Intellectual Property
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Lecture – 20
Patentability of Inventions

Patentability of Inventions. In this lecture we will look at what can be patented, and the acts tells us that for anything to be patented it has to qualify under the definition of an invention under the act that a section 2 1 j. We will also see what are the inventions, that are not patentable or the excluded subject matter the subject matter that has been excluded from patentability.

We will also look at that. Then we will look at the definition of invention, an invention includes 3 things. The invention has to be new; the fact that it has to be new or novel it should involve an inventor step and it should be capable of industrial application. So, we will individually look at the 3 components of what constitutes a patentable invention novelty, inventive step and utility or industrial application.

So, looking at the definition of invention first, we can see that the definition has 3 components and the definition itself qualifies an invention that is patentable. Now this is understood. If you read the act, nowhere does the access that what is a patentable invention rather when the act refers to an invention. It is understood that the acts concerned is with regard to patentable inventions.

So, inventions that are patentable or patentable inventions to use an alternative phrase, refers to the fact that there are certain inventions, which are patentable under the act. Which also means that they could be inventions which are beyond the scope of an patent under the act. Now this we refer to as the patentability of inventions or in to use the phrase in our syllabus patentability of inventions or simply patentability.

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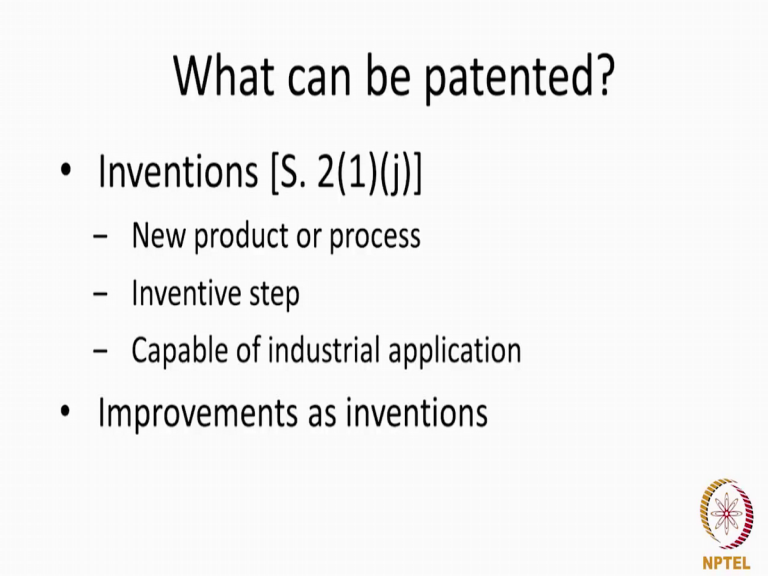

What can be patented? Patents can be granted only for an invention that pertains to a field of technology.

So, the field of technology is very important because, if there is no field of technology then a patent cannot be granted. Patents are technology specific in the sense that patents can only be granted for technological inventions. Though the patents I do not describe inventions as technological inventions, it is understood that technology inventions are inventions that are made in a particular field of technology.

In fact, the patent office is designed in a way in which they have group of examiners, who have skills in a particular technology analyzing and examining patent applications that come from different fields. The international patent classification, which is a code that is used for classifying patents is again a technology based classification. So, if you file an patent application in biotechnology, then it will be examined by a group of examiners whereas, if you file a patent application for a pharmaceutical drug it would be examined by a different set of examiners.

So, patent law this technology specific and you have you have not only experts within the patent office, but also the attorneys who draft these patents would also have some amount of domain knowledge, in pertaining to their particular field. So, inventions under the act can be granted for a new product or a process. The invention should involve an inventive step. And it should also be capable of industrial application. Now this is the

definition of invention which is mentioned in section 2 1 j of the patents act. So, from this we can understand 3 things. For anything to be an invention, the fact that something has to be new as referred to in patent law as the novelty requirement something has to be novel or the novelty requirement. The invention should also involve an invite of step.

Now, we will explain inventive stuff in some detail soon. And the invention should be capable of industrial application. This is largely called the utility requirement. Inventive step is also called the non-obviousness requirement. The fact that the invention should not be obvious to a person skilled in the act will be looking at these definitions in some detail soon. Now what is important here is that, invention has 3 requirements novelty inventive step and utility, but for something to be an invention and for something to be captured as a patent, the product or the invention should manifest itself in the form of a product or a process. So, that is why you have the new product or a process mentioned together.

So, if the invention cannot be envisaged as a product or a process then a patent cannot be granted. For instance, somebody envisages an invention as an idea, an abstract idea no product comes out of it, no process of manufacturing or working it as described. It just is an idea. For instance, somebody comes up with a bright idea of making a cycle that you could pedal to the moon. Now that remains an abstract concept. It is not something that can be worked out it is not something that there can be a product on it, but it is just an idea that you could cycle your way to the moon. So, abstract ideas cannot be patented. Patent should manifest itself on either a product or a process. Invention can also cover improvements to existing inventions.

So, you have inventions which are new involved an inventive step and are capable of commercial industrial application. The same yardstick can also be applied to improvements to existing inventions provided, those improvements on you they involve an inventive step and they are capable of industrial application.

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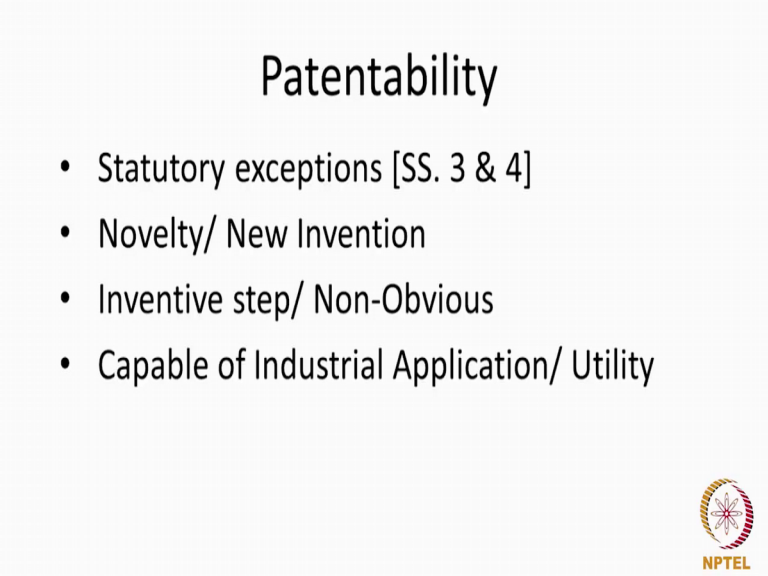

Patentability refers to the ability of an invention to be granted a patent. If an invention is not capable of being granted a patent, then we would not call it a patentable invention. They are normal inventions. For an invention to be patentable it has to satisfy the requirements of an invention under the act what you saw under the earlier section, section 21j. Not only should it satisfy the requirements of an invention under section 21j, it should also get over the statutory exceptions.

