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Lecture - 22
Patent (Part 1 of 2)

Welcome to the next lecture on Patenting. Patenting is now become the talk of the town. Everybody talks about patent. So, there is a big difference between patent and publication. So, generally what we do is we try to publish an article saying that this is why do we publish? Because we say that this is my capability and we have found out some of the loopholes in the state of the art. So, we try to pick one of the loophole and then start trying to solve the problem. And say here is the better solution for the existing problem.

And then what we do is we just publish it and then we ask the opinion from our peer groups and based upon their opinion we try to improvise and then we try to increase the level of understanding a problem. Here there is not much of costing involved. But whereas when we talk about a patent, patent is more towards product oriented or process oriented. So, here we try to patent and protect an idea and we also asset time to the rest of the world that this is my idea and if you want to use my idea you have to financially buy something from me. So, that I try to give you the rights to use this idea.

So, nowadays patent has become the talk of the town. And when you look for products we always look for more of patenting. So, here in which we have put little effort in explaining few concepts of patenting. So, we will try to have these following content.

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- Introduction
- Creativity Vs Innovation
- Copyright
- Types of Patent
- Patent procedure
- Specification of patent

First we will have an introduction, then we will try to understand; what is the difference between creativity and innovation, third we will try to understand copyright, then different types of patents and then we will try to see patent procedure and then specification of patent.

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Creativity vs innovation

Creativity:

- Creativity is the characteristic of a person to generate new ideas, think of alternatives, unique solutions, and possibilities in a unique and different way.
- Creativity is the ability to conceive something unpredictable, original and unique.
- It must be expressive, exciting and imaginative. It is the ability of a person to think and generate better ideas in any given circumstance.
- It is not genetic but can be developed if someone keeps on learning and comprehending things.
- Creativity is a brainstorming and mind-blogging activity in which a person must think beyond his imagination for bringing something worthwhile.
- In creativity no risk is involved, and no huge investment needed. It is an activity of unveiling something which was previously hidden.

So creativity versus innovation; so creativity is the characteristics of a person to generate new idea, thinks of alternative, unique solution and possibility in a unique and a different way. So, this is creativity. Creativity is a characteristic of a person. Certain people are

very creative for example, an artist is very creative and few artists they keep drawing wonderful things and they are very creative. And there can be a solution and they come up with a very creative way of understanding the problem and they give a creative solution So, that it can be well appreciated.

So, creativity is the characteristics of a person to generate new ideas. Today idea generation is a big thing. Think of alternatives; if I can use a pen this way why not this way. So one once you ask the question why not this way, and then you start thinking in that direction how to solve this problem. And when you try to look at alternatives you always come out with something called a unique solution. By large unique solution in manufacturing and product is not there, but when you talk about creativity characteristics we say unique solution and the possibility in a unique under and different way.

Creativity is the ability to conceive something unpredictable original and unique. It has original solution. It must be expressive, exciting and imaginative. It is the ability of a person to think and generate better ideas in any given circumstances. So, if a person is creative you all you have to do is you have to give him problems or situations where in which he looks at the solutions and he tries to generate solutions first and then he looks at various possible solutions and then he tries to find out the best one and come with an answer to the problem. It is not genetic creativity is not genetic; that means, to say my father was very great scientist and he was very creative. It is not necessary my son also has to be the same; for example, Newton or for example, Einstein ok.

So, Thomas Alva Edison they had so many patents on their names. They are very creative ok. So it is not genetic, but can be develop if someone keeps on learning and comprehending things. See this is very very interesting. See I have been teaching for the last 14 years. Every time when I try to take a course may be a repeat of a course which I did last. So, if I want to repeat that course what I used to do is I try to throw all my old notes out and then try to take a fresh book, read the book once again and try to make my notes.

And when I try to make a note; it I will make sure that it does not repeat the previous note. That is why I threw the old notes and then I will try to comprehend with real time live examples and try to map it with my concept what I am trying to explain in the class.

