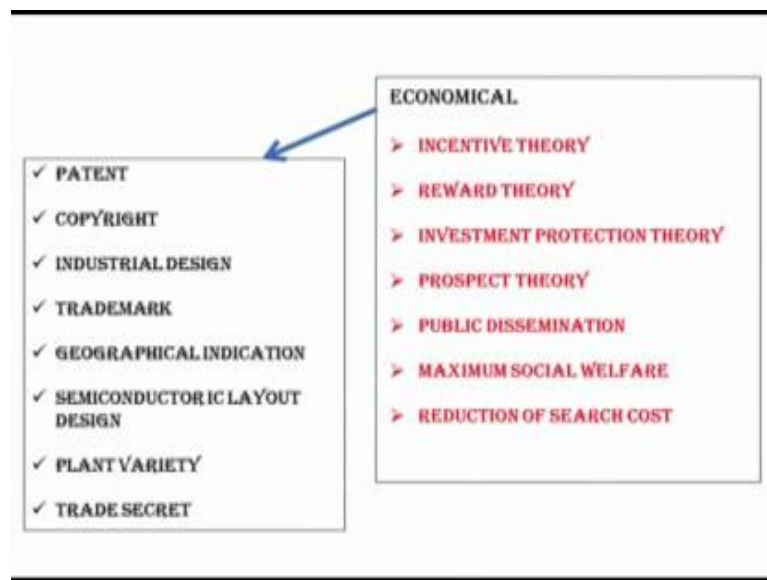


**Introduction on Intellectual Property to Engineers and Technologists**  
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**Lecture – 05**  
**Different Forms of IP and Applicability of Theory**

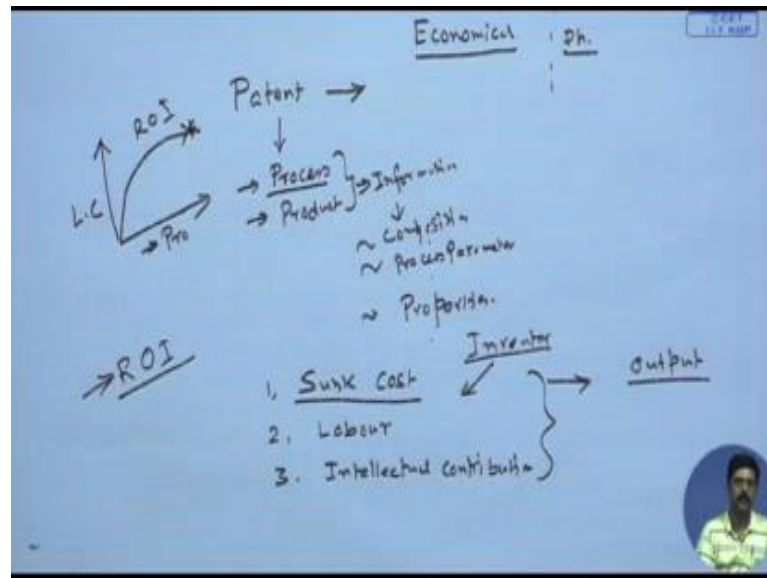
Good morning everybody.

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Just like say we have discussed about basics of intellectual properties, different forms of intellectual property, the theories behind intellectual properties. So now, I think you will be able to identify the different forms of IP that has embedded, incorporated in any tangible object. Just like say different forms includes patent, copyright, industrial design, trademark and geographical indication, semiconductor, IC layout design, plant variety, production trade secret. Now, let us say as you are technologist cum engineers.

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So let us say, we will try to integrate theory along with the form, different forms. Let us say, this is economical theory. Economical theory, and let say philosophical parts also, we will try to philosophical parts also we may linked. Let us say philosophical part.

So, one by one, we are tried to interlink between the different forms of IP, along with it is theoretical justification. Now, let us come to patent. You know the patent uprooted invention, or invention means product or process. And somehow I already told you, a patent is one forms of IP. That is the on forms of IP and only forms of IP that protect functionality. Functionality means let us, say if you designed or created a process for synthesis of something, the process of synthesis also will be come under the forgive of patent, and the synthesized product also will come under the forgive of patent. Now, when I was discussing about economical justification, I was mentioning about that say something, that call intellectual property we may consider a mere information. When just like say patent just like say considering the patent from we are telling that a process, or let us say the product.