So, we call this as the positive and the negative thing. The positive thing is that it has to show that the invention is new or it involves novelty. It involves an inventive step and it is capable of industrial application or utility these are the positive things. So, when you file an application for a patent you have to show that these 3 things do exist. Apart from satisfying this requirement, you should also ensure that your patent or your application does not fall within the statutory exceptions.

The statutory exceptions are detailed in section 3 and 4 of the patents act. And the statutory exceptions are applied first. Some of the exceptions in section 3 and 4 are policy based some of them are domain based some of them are, but exceptions which you can get over some of thems are some of them are absolute exceptions. We will come to them in detail. For instance, section 4 is a bar on granting patents for anything that pertains to atomic energy. So, the Indian law does not grant patents on things pertaining to atomic energy.

So, that is a blanket ban. So, the statutory exceptions are applied first and once you get over the statutory, the filter of the statutory exceptions, then you would be required to prove the positive requirements. For instance, novelty or whether the invention is new then you will have to demonstrate that your invention has an inventive step in US they call it the non-obviousness.

And the fact that the invention is capable of industrial application it involves utility. So, the test of patentability involves getting over the statutory exceptions and proving the ingredients of inventions that is novelty inventive step and utility.

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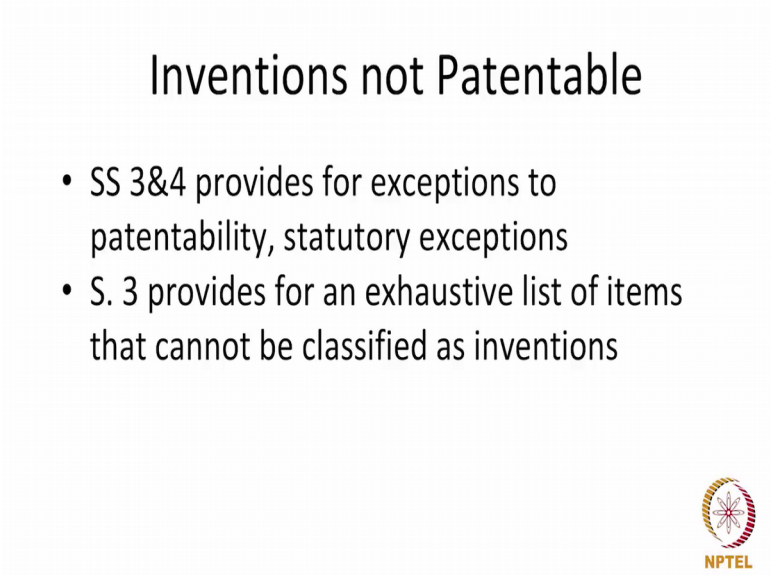

Inventions not Patentable. The patents act gives a list of inventions or rather it gives a list of things that will not amount to an invention. Now these are seen as at one level these are seen as exceptions to patentability. These are statutory exceptions we call them statutory, because they are being introduced by the patents act. And they are exceptions because the act says that the following are not inventions within the meaning of the act. And when we say inventions we are referring to inventions that cannot be patented.

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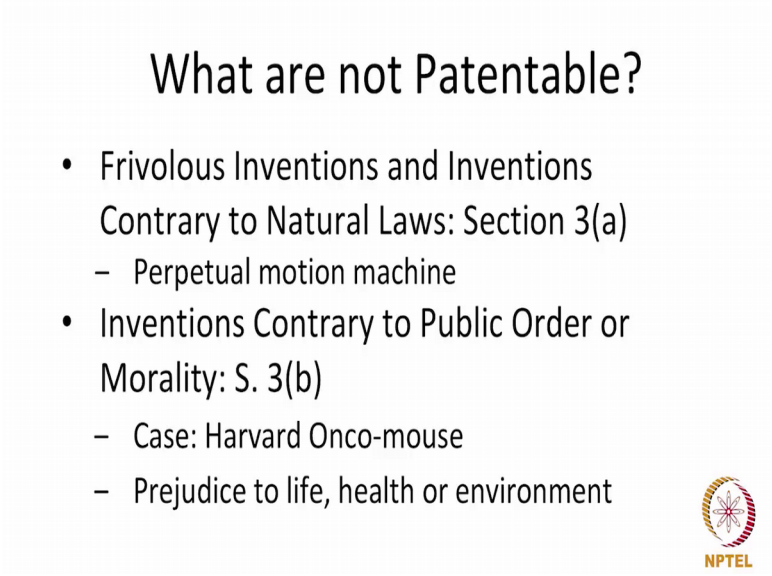

Now, 3 a talks about an invention, which is frivolous or which claims anything; obviously, contrary to well established natural laws. So, if there is an invention that is contrary to the laws of thermodynamics, for instance perpetual motion mission would be contrary to the laws of thermodynamics. Those inventions will be regarded as contrary to the well-established natural laws and will not be granted a patent. So, anything that contravenes and well established natural law will not be deemed to be an invention under the meaning of the act. 3 b talks about an invention the primary or intended use or commercial exploitation of which could be contrary to public order or morality or which caused a serious prejudice to human animal or plant life or health to the environment.

Now, this exception includes things that the use of which could be contrary to public order or morality. The public order or morality is defined in a very broad way in some jurisdictions; it could include even genetically modified animals. For instance, the Harvard onco mouse who was granted a patent in the United States. The United States patent office granted a patent on the Harvard onco mouse, which is a mouse which has a gene that is susceptible to cancer. This mouse could be used for various testing various cancer drugs.