So, when I start doing that so I try to become more and more creative. So, I try to

understand a subject then when I try to comprehend I try to comprehend in a very efficient manner. When I start doing it, creativity skill start developing. Creativity is a brainstorming, brainstorming means it evolves and mind blogging activity in which a person must think beyond his imagination for bringing something worthwhile. If you come back and give a same standard solution for a problem people will say it is run on the mill. For example, today there are lot of disruptive technologies which have got evolved.

So, I was trying to go to Lucknow airport. When I was trying to go to Lucknow airport by a car, this on a foggy day the car took almost 4 hours to reach the stay the airport. Because it was all foggy, zero visibility was there. Almost like 5-meter visibility, 10-meter visibility. Since I have to catch the flight I ask the driver insisted the driver please keep moving. So, what we used to do is any vehicle which comes on our way or which takes a side and goes ahead of us we used to catch that vehicle and keep following them. So, that we can move that speed where previous vehicle moves and with an assumption the previous vehicle does not meet with an accident.

But when I landed the airport I thought the flight will be late, but the flight took off on that time. So, what does this say that is a disruptive technology which is ATC has been fixed to the planes and the planes took off with zero visibility or with very minimum visibility this technology is beyond the imagination earlier Now, what is very well thought about in a plane why do not that technology be brought to trains and cars. Because come December come January North India many of the trains because of this fog run very late.

So, today we are looking at creative solutions ok. The problem is understood. There are some standard solutions where it is used in aeroplanes can that be cut and paste by doing some tweaking. So, that is we are looking at creative solutions. In creativity, no risk is involved or no huge investments are needed. It can be activity on unveiling something which can be previously hidden. All you have to do is understand the problem and try to bring out with more and more solutions. So, this is all characteristics of creativity.

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Creativity vs innovation

Innovation:

- Innovation is application and practical based process of new ideas to creates some value for the business organization, government, and society as well. Innovation could be the introduction of:
 1. New technology.
 2. New product line or segment.
 3. A new method of production.
 4. An improvement in the existing product.
- Innovation is closely tied to creativity i.e. putting creative ideas into action is an innovation, initial investment is high in innovation.
- It is the process of doing something new and better for the first time, which was not previously done by any organisation or person.
- In innovation risk is involved and it generates value.
- It can also be termed as a change which can bring a new edge to the performance and productivity of the company.

⇒ innovation

When you talk about Innovation, innovation is something very excellent. Innovation means I can do a cut and paste technology. Try to take technologies or try to take solutions from different-different sectors and different-different zones and integrate it. Try to identify a customer. That means, to say you have to have a problem. Try to identify a customer and for that customer if you can give a solution in terms of a product so then that is called as innovation.

Creativity need not be a financial component attached with it. But when you talk about an innovative solution there has to be a financial component attached with it. That means, to say there has to be a customer for and then he has to have a problem and if you are able to give a solution to the problem then you are innovative ok. Innovative means you should have a solution which is saleable; that is what it is.

Innovation is application and practical based process of new idea to create some value for the business organisation, government and society as well. Innovation could be the introduction of new technology which can be cut and paste from several zones. For example, what is very well known to craftsmen need not be known to a doctor. What is known very well to a doctor need not be known very well for an agriculturist. So, an agriculturist engineer just tries to look at what are all the similar problems available in a big domain. And then he will look for solutions for those for those problems similar problems and then he will try to pick that idea make it customise to his customer and