So, patents will provide the information, by means of which if the patents or inventors who have been using the process to synthesize the product. So now, I can consider that, let us, say by now people use that information to ultimately produce that product, whatever the say inventor has created, that whatever composition he told, whatever property he has told, or whatever process parameter he is told, I will take all are parts of

information. Are you agreeing on that information? Information about a composition of the product, information about the process parameter, process parameters like a temperatures all those things, composition information about the properties of the product.

So, all those information, he is generating. Who is generating? The inventor is generating. So, that information has the characteristics of public good. What doing by public good? I all ready mention, till I am repeating once again and again because public good means which is non rival known as to deliver information. So, how you will say, information will be excluded from others. So, information how you can exclude information, just like let us consider, how would you exclude an air, how would you exclude oxygen. So, for that reason the information has having the (Refer Time: 05:06) to a public goods. So, what is required? Say my means of some legal instruments, there you should give some protection on that information, in for information.

So, some time I refer already that, public good, impure public good, pure public good. So, those are the economical term some time we call (Refer Time: 05:32) experienced good. So, these are the economical term for a different attributes. Now, let us say, how can I apply various theories with reference to the patent, and information embed in patent. Just like information about composition, process parameter, properties. Now, economical, we will try to consider the economical part first. So, we are telling that incentive theory.

So now, I told that it has characteristics of public good. Now, what economic can design and what the philosopher can design to ultimately to use information in the context of win-win situation. How I am telling the win-win situation? How that information will be used properly for the social economical development? And how that information will be beneficial for the creator? You are ready, that is the information inventor or the person, who is say a creative or inventing those information, he is putting his may be an intellectual inventive inability, intellectual components and also may be a monetary components. Just like whatever I call R and D cost or sunk cost.

So, he has to recap sunk cost. He has to recap its sunk cost. Sunk cost means which is difficult to recap. Finally, we referred everything I have referred. Now I want to link everything with reference to the theory. So, how the sunk cost means? Let us say sunk

cost now, I call sunk cost one components, then another components, let say different component labor intellectual labor of the inventors. Then let us say intellectual contribution labor, intellectual contribution of the inventor. Agree? Now, all those 3 components, we have to, we can, we say, this is the situation for the inventor side or say if I consider the input side. Out of the input either inventor is making or the output will be benefit for the society. This output is the product or composition or process whatever is he is creating that will be benefits for the society.

So, now we have to decide, by economists has to decide, that what theory will be, will justify that thing. You all had seen that sunk cost labor intellectual contribution of the inventors, is the input provided by the inventors and cost on that output is coming. In the form of composition process parameter properties all are same having characteristics information good. So, sometime you know that there is a modal call Pavlovian taxes and model. So, say, they are telling that you should put of some charge. So, that is like a beautiful story is there. Let us a garden open garden, a closed garden. So, open garden, close garden, garden with ticket.

Just like if you think about that water garden, earlier it was open to the public. So, anybody without paying fees also can enjoy the beauty of the garden. Later on they thought about, let us say for the protection of the garden .and for the better utilization, they thought that let us put of some charge. That will be say is use full for the maintenance of the garden, and for security aspect of the garden. And somehow I can restrict the people say wanted people to access the beauty of the garden.

So, they put of a charge. So, similar way let us say beautiful garden. Now garden is open. So, anybody go and enjoy the beauty of the garden, but now what will be the incentive for the gardener who will excreting that garden. So, he now thought about put up, some charge for the people for enjoying the beauty of the garden. That is, they are called some tax say is other kinds of structure to some way the Pavlovian taxes and model people told about Pavlovian taxes and model. So, like this way now apply, now to make them proper input output balance, output is beneficial for the society. Output is beneficial for the inventors. Or inventor is giving input in the form of sunk cost labor intellectual contribution.