So, they develop mice or a mouse with this particular gene. Though the US patent office granted patent for the Harvard onco mouse, the European patent office rejected at the patent. So, you find that jurisdictions and in fact, the rejection from the European patent

office was based on similar ground, which prohibited granting of inventions that are contrary to public order or morality.

Similarly, inventions that cause serious prejudice to human animal or plant life or health or to the environment would also come under this. So, if there is an invention, that can cause mass destruction, it could be captured under this because that can be regarded as something that could seriously prejudice human animal plant life or health or to the environment. Also the classic example that you will find in various patent treatises is the one of the guillotine. The guillotine was used in Europe for executing human beings.

So, this was something which was regarded as prejudicial to human life and instruments like the guillotine will not be granted a patent.

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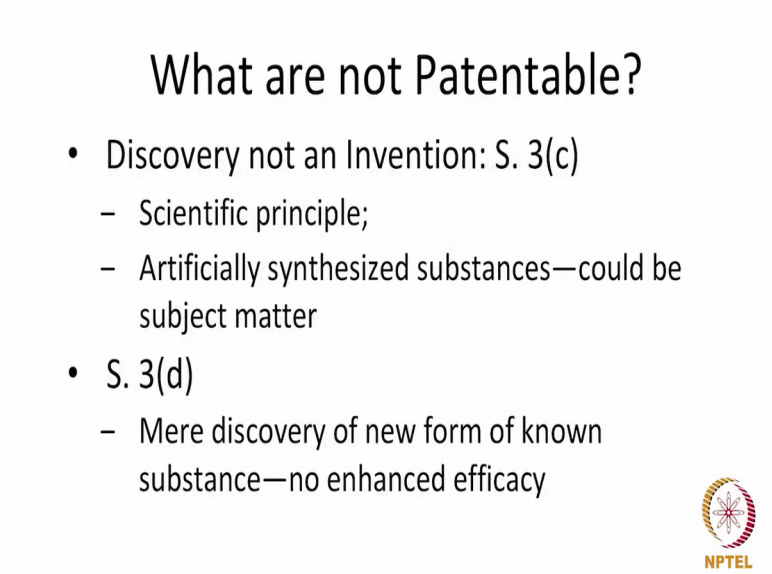

3 c talks about the mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or nonliving substance occurring in nature. All discoveries are not patentable. Now the discovery if it pertains to a scientific principle or the formulation of an abstract theory, say the theory of relativity or the principle in science which is well established the mere discovery of that principle or formulation of a theory will not constitute an invention.

We had seen earlier that for something to be an invention, it should manifest itself in the form of a product or a process. These are the 2 categories of things for which patents can

be granted. Scientific principle and a theory remains articulation of a way in which something works. It does not necessarily encompass a product or a process for the purposes of the patents act.

In addition to the discovery of a scientific theory principle or an abstract theory, the discovery of any living or nonliving substance occurring in nature cannot be the subject matter of a patent. So, anything that exists in nature be it living or materials substances cannot be the subject matter of a patent. Artificially synthesized substances could be a subject matter of a patent. Section 3 d talks about certain kinds of substances and processes which will not be granted a patent.

Now, section 3 d comprises of 3 parts. The first part says that the mere discovery of a new form of a known substance, which does not result in the enhancement of the known efficacy of that substance will not be regarded as an invention. Now what is not an invention was the statement with which section 3 begins. This means if there is an existing substance, and a new form of that substance is subsequently discovered the fact that the new form is discovered which relates to the known substance will not be granted a fresh lease of life in the form of a fresh patent.

Unless the patent applicant is able to demonstrate an enhancement of the known efficacy of the exceptions, which means the new substance or the new form of their own substance should now have an efficacy effectiveness, whatever be it because in the case of drugs. Now the courts have held that it has to be therapeutic efficacy in the case of pesticides, it could be the efficacy in terms of it is effect on pests if it is a we edicide it could be the efficacy in terms of killing the weeds.

So, we understand efficacy of substances as how effective they are for the purpose for which they are used. So, the new form of the known substance has to have a better efficacy. Now the better efficacy should be what the axis, it should be an enhancement of what is already known. So, this tells us that when a new form of a known substance is filed in a patent application, the patent applicant will have to demonstrate what was the known efficacy of that substance and to what extent the new form shows an enhancement of the efficacy.

Now this has to be done and this has to be demonstrated in the patent application. Largely by way of some experimental tests and there has to be some kind of data we

have seen the patent office decisions where they insist on some kind of data to demonstrate this enhancement of known efficacy.

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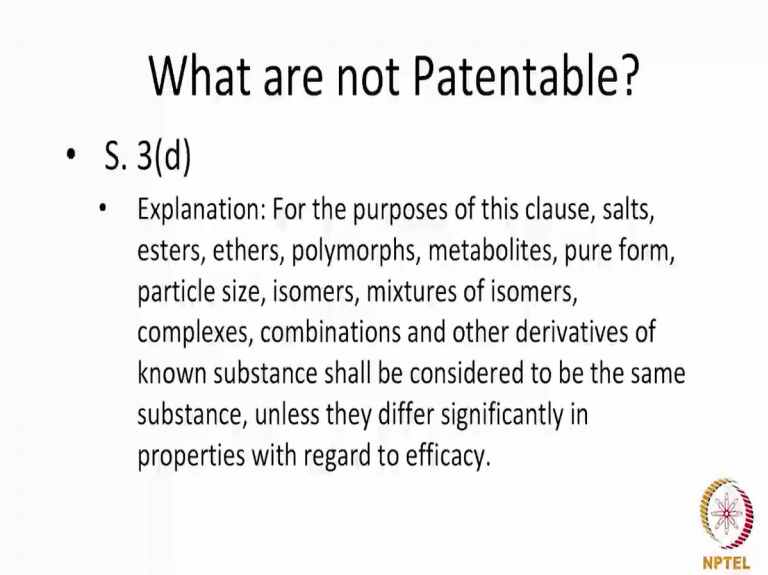

Now, what are the new forms of known substance? The explanation gives us a much better understanding of that. The explanation says for the purposes of this clause salts esters, ethers, polymorphs, metabolites pure form particle size isomers, mixture of isomers complexes combinations and other derivatives of known substances shall be considered to be the same substance.