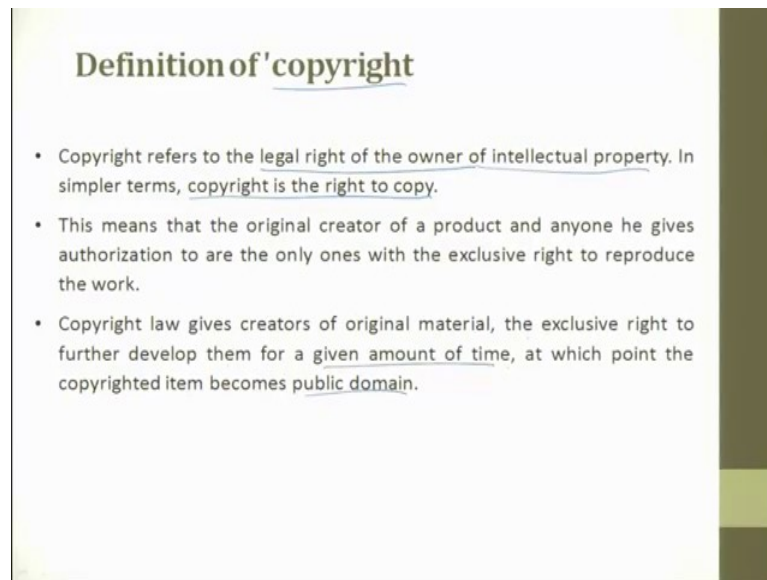
then give a solution for it.

A new product line or a segment, a new method of production and improvement in the existing product all these things can lead to innovation. For example, in an advertisement earlier there we choose to come that they used to give pamphlets to the customers saying that please use the please look at the pamphlet or please read this pamphlet. People used to just take it and throw it off in the dustbin. And later there was a kid, this goes like an advertisement. A later the kid felt little bad and then he or she thought about why are these people not reading. How will I make these people to read? So then what this girl or a child start doing it? It started crushing each pamphlet and giving it to every customer. So, moment you give a crushed thing to a customer then he opens it and reads it what is that an innovative way of just asking the customer to look at the pamphlet.

So, all these things are innovation right. So, an existing product innovation; innovation is closely tied up to creativity. Creativity need not be a sale idea there ok. Putting creative ideas into action is an innovation. In initial, investment is high in innovation whereas in creativity it is not so. It is the process of doing something new and better for the first time which was not previously done by any or any organisation or a person. In innovation risk is involved and it generates value ok. It can also be a be termed as a change which can bring a new edge to the performance and a productivity of a company. So, this is innovation.

When we talk about patenting, we always look at innovative ideas. Patenting also see when you try to patent it is an assumption that your patent will be bought by somebody. So, basically you are trying to solve a problem where there is a customer and the customer will try to give money for the solution whatever you have patented. So that means to say a patent is an innovative process right. Creativity can be there; creativity can be there, but it has to be an innovation. Creativity in terms of arts, creativity in terms of building which need not be sold, but innovation is to solve a problem where there are a group of people who can give finance for it or who can purchase your ideas.

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Definition of 'copyright'

- Copyright refers to the legal right of the owner of intellectual property. In simpler terms, copyright is the right to copy.
- This means that the original creator of a product and anyone he gives authorization to are the only ones with the exclusive right to reproduce the work.
- Copyright law gives creators of original material, the exclusive right to further develop them for a given amount of time, at which point the copyrighted item becomes public domain.

There is another term which is very commonly is talked about is copyright. We see that there is a music CD which is copyright. There is an artefact which is copyright. Is this patentable or what is the difference between patent and copyright. So, this is what is another question which comes to your mind. Copyright refers to a legal rights to the owner of intellectual property. In simpler terms copyright is the right to copy. This means the original creator of a product and anyone he gives authorisation to are the only ones with the exclusive right to reproduce this work. Pretty interesting, see you have a camera you are trying to take a photo of me. Camera is known to everybody, photo taking skill is known to everybody.

But you try to take a photo of me which presents me very wonderful and this camera can be owned by your institute or organisation right. The photographer can be paid salary by an organisation. But when that photographer uses the college own camera and when he tries to take a photo of me and he tries to present me very excellent, the copyright for that particular photo is held by the photographer and not by me or by the organisation. If the photographer wants he can surrender the rights to the institute saying that since you have paid me, you are the owner for the camera. I am I oblige that I give the copyrights to the college. For the other way round if there are very big musicians these musicians make songs or they make BGMs. These BGMs copyright of those musicians. If you want to reproduce the same you are supposed to get the rights from him.