So, apart can be the root economist was also thinking. Now, if I apply incentive theory. We can easily apply incentive theory. Why the incentive, means a he has to give some incentive for his recap his sunk cost, for his labor, for his intellectual contribution. Then only he will be further interested to invent or create. Now based on that he will generate more output; that output will be beneficial for the society; that will lead to the economical development of the country; that will generate further say information; now, you are justifying the incentive theory for patent. Patent is say we can consider incentive theory for the patents, for that we should have to give some source of incentive to the patent.

So, now what type of incentive they will be given. That is a discussion of the state you know that incentive has ultimately came up, by virtue exclusive guide based on the jurisprudence that lead to the jurisprudence development for instance incentive has come up, by means of exclusive right. So, incentive as come up by means of exclusive right. Now, what will be the proper incentive? Exclusive right, where he is disclosing that information? Where he will avail to use this information incentive will be provided in that territory. So, considering that we are telling that we have to give a territorial right. And now incentive, whether incentive all perpetual basis or incentive for a specific duration of time; what will be the optimum duration for providing exclusive right?

So, they are required further studies, but ultimately they thought about initially it was they started the incentive means exclusive right, means patent that in patent we can stand others, for use of his invention what have been we are telling that information, for at least 14 years later on have been changed for nature of the different informations likes like a product (Refer Time: 13:07) Now, they thought about that information should be present day it has been treated as a 20 years. They thought about 20 year's time is a appropriate time, for the inventors to say get some return on investment ROI, in it has to be with some return on investment.

So, this has been decided to emptier exclusive right it will be provided to the patentee or to the patentee for what, now. So, you are clear about that how can I apply incentive theory to patent. Now so, incentive theory of patents you can easily apply to the patents. Why incentive, for generation of invention. Why incentive, to further generation of information. How much incentive, incentive in the form of exclusive right for 20 years; where incentive, incentive in that territory, where he has been using his information. Got

the thing? So, incentive theory you can justify with reference to patent. But how long incentive, although there is very difficult to mathematically approve that for the 20 years appropriate or not, they thought about a probabilistic taking in the probabilistic approach, they thought 20 years will be the optimum period for a product are to get commercialized and product life cycle, if you know that a product life cycle always asymptotic kinds of thing normal situation, but may differs life cycle of a particular product life cycle.

So, like this way that they thought about that will be the optimum range will be may be this, may be at 20 years period that time. He will be get sufficient ROI, or return on investment; so that way that you are now able to justify incentive theory or incentive theory for patent. Now let us say incentive theory similarly you can apply for copy right. Copy right now you got the thing. Copy right is coming up in the form of expression. Expression in the domain of literally artistic a musical work. Now, there also you understand required in say really intellectual contribution of the authors who is creating those beautiful poem, who is creating beautiful music, who is creating beautiful architectural work, who is creating good painting, you know that they are also required that some source of contribution by virtue of say intellectual labor, by means of you can consider intellectual contribution labor, intellectual contribution is also invoked there.

So, definitely just likes you know that, there is a theory just like I say with respect of copyright statutory protection or copyright production, initially people was thinking about why there will be production for creation in the literally artistic or musical domain. But they thought about that then, that authors that creators will be diploid of fees arrives a lot of people without involving their labor intellectual contribution easily make copy of the creation of the authors. So, then authors will deprive of it is rights, another the qualitative people will use the patent copy instead of authors. So, authors will be deprived of his rights. So, then they are they thought about to give some source of incentive to the author by means of exclusive right. So, you all can justify incentive theory for copyrights also.

Similarly, industrial design has come up from the corporate itself. Just like a use full articles aesthetic features are coming within the purview of say industrial design. So, industrial design says the creators who are giving beautiful shape and configuration of an article, article used in the industrial, and industries made in the industrial process. So, why not to give some source of incentive; although you know that life of the life of the

say aesthetic features of an article is very short, and to get give some source of incentives they have decided that say the period of production is lower compared to the corporate protection. Although you may think that people are giving corporate protection for literally who are life plus 60 years. People may ask the question why. So, long why what is the justification to give protection for life plus 60 beyond life. Those are the say topics of research with reference to intellectual properties specific for copy rights.