So, the salt of a substance will be considered to be the same such substance. The ester form of a substance will be regarded as the same. Ester form polymorph metabolite particle size they will all be regarded as the same substance unless they differ significantly in properties with regard to efficacy.

Now you can only claim a for a salt or an ester or an ether of something which is already known, if you are able to demonstrate that the efficacy of the new form is significantly different. Now the language used in the explanation is they differ significantly in properties with regard to efficacy. So, the significant difference has to be demonstrated by comparing the known efficacy, by known efficacy we are referring to the efficacy of the known substance. And mind you this explanation pertains to specifically to the new form of the known substance.

So, there is an existing form of their own substance. And the existing forms has an efficacy let us call it x. The new form of the known substance should have a different difficulty let us say it is y. Now y minus x should be something that is significantly different, the difference has to be significant. In some cases, there has been proof of efficacy comes with quite a lot of intricate details.

In some cases, the patent applicants have tried to show that bioavailability or increase in bioavailability could be one of the characteristics for proving enhancement of efficacy. In other cases, patent applicants have tried to show a stability of the substance better flow properties and ease of use as properties that could demonstrate enhancement of efficacy.

So, we have quite a lot of patent office practice on this, there are decisions of the patent office, which gives the details of how it regards enhancement of efficacy. How efficacy has to be proved and what kind of data the patent office expects for proving efficacy.

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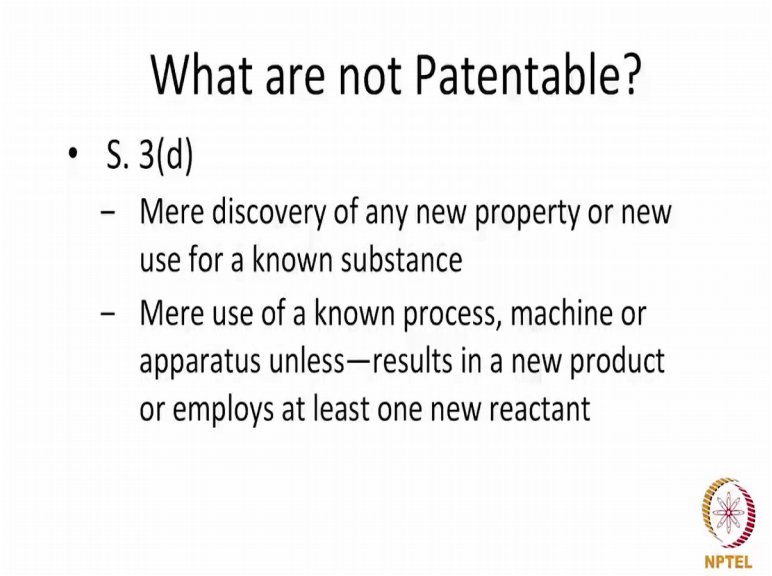

Now, the second part of 3 d states that, the mere discovery of any new property or new use of a known substance shall not be an invention. This is a blanket ban. In the earlier part of the first part we saw that the new form of a known substance will not normally we considered for a patent, but if you demonstrate efficacy enhanced efficacy it would qualify for a patent. So, there was a threshold which could be crossed and we can call that there was a hurdle which was capable of being crossed.

So, that was a conditional exception a new form will not be regarded as patentable, but upon demonstration of enhanced efficacy it would become patentable. The second, but does not have any such way to get a patent. In other words, it is a kind of a blanket ban a discovery of a new property or new use of a known substance will not be treated as an invention.

So, there is no way you can get over and claim a patent if you have come up with a new use or a new property. Now what could be the justification for this? A one justification for this blanket ban can be found in section 48 which describes the rights of a patentee. When a patent is granted under section 48, there are a set of rights that accrues on the patentee. One of the rights is the right to use.

So, if the right to use is already granted, for the known substance a new use of the known substance should not be granted based on that logic. For the mere fact that a new use was discovered, but the substance still remains the same, it pertains to an existing substance what the patentee had only discovered was a new use of that substance. So, there was no technological contribution by the invention. It was just a discovery of what the invention could already do by the patent applicant. So, the new use was already there it just came to the knowledge of the applicant by some experimentation of by testing.

So, since use is one of the rights that is granted along with the patent at the first instance. New use will not be granted a fresh lease of patent life. Similarly, new property also pertains to something which was inherent in the known substance. It was only discovered by the applicant.

So, the discovery of something which is inherent like a new use or a new property, which does not contribute anything new to the substance itself will not be regarded as a invention. The third part of section 3 d states that the mere use of a known process machine or apparatus, unless such known process results in a new product or employs at least one new reactant it will not be regarded as an invention.

So, the use of a known process in the earlier part pertain to use of a known substance, in this case it is use of a known process machine or apparatus now using a known process machine or apparatus will not qualify for the grant of a fresh patent. Because the use of the process is already known or the mission or the apparatus is already known, but if the known process results in a new product, then that particular case could qualify for a fresh

patent or if employs at least one new reactant again in that case the use of a known process could be regarded as being the subject matter of a separate patent.

Now, we do not have a very clear articulation of how this clause can be instrumental in getting a patent. And we have not come across any detailed discussion either by the patent office or guidelines issued by the patent office showing how this provision shall be put into operation.

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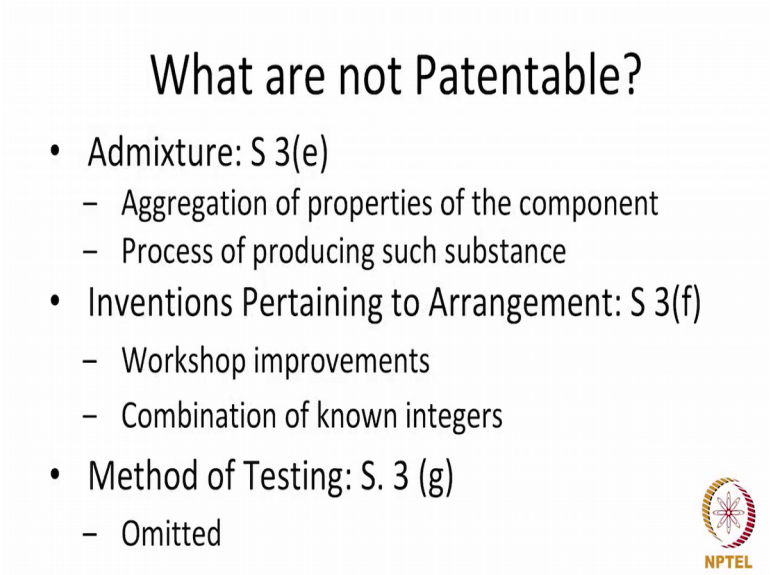

Then we have section 3 e. Now we are still on the exceptions we are on what are not inventions. A substance obtained by the mere admixture resulting only in the aggregation of properties of the components thereof or a process for producing such substance.