The same way if you are trying to use a photograph which is been published in some journal papers, you are supposed to write it to the journal publisher can I please use the photo which you have used in this particular paper. So, some journals they allow they give the copyrights completely to the author of the paper some journals hold the rights. So, you are supposed to ask them and then only start using. So, that is what I have said here this means that the original creator of the product and anyone he gives authorisation. That means to say a publisher is authorised, an organisation is authorised to are the only ones with the exclusive right to reproduce the work.

Copyright law gives creators of original material, the exclusive right to further develop them for a given amount of time, at which point the copyright of item becomes public domain ok. So, here it is also time bound that is what we are trying to say.

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What is protected by copyright? When someone creates a product that is viewed as original the photograph of me, the result which you have published original. And that requires significant mental activity to create; this product becomes intellectual property that must be protected from unauthorised duplication.

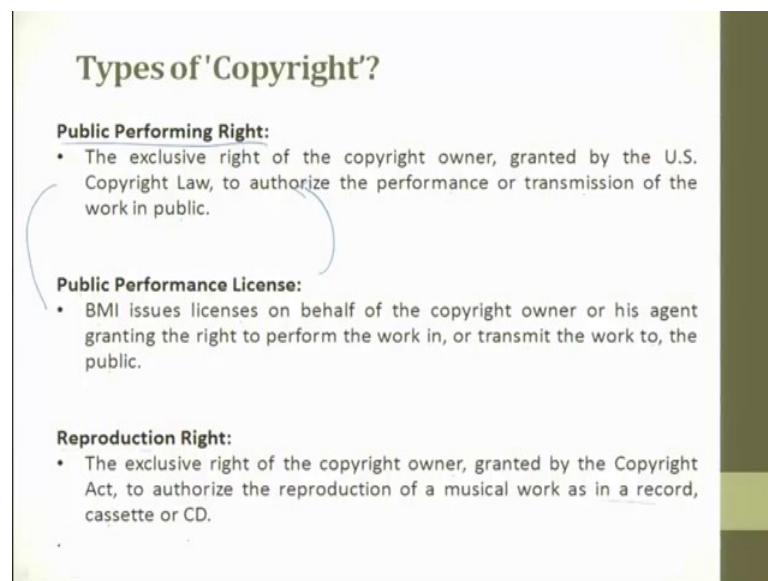
Example of unique creations include computer software you write a copyright, art, poetry, graphic design, music lyrics, composition, novels, films, original architectural designs, website content, etc. All these things are copyrights which is given. So if you create a new music you can ask for a copyright and protect your music under the

copyright. If anybody wants to use that music they will come back to you and then do it. In fact, lot of movie names are also copyright protection is given.

For example, I list I register 25 movie names ok. Ask against me and I hold the copyrights. If some film producer wants to use one of those names, he gives back to you and says can I try to take the copyright for this particular movie name whatever you have given. So, all you have to do is you have registered the movie names. So, that is also possible that is copyright you protect it ok.

One safeguard that can be used to protect an original creation is copyright. So now it is clear? Copyright can be given to software, art, poetry, graphical design, music lyrics, composition, novel, drama, film, original architectural design, website content, etcetera, etc.

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So, there are different types of copyrights. One is called as Public Performing Rights, the other one Public Performance License, and then Reproduction Rights. So, there are three and then you have mechanical license and synchronisation license. So, there are five type different types of copyrights.

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So, what is public performing right? The exclusive right of the copyright owner granted by the U.S. copyright law to authorize the performance or transmission of the work in public is called as public performing right. The public performance license is BMI issues license on behalf of the copyright owner or his agent granting the right to perform the work in or transmit the work to the public is called as public performance license. Please try to understand the difference between these two public performing rights and public performance license. So, it is to authorize the performance or transmission of the work in public is public performing right. So, it is granting the right to perform the work in or transmit the work to the public is called as public performance license this can be used for music reproduction, right.

The exclusive right of the copyright owner granted by the copyright act to authorize the reproduction of a musical work as in a record cassette or a CD; so I try to make a Hindi song and then I try to give the rights to all vernacular languages is called as reproduction rights.

