a patent attorney is a natural progression. After gaining experience and a law degree, a patent agent can represent clients in patent litigation and other legal disputes in a courtroom, a function that only a registered attorney can perform.

Industries that Seek Patent Agents

The demand for skilled patent agents spans across a wide spectrum of innovation-driven industries. This role is crucial in any sector where new technologies or products are developed.

- **Technology and Software:** From new algorithms to mobile applications and hardware, the tech industry relies heavily on patent agents to protect its digital innovations.
- **Pharmaceuticals and Biotechnology:** This sector is particularly IP-intensive, with patent agents being essential for securing protection for new drugs, medical treatments and genetic innovations.
- **Engineering and Manufacturing:** Patent agents are crucial for protecting new industrial designs, manufacturing processes and mechanical inventions.
- **Automotive and Telecommunications:** With rapid advancements in vehicle technology and communication systems, patent agents safeguard innovations in these fields.
- **Energy and Medical Devices:** The growing sectors of renewable energy and sophisticated medical instruments also have a sustained need for IP professionals.
- **Research & Development (R&D) Firms and Startups:** These organizations, which are at the forefront of innovation, are a key source of employment for patent agents who help them translate their initial ideas into protected assets.

Essential Skills for Success

A successful career as a patent agent requires a unique combination of a technical mindset and legal aptitude. The key skills include:

- **Technical Expertise:** A foundational degree in a science, technology, engineering, or medical (STEM) field is non-negotiable. This expertise is vital for understanding the technical intricacies of an invention.
- **Legal Acumen:** A solid grasp of national and international patent laws, rules, and procedures is crucial for navigating the patent system.
- **Analytical Skills:** The ability to dissect complex technical and legal information, evaluate an invention against patentability criteria (novelty, inventive step), and anticipate legal challenges is paramount.
- **Exceptional Communication:** Excellent written communication is essential for drafting clear, precise patent applications. Verbal communication is equally important for effectively interacting with inventors and legal professionals.
- **Attention to Detail:** The legal and technical precision required in patent work means that a high level of attention to detail is a fundamental skill.

The career path for a patent agent offers continuous growth. One can begin as a junior agent, move up to a senior role, and eventually assume leadership positions as an IP head or a partner in a law firm. As technology continues to advance at an unprecedented pace, the demand for skilled and knowledgeable patent agents will only continue to grow, making it a fulfilling and future-proof career choice for those who are passionate about both science and law.

List of Forms

FORM NO.	TITLE OF THE FORM	GOVT. FEES IN RS
1	**Application for Grant of Patent**	(E1) 1600, (E2) 8000 (P1) 1750, (P2) 8800
2	**Provisional/Complete Specification**	(E1) NA, (E2) NA (P1) NA, (P2) NA
3	**Statement and Undertaking**	(E1) NA, (E2) NA (P1) NA, (P2) NA
4	**Request for Extension of Time**	(E1) 480, (E2) 2400 (P1) 530, (P2) 2600
5	**Declaration as to Inventorship**	(E1) NA, (E2) NA (P1) NA, (P2) NA
6	**Claim or Request Regarding any Change in Applicant for Patent**	(E1) 800, (E2) 4000 (P1) 880, (P2) 4400
7	**Notice of Opposition (Post-grant)**	(E1) 8000, (E2) 40000 (P1) NA, (P2) NA
7A	**Representation for Opposition to Grant of Patent (Pre-grant)**	(E1) 4000, (E2) 20000 (P1) NA, (P2) NA
8	**Claim or Request Regarding Mention of Inventor in a Patent**	(E1) NA/800 (E2) NA/4000 (P1) NA/880 (P2) NA/4400
8A	**Certificate of Inventorship**	(E1) 900, (E2) NA (P1) 1000, (P2) NA
9	**Request for Publication**	(E1) 2500, (E2) 12500 (P1) 2750, (P2) 13750
10	**Application for Amendment of Patent**	(E1) 2400, (E2) 12000 (P1) 2650, (P2)13200

List of Forms

11	**Application for Direction of The Controller**	(E1) 2400, (E2) 12000 (P1) 2650, (P2)13200
12	**Request for Grant of Patent**	(E1) 2400, (E2) 12000 (P1) 2650, (P2) 13200
13	**Application for Amendment of The Application for Patent/Complete Specification**	(E1)800/1600/320(E2) 4000/8000/1600 (P1) 880/1750/350 (P2) 4400/8800/1750
14	**Notice of Opposition to Amendment / Restoration / Surrender**	(E1) 2400, (E2) 12000 (P1) 2650, (P2) 13200
15	**Application for Restoration of Patent**	(E1) 2400, (E2) 12000 (P1) 2650, (P2) 13200
16	**Application for Restoration of Title/Interest**	(E1) 1600/320/800 (E2) 8000/1600/4000 (P1) 1750/350/880 (P2) 8800/1750/4400
17	**Application for Compulsory Licence**	(E1) 2400, (E2) 12000 (P1) 2650, (P2) 13200
18	**Request/Express Request for Examination of Application for Patent**	(E1) 4000/5600 (E2) 20000/28000 (P1) 4400/6150 (P2) 22000/30800
18A	**Request For Expedited Examination of Application for Patent**	(E1) 8000/4000 (E2) 60000/40000 (P1) NA, (P2) NA
19	**Application for Revocation of a Patent for Non-Working**	(E1) 2400, (E2) 12000 (P1) 2650, (P2)13200
20	**Application for Revision of Terms and Conditions of Licence**	(E1) 2400, (E2) 12000 (P1) 2650, (P2)13200
21	**Request for Termination of Compulsory Licence**	(E1) 2400, (E2) 12000 (P1) 2650, (P2)13200
22	**Application Registration of Patent Agent**	(E1) 3200, (E2) NA (P1) 3500, (P2) NA

23	**Application for The Restoration of Name in The Register of Patent Agents**	(E1) 1600, (E2) NA (P1) 1750, (P2) NA
24	**Application for Review/setting Aside Controller Decision/Order**	(E1) 1600, (E2) 8000 (P1) 1750, (P2) 8800
25	**Request for Permission for Making Patent Application Outside India**	(E1) 1600, (E2) 8000 (P1) 1750, (P2) 8800
26	**Authorisation of a Patent Agent/Or any Person in a Matter or Proceeding Under the Act**	(E1) NA, (E2) NA (P1) NA, (P2) NA
27	**Statement Regarding the Working of the Patented Invention on Commercial Scale in India**	(E1) NA, (E2) NA (P1) NA, (P2) NA
28	**To Be Submitted by Small Entity / Start-up**	(E1) NA, (E2) NA (P1) NA, (P2) NA
29	**Request For Withdrawal of The Application for Patent**	(E1) NA, (E2) NA (P1) NA, (P2) NA
30	**To Be Used When No Other Form Is Prescribed**	(E1) As Applicable (AA), (E2) AA (P1) AA, (P2) AA
31	**Grace Period**	(E1) 500, (E2) 2500 (P1) 550, (P2)2750
32	**Register complaint for any contravention or default (being introduced as per draft patent amendment rules 2025)**	-
33	**Appeal against an order passed by the Adjudicating Officer (being introduced as per draft patent amendment rules 2025)**	-

	Electronic Filing	Physical Filing
Natural person or start-up or small entity or educational institution	E1	P1
Other(s), alone or with natural person or start-up or small entity or educational institution	E2	P2

Notes

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