Now, if you mix 2 or 3 known substances, and the aggregation of the properties are just it is a combination of their existing properties, then that substance which results from the mixture of 2 or 3 other substances will not be granted a patent. Now the logic is quite simple if you look at pharmaceuticals pharmaceutical compositions constantly combine existing or known drugs. Now lactobacillus could be combined with an antibiotic and antipyretic, could be combined with an anti-inflammatory drug. You have various combinations coming out all the time.

Now, this provision allows combinations to be made, but not to be monopolized. So, you could have combinations, you could have add mixtures and if the admixture is just result

in the aggregation of their individual properties, then there is no need for a fresh grant of a patent life. However, there could be cases where the admixture results not only in the aggregation of properties, but it also results in something additional to the aggregation of properties. What we call it could result in an synergy. It could result in a synergistic effect synergistic effect in common parlance is where 2 plus 2 makes 5.

Now, in those cases where the synergistic effect is unexpected, and the effect is not expected as a mere aggregation of the individual properties. In such cases you could claim the synergistic effect and that could be the subject matter of a patent. So, the patent office manual does not describe that mere add mixtures are not normally granted a patent, but in cases way they result in a synergistic effect that could be the subject matter of a patent. Section 3 f states that the mere arrangement or rearrangement or duplication of known devices each functioning independently of one another, then a known way cannot be an invention.

Now this is unexpected lines because the fact that few devices mechanical or even other devices that could be arranged or rearranged in such a way that they all function independently of one another in a known way cannot be the subject matter of an invention. If they function interdependently not independently then that could be the subject matter of a patent n a way which is not expected. Now we all have gadgets we all have smartphones which does the job of a music player which does the job of a camera and a small computer screen or a television it does not multiple jobs for us.

The fact that no devices are combined together in way in which they function independently of each other in a known way will not grant a patent for that combination.

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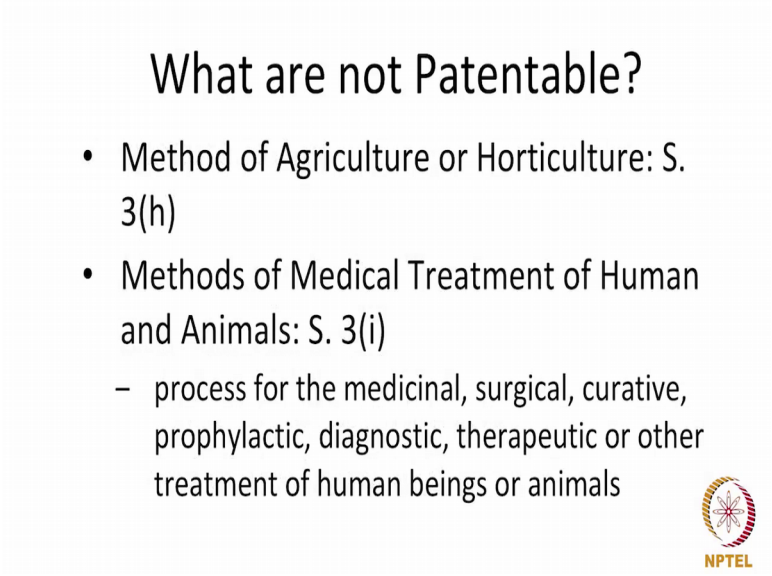

3 h states that a method of agriculture or horticulture will not be regarded as an invention. So, what is protected here is that a method or a process of agriculture or horticulture will not be regarded as an invention under the act. 3 i states that any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products will not be regarded as an invention.

So, this covers a whole lot of processes which could be for the benefit of human beings and animals and treatment of human beings and animals to render them free from disease or to increase the economic value of or that of their products.

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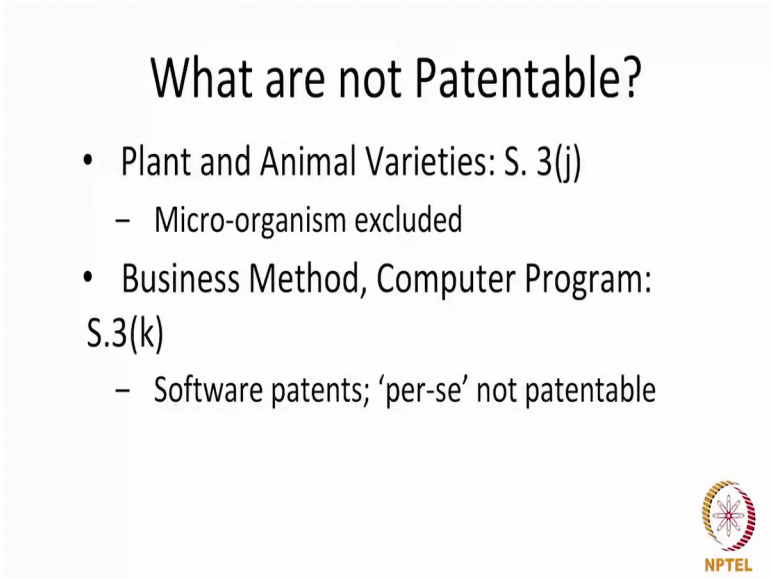

3 j states that plants and animals in whole or any part thereof other than microorganisms, but including seeds varieties in species in essentially biological processes for production or propagation of plants and animals shall not be regarded as an invention.

Now, here plants an animal in whole or in part cannot be the subject matter of a patent ah. Seeds varieties and species essentially biological process for production and propagation of all these also cannot be regarded as a subject matter of a patent; however, microorganisms are excluded. Now this is where we get that from. So, plants and animals in whole or any part thereof are excluded other than microorganisms which means microorganisms can be granted patents.