Then Mechanical License: these are license on behalf of the copyright owner or his agent usually to a record company, granting the record company the right to reproduce and distribute specific composition at an agreed upon fee per unit manufactured and sold. For example, I have designed Taj Mahal I give the rights to some xyz company and this xyz company gives it to several producers who are producing Taj Mahal toy across the globe.

And everything they produce per unit price they have been given some money or they have been given some for number of parts. So, that is mechanical license; so to reproduce and distribute a specific composition at an agreed upon fee per unit. So it is something like royalty, per unit this is the price manufactured and sold.

What is Synchronisation License? Music publisher issues license as copyright owner or his agent usually to a producer granting the right to synchronise the musical composition in timed relationship with audio-visual image on film and videotapes. So, these are called as synchronisation license. So, there are five different types of copyrights public performing right, public performance license, reproducing right, mechanical license and synchronisation license. So, synchronisation is timed with audio visual images.

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Types of patents

There are three types of Patents granted:

- ✓ **Utility Patent:** *Process Patent*
 - This is the most important type of patent it is granted on the functional aspect of the invention.
 - This type of patent is most sought after and requires a lot of skill in drafting of the application and prosecuting it before a Patent Office.
 - The functional utility of the invention is protected.
- ✓ **Design Patent:**
 - This type of patent is granted to the ornamental or external appearance of the invention.
 - If a design is of functional necessity, then it cannot be registered for design patent.
 - For example the aerodynamic shape of a plane cannot be registered as design patent, as the shape is very important for the smooth functioning of the invention itself.
- ✓ **Plant Patent:**
 - This type of Patent is granted for plant variety made through asexual reproduction of plant varieties.

So, when you talk about patent there are three different types of patent. So, one is called as Utility Patent, the other one is called as Design Patent and the third one is called as Plant Patent. So, plant patent are basically when I try to do grafting or when I try to produce a new variety you can apply for a patent that is called as plant patent. For example, you get today seedless grapes. You get today grapes which are red in colour. You get watermelon which are boxed. You box in shape. You get watermelon without seed. You get oranges without seed right. You get you get a rice which can be produced within 90 days. You get coconut trees which can produce coconuts with the height of 3 feet. Mango trees are producing in bulk which has a height of hardly some 6 feet ok. So,

these are plant patents. People have changed the genome or did some grafting they have produced it. Today people have started giving on seed nano-coating and they say the size grows of the vegetable and they say it has lot of resistance ok. So, those things are plant patents.

Let us now look utility patents. Utility patents it is the most important type of patent. It is granted on the functional aspect of invention. This type of patent is most sought after and requires a lot of skill in drafting and the application and prosecuting it before a patenting office. A functional utility of the innovation is protected. So, it is otherwise also called as Process Patent. So, you are coming out with something how to produce that is called a process patent.

The other one is called as Design Patent. So, here in which we do not try to bring lot of emphasis on functional. We give it on ornamental or external appearance of this invention. When you have a design patent you have produced a chair and then I come up with a new idea where I change the aspect ratio of the chair; that means, to say width by length or I put a handle something like that. Do a small change I get a patent. So, that is called as design patent. If the design is a functional necessity, then it cannot be registered for design patent.

For example, the aerodynamic shape of a plane cannot be registered as a design patent, as the shape is very important for smooth functioning of the invention itself ok. So, this is you have to understand the difference between design patent and utility patent. Utility patent or process patent we call. Process patent is more complete. So, you are patenting the functionality as well as shape size everything. When you talk about design patent your functionality is not given importance, but the rest of the aspects are given more importance. Design patent people can come with iterative steps and keep getting design patent. Process patent you hold the major rights.