So, I rights beyond the life of the authors. So, that was because they are really if you consider copyright, where the intellectual contribution of authors has involved. Now, industrial design, where industrial flavors involve let us say you are creating a beautiful loop open article. So, they are say white somebody have let us say, I refer that top a that way Qutb Minar is available somebody has designed Qutb Minar shape pane, Qutb Minar shape table lamp why not give some source of incentive to them. To give create a beautiful article for the people they buy aesthetic features of an article somebody created giving some value, to that article why not to give some source of incentive. May be also lower time frame compared to the copyright, copyright is life plus 60 years industrial design life cycle is very less. So, they have thought about giving some sort of exclusive right for 10 years.

So, incentive theory reward theory you can applied for industrial design also. Then trade mark, number trademark, what say, although there is a much, there is not much, in say creativity involved. But creativity involvement trade mark by virtue of label logo and I will discuss all those things, when I discuss the trade mark aspects, but if you create a beautiful logo that can be used as a trademark. So, why not to give some source of incentive to the person who has designing the beautiful logo and using that thing for it is product, from people to differentiate that product, from the others.

Again another postulate you can make it let us say somebody has selling the product with the particular name or logo or label, and if that label and logo somebody infringing or pursue it for, why that trademark owners will be attracted interested to use that logo or label, and then ultimately that lead to the, people will deprived of getting a genuine product from the genuine trademark owners. So, trademark owners that particular, how you will put the product in the market. It is by means of mark label and logo if he is not getting some source of protection for that, then he will not be further interested to ultimately put your article with a particular name or logo and labels.

So, there also you can justify that incentive theory for trade mark. Similarly, geographical indication although not a private right, you may consider is a public right or community right. So, to give some source of incentive to the community, you of so, that they can get some benefit for the product place link, and put a particular unique indication for their product in the market; and how to give protection for their indication. So, definitely there also I can justify incentive theory and the reward theory. Reward is coming up along with an incentive. I am giving reward so that incentive; so geographical indication also you can justify; so incentive theory. Similarly, semiconductor IC layout designed, that IC layout you know the rest of the layout, you are getting the 6 multiple number of, 6 are coming up and you know with layout say somebody got the 6 you can easily came up with the layout by reverse engineering process.

So, why not to give some source of incentive to that creator of that layout; also based on that incentive and reward theory for that semiconductor IC layout to design has also come up. So, if you consider the intellectual property creation of mind here creation of mind involve, here also creation of mind involve, here also partly creation of mind evolve here creation of minds with reference to the indication what type of indication they will create for their product, here also definitely pure intellectual contribution through that layout what is coming up.

So, all are considered the intellectual property, although (Refer Time: 22:47) treat there where intellectual property, please concentrate them industrial property, the all the, forms having some source of ability in industries. So, semiconductor IC layout also say, why not to give incentive to the creator who is creating say some layout, otherwise you will not the create layout will not may not to get the beautiful or chips having deferent functionalities. Similarly plant variety why not to give some would be created a distinct uniform stable varieties of the plant, the readers will be attracted to create more plant varieties of plant, to get a better yield of the product. We will may get it that may ultimately say fulfill the need of food may be that. So, plant varieties that say, may is a essential so that to give some source of incentives to the readers, although we have to make a balance with the farmers part also.

So, that way plant varieties has also came up, can justify through incentive theory. Trade secrete somehow we will discuss later on India do not have any trade secret law. So, a protection who will come up in the form of intellectual property part or mode literate



means an industrial property part, but somehow no statutory protection mechanism available in India. On US also they have uniform trade secret act. Or it is protected by contract act or may be from Indian some penal provision for theft of information having value, but trade secret also says. So, we may consider the incentive to the person who keeping that information in secret and that way we can justify trade secret.

So, now let try to apply quickly other theories of intellectual property theory. Other theories what will call economical theories with reference to the other all the forms of IP quickly. So, similarly investment protection law theory we already told that the sunk cost R and D cost, is the investment for the inventors or company, a company is also investing for the intellectual persons who is the inventors; so investment protection theory. So, component definitely required investment in the form of a capital investment in the form of intellectual; so intellectual investment. So, that is investment in the form of intellectual investment, in the form of capital. So, that definitely say you have to they are equal to protection. I already referred earlier also that US they sometime it calls it is investment protection theory.

So, investment protection theory is also you can apply for all those things, all those things required some source of investment either in the form of a capital or in the form of a form of a say intellectual. So, prospect theory was, why prospect theory, that prospect theory because all that all ready referred in the economical part patent also create some prospect although sometime if we not utilized the patent on working of the patent. Then what prospect it is providing. Sometimes defensive ways also are giving prospect because let us say even all the if you are pretended in India other multinational company is are actual people. Actual people may get some source of return on investment or something some source of benefit out of that. So, it definitely is creating some prospect for the society prospect, for the inventor prospect, for the creators' authors' prospect.

And so, prospect theory can easily apply for patent copyright is patent, is for product process or corporate for literally a visible work all having creating prosperity in the society. And the prosperity is giving prosperity. Ultimately coming, prosperity is some source of foods also the creator or inventors are enjoying for that. Basically public dissemination theory is, that already told that patent versatile secret with properly if somebody is interested, not to disclose his information. Then people would be derived, deprived of the things, is how can you state can create a mechanism that say let us say,

economist if you think public dissemination, dissemination or without public dissemination, where that maximum benefit is coming up for the greater number of people, not dissemination that the benefit is restricting to the may be few number of people, may be or if dissemination, it benefits may reach to the large number of people.

So, public dissemination should be attracted by means of some incentive that is coming through exclusive right. So, public dissemination is also can apply. Because all the things you are considering that the particular histories, they will may publish it in their official web site after particular duration of time. So, that way the dissemination of the information ready to all the forms of IP negative respective registries or the website.

So, dissemination helps the other people to know about that information and do their R and D. That way may be duplication of research will be prevented. Otherwise if no public dissemination duplication of research will be happening, duplication of creation will be happening so that we will then make social help for that although there is a debate regarding that whether the minimum; so some source of exclusive right creating maximum social welfare or more monopolistic attitude.

So, that part although debated, but we can presume that it is also creating maximum social welfare, for a greater goal of the society greater goal of the country for social economical development because everybody having the impact on. So, economy and social economy as specifically, so then reduction of sunk cost is not applicable only for it can apply for trade mark specifically. That reduction of sunk cost trade mark is the trade mark owner is putting a beautiful name, logo or label, for his product and by virtue of that peoples will able to differentiates one owner's products to the others owner, by virtue of that the sunk cost for a particular product will decreased and peoples will the owners will be more.

If some incentive is provided owner will be more interested to protect his protect or his rights by putting the show, that he will not say somebody should not be allowed to infringe his trade mark or pass of his trade mark. So, that part ultimately people will get genuine product. So, reduction of sunk cost is only applicable for trade mark theory. So, reduction of sunk cost the theory only applicable for trademark may not be for others.

So, now summarize. How can you justify the economical theory with reference different forms of IP? Just like a patent, incentive reward, investment, prospect, public

dissemination, maximum social welfare, yes, copyright, incentive reward, investment prospect public dissemination may be social welfare, yes, trade mark reduction of sunk cost, primary incentive reward, yes, investment, yes, because he is creating beautiful logo, geographical indication may be for the society, semiconductor IC layout also for the authors plant variety also for the readers. So, that way you are getting justification for the economical theories for each forms of IP. Similarly, philosophical justification just like a utility theory, labor theory, you can easily apply, because patent information having utility copyright, yes, although that there is a copyright circulation, industrial design, yes, trade mark it is industrial property, geographical indications we may consider industrial property, although it is a public right or a community rights. So, you gone a take IC layout, yes it is a utility and variety, yes, trade secret, yes, the labor. So, all the formation information generation labor involved. So, labor theory you can justify. Then moral desired theory or say moral desired theory you can apply for copyright.

So, definitely, you just try to link in different theory along with the forms. So, first we have discussed about the basics of the intellectual property. Then we will have discussed about the law introduction. Then we discussed about the different forms, different theories. Then we will have discussed about the different forms. Now we are trying to link the forms along with the theory, because you are technologist technology means application of science.

Now, how can you applying the theory of IP with the forms, by virtue of that you will get a holistic idea or you can get because a holistic idea of an intellectual property and how can you still can do further research to develop new theories, new economical theory, new econometric analysis for the time frame of protection of intellectual property rights. Let us end this module with these notes.

Thank you.