And there is a decision of the Calcutta high court in dominicos case, which says that microorganisms can be subject matter of a patent application. 3 k states at a mathematical method or a business method or a computer program per se or algorithms cannot be regarded as inventions under the act. A mathematical method is outside the purview and for the same reason algorithms are also outside the purview of a patent protection. Computer program per se and this is with reference to software a computer program per se is not patentable.

There is some discussion on that. In fact, the patent office had released guidelines on computer related inventions which is available at the patent office website which gives a

clear commentary on what kind of computer programs are excluded. Business methods are again excluded from the ambit of patent protection.

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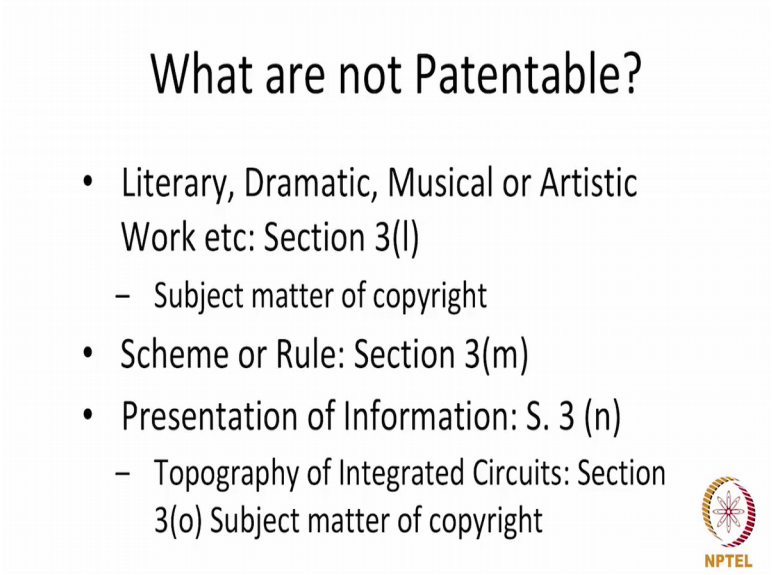

3 l states that a literary dramatic musical or artistic work or any other aesthetic creation what isoever including cinematography works and television productions cannot be subject matter of an invention. The reason for this is quite straightforward this class covers copyrighted works.

So, whatever a subject-matter of a copyright cannot be granted a patent protection in addition to what has already covered by another kind of intellectual property right. Ah 3 m states a mere scheme or rule or method of performing mental act or method of playing a game. So, an arrangement of things, what we call a scheme or a rule or doing a mental act like adding or computing or a method of playing a game all these things are excluded from the subject matter of a patent. 3 and a presentation of information the way in which information is presented is again not patentable. Topography of integrated circuits again is not patentable. We have a separate act for that for semiconductor chips layout act.

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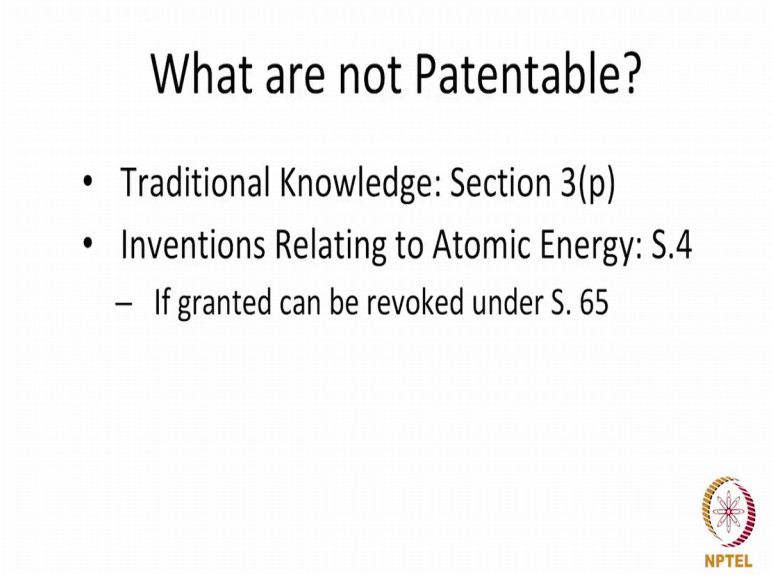

And 3 p an invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known components cannot be the subject matter of an invention.

Now this clause excludes what is already known in the traditional knowledge or which is in aggregation or duplication of known properties of traditionally known component or components. So, what is already known as a part of the common knowledge, what we call traditional knowledge cannot be the subject matter of a patent. For instance, some food products may be regarded as having medicinal value.

And some communities may have discovered this before. So, in those cases they cannot be a patent for that component or that substance. You would have heard the dispute with regard to turmeric and neem are they largely come under this provision what is already known in traditional knowledge cannot be patented.

now if you look at all these exceptions in section 3, there a host of them you can see some patent there. Now some of these exceptions are policy exceptions that the Indian government does not want patents to be granted on the method of agriculture or horticulture. That it is clear to see that there is a policy behind it some other exceptions here are exceptions because they have been protected by another enactment.

We saw that in 3 l a literary dramatic musical and artistic works are excluded from the ambit of a patent protection, because they are covered under the copyright act. Again the same can be said for typography of integrated circuits. You have a separate act to cover it. Some of them are exceptions which are recognized in the patent law, but they have been expressly mentioned here, to take care of certain concerns. For instance, traditional knowledge can always be used as a ground in challenging the novelty of her invention. Traditional knowledge in most cases we can assume that there is some form of codification of this traditional knowledge.

So, that traditional knowledge say a text in an ancient work or text which you could find in a local language could always be used as a prior art material to question the novelty of an invention which tries to patent it. So, though traditional knowledge is available as a mechanism or rather though traditional knowledge could be used for challenging novelty, by questioning the novelty of that invention section 3 p provides a special category for the patent office to look at instances, where traditional knowledge is covered even without having to look into the requirements of patentability. The requirement of patentability are novelty the invention involves novelty or it is new that the invention involves an inventive step and that the invention is capable of industrial application.

Now, even before applying these 3 steps section 3 the exceptions in section 3 are applied first. Now this gives the patent office the advantage of not having to look into whether there is novelty and looking at the prior art materials that can question the novelty or that can kill the novelty. Even without doing that section 3 p gives the patent office a quick way to look into an invention if traditional knowledge is involved.

So, it is traditional knowledge is involved using 3 p the patent office can raise an objection saying that there is traditional knowledge in this case we will not grant a patent; obviously, when the patent office communicates it is decision, it is normally done by way of a document called the first examination report or the first statement of objections. Now in the first statement of objections the patent office will not only raise arguments under or challenge or raise objections under section 3 p, it would also raise objections on lack of novelty.

So, but this we understand this as traditional ground that could be used for questioning lack of novelty, but because traditional knowledge is involved it has been captured as an

additional ground of exception. There are also some exceptions in this list which were introduced to address certain issues that are particular to India. Section 3 d has a history behind it. Section 3 d was introduced in 2005.

And before that India went through a transition period between 1995 to 2005 India had taken time as a part of enforcing it is WTO obligations. Now during this time, they were quite a lot of applications that came into India which pertain to product patents for pharmaceuticals before 1995 India did not grant product patents on pharmaceuticals. Post 1995 till 2005 India started accepting more particularly, from 1999 onwards India started accepting applications for pharmaceutical products.

Now there was a fear that earlier substances that were invented before 1995 could now come in some form of the other with the request for a 20-year term for a fresh patent. Now this concern is in some cases you will find discussions on ever greening of pharmaceuticals. Ever greening is a term that is used which to denote that the monopoly over the drugs could be kept for a longer time, just by ensuring that series of patents are filed cumulatively one after the other.

So, that the total protection offered by the series of patents are much longer than the normal 20-year period given to the invention had there been only one patent. Now ever greening is something what the pharmaceutical company is called lifecycle management which is normally done in cases where products are involved and where products that the life of a product can be extended to maximize profits. 3 d addresses this issue because 3 d is a tool for the patent office to see that if there is a known substance involved and only a new form is now being claimed.

Now, the 3 d gives the patent office the liberty to check that invention. If the invention actually demonstrate a better efficacy, if the better efficacy or the enhanced efficacy is not demonstrated, then by this fiction the patent office can regard the new form as something being similar to the known form. So, in effect the patent office is not doing anything, but just recognizing a new form without any new benefits or without any enhancement of (Refer Time: 39:56). So, that is the objective behind the 3 d because 3 d came and makes sense in a country which went through this transition in it is law, where at one point it did not grant patents for pharmaceuticals. And after a period of time it started granting product patents for pharmaceuticals.

So, there was this inherent danger a substances that were discovered before could now be passed on as new substances by just tweaking their form. So, that is the reason why the 3 d came into being. Certain other objections or exceptions in section 3 like near discovery of a scientific principle formulation of an abstract theory. These are known even other jurisdictions have similar exceptions.

This is to ensure that ideas or concepts are not patented. What should be patented should be a workable or an idea in working which results in a product or in a process or method of manufacturing or method of doing something. Apart from section 3 section 4 also includes some exceptions that cannot be patented. Section 4 states inventions relating to atomic energy cannot be patented.

Now, section 4 clearly mentions that no patent shall be granted in respect of an invention relating to atomic energy falling within subsection one of section 20 of the atomic energy at 1962.

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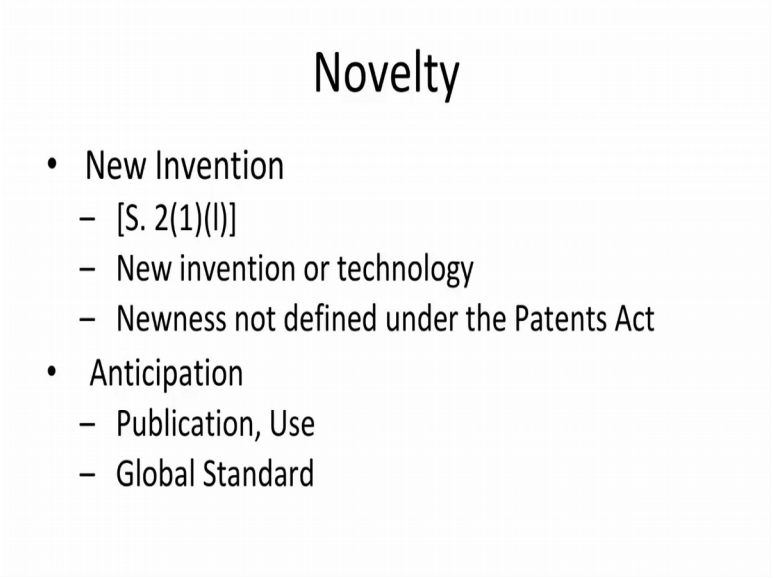

Under section 2 1 l new invention means any invention or technology. Now the definition is important is the fact that though novelty or the fact that newness is not defined under the act. There is a definition of new invention under the act.

So, we understand this definition new invention as defining the new part in section 2 1 j. So, this new is defined by this phrase, new invention and this we understand. Because

what is contained in this definition is the requirement of novelty novelty is conveyed in this definition. Now let us take a look at this. Means, any invention or technology which has not been and patent.

Now invention has to pertain to a technology. Or it could also be an invention per se. Now we understand invention 2 pertaining only to technology because in practice patent law has evolved only by granting patents for technology. There is no other field for which patents can be granted. So, if there is no technology or if there is no technical effect, produced by an invention we do not regard that as patentable. So, any invention or technology which has not been anticipated.

Now this is phrase that you need to understand it is a word that you need to understand anticipation is discussed in detail in chapter 6 of the patents act section 29 to 34. The anticipation contains all the exceptions to anticipation what are the instances that do not amount to anticipation. So, here we understand this statement as something if an invention or technology has not been anticipated. Then it is regarded as new. Now anticipation can happen in multiple ways anticipation can happen by publication in any document or by use in a country or elsewhere before the date of in a country or elsewhere no.

So, that gives us the standard of anticipation is a global standard ah. Regardless of whether the invention was anticipated in a particular country as long as it is anticipated in any part of the world, it could still affect the novelty of an invention. Meaning which, if you file a patent application in India they could be a disclosure by publication in scientific journal in the United States and even if you assume for a woman that particular journal is not available in India, still the standard of novelty which is an absolute standard which takes the novelty requirement is determined by looking at the prior art all over the world. Still the invention would stand anticipated.

Now, will in a moment we will come to what we understand by anticipation. Now here from the statement we can conclude that anticipation can be broadly by 2 ways. It can be by publication in a document or use in any country. So, these are the 2 ways in which an invention can be anticipated.

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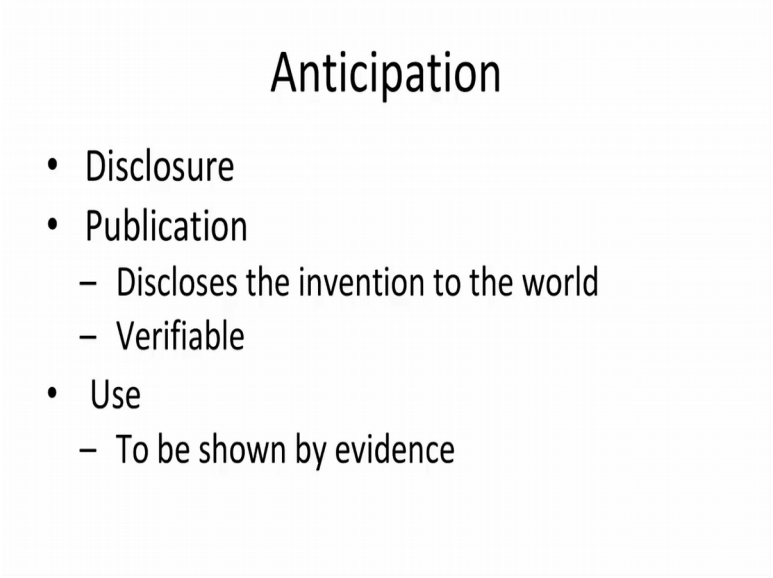

Publication is easy to understand because publication of the invention discloses the invention to the world at large; in a verifiable manner that is the advantage of a publication. Publication would record the invention and it is verifiable. Say if it is published in an earlier patent application, then it is there as a record which can be verified. And that earlier patent application could become what we call a prior art for the present application the application for which a novelty determination is being done.

So, publication by a document any document means, that it is published which means it is disclosed to the public or in patent law we use the word made available to the public. And it is in such a way that the publication is in a verifiable manner. So, if someone is filing an application for a particular invention, that application as it discloses an invention can be checked for novelty or for lack of it. In a published document which has been published before the date of application.

So, the prior art has always the date before which the priority for that particular application accrues. So, publication by any document is an easier way of ascertaining anticipation. Because publish documents allows you to verify, whether a document that has a disclosure of an invention, actually anticipates a patent application. The second type of anticipation is a bit more difficult to, because use in a country could be use that is unrecorded could be use that is not documented.

So, when the use itself is there, but it is not recorded or documented, then it becomes difficult though not impossible to prove anticipation. For instance, under section 13 which is cross referenced here the examiner has to file a report on novelty. That is whether the invention has been anticipated. So, when the examiner does a report on anticipation, he is essentially looking at databases, which means he is looking at documents that have been published before if there is a use in the same country in way where the examiner is examining the patent.

And for a moment let us assume that that use has not been documented. It becomes difficult to prove. Which means if the issue of novelty is to be raised, then the issue of novelty will be raised before either a court of law or an appellate body or the patent office in such a manner that, the use will now be shown by evidence adduced by a person. Because whatever is not recorded or whatever is not documented can still be adduced as evidence provided there is a testimony.

So, for instance if there was use of an invention then the way in which we will understand that use is by people who have witness they use, filing an affidavit and swearing a statement, that they actually witness they used. Now it is difficult to prove use by an affidavit filed by a person because that would; obviously, involve examination of the person. And if somebody is disputing that as a piece of evidence that person also has to be cross examined. Now examination cross examination are legal procedures involved when a person deposes as a witness ah. So, you which is not documented though it is relevant for understanding anticipation it is more difficult or harder to prove than the other aspect of anticipation which can be proved by publication of any document.

So, world over largely anticipation or the lack of novelty, the fact that an invention does not have no ability is proved predominantly by publication of documents. And if you see the report of any of the patent office on anticipation, they would largely rely on documents to show that there is no anticipation. If you look at the report by the pct preliminary report the x category which says that the invention is not novel, again they would rely on published documents to say that there is no novelty of for the invention.

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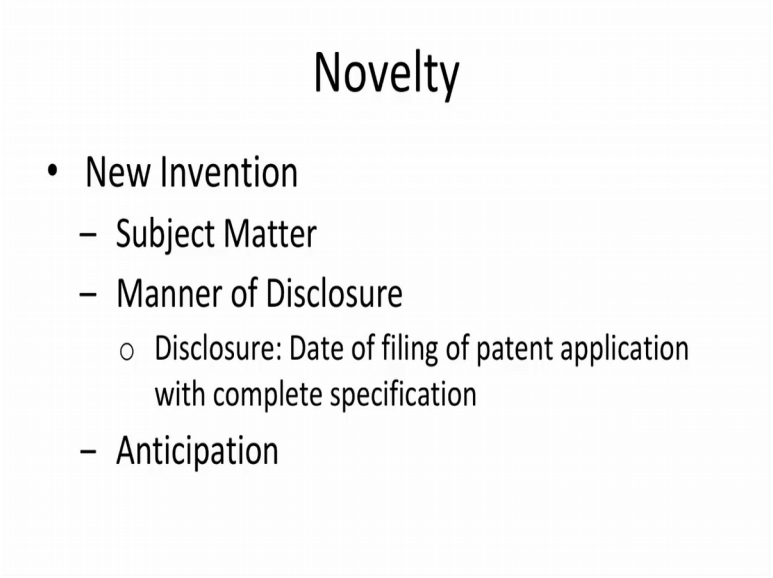

So, and when we talk about the fact that the disclosure has happened, there are 2 kinds of disclosure. So, the first key thing in understanding novelty is that it should pertain to an invention or a technology. That is a subject matter. Second that it should be disclosed either by an document published in any document or by use, that is the manner of disclosure the first one was subject matter in anticipation the second element was the manner of disclosure. It could either be in a document or in a use and use has to be proved by evidence adduced to demonstrate that use.

The third important element of novelty or the fact that the invention is new is that it should be the disclosure or the thing that anticipates should have happened before the date of filing the patent application with complete specification