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Specifications of a patent

A Patent generally contains the following :

1. Title of the invention this is the description of the invention by the inventor himself.
2. Cross-reference to related applications, if there are any invention which are found to be closely related to the subject matter under application for grant of Patent.
3. Background of the invention, this is very important part of an invention as it helps the patent examiner to ascertain what was the prevailing problem in the state of the art, which led to the invention.
4. Specification it includes Abstract, description, drawings and claims

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graph LR; Person[Person] --> Lawyer[Lawyer]; Lawyer --> PatentOffice[Patent office];
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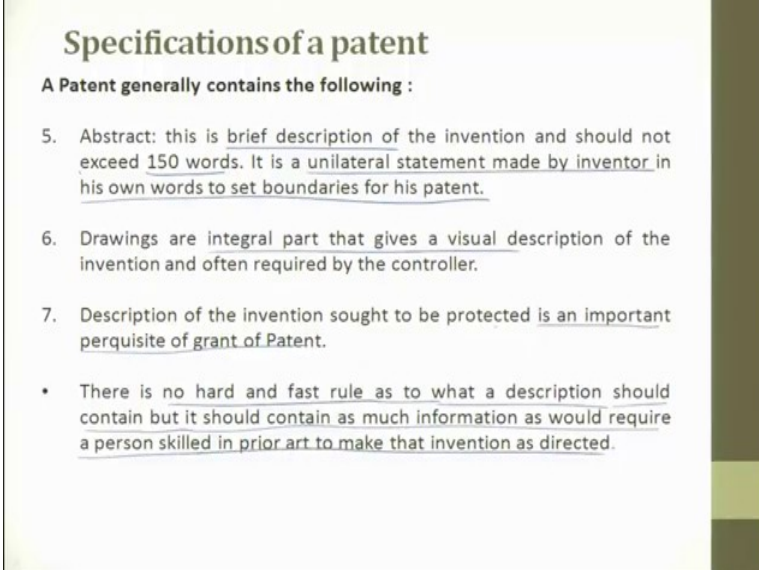
Patents generally contains the following. So, if you see a patent document the patent has the following thing. So, first is the title it is just like your research paper. You will have a title of the paper, then you will try to write who are all the authors of the paper, then you will try to write an abstract, then you will try to write an introduction where you put the state of the art. That means to say who are all worked, how are they work, what is that they have said and then from there you try to solve a problem and get to go to the solution. That is how you write a paper and finally, you give the conclusion. It is almost the same here.

Title of the invention this is this is the description of the invention by the inventor himself. Then, Cross-reference I said in a paper you write a literature survey. If there are there are any invention which are found to be closely related to the subject matter under the application of the granted patent. Then what we do is we write to write the background of the invention. This is very important part of the invention as it helps the patent examiner to ascertain what was the prevailing problem in the state of the art which led to the invention.

And finally, you try to write the specifications wherein which you try to write an abstract, description, drawing and your claims. Conclusions or claims can be it is an analogy I am giving. And patent getting a patent you cannot directly go to the patent office. You as person, you then go to a lawyer a patenting lawyer and this lawyer goes to

the patenting office and then there is an attorney which general who patenting office who goes through the patent, understands the patent and then only he gives the right for the patent. And after you have filed it, then they put it in a public domain and say that xyz has claimed this do anybody have a confrontation over this or something like that. Then if there is no confrontation or if there is a nobody else claimed a similar one then this patent office will try to consider and then give a allotment number. From that day when it has been filed and then put on the public domain ok.

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Specifications of a patent

A Patent generally contains the following :

5. Abstract: this is brief description of the invention and should not exceed 150 words. It is a unilateral statement made by inventor in his own words to set boundaries for his patent.
6. Drawings are integral part that gives a visual description of the invention and often required by the controller.
7. Description of the invention sought to be protected is an important prerequisite of grant of Patent.

- There is no hard and fast rule as to what a description should contain but it should contain as much information as would require a person skilled in prior art to make that invention as directed.

The abstract is what generally describes, the description of the invention and should not be more than 150 words. It is a unilateral statement made by the inventor in his own words to be to set boundaries of his patent then drawings an integral part that gives the visual description of the invention. Then description of the invention sought to be protected in is an important prerequisite grant of patent. There is no hard and fast rule as to what a description should contain but it should contain as much information as would require a person skilled in prior art to make that invention as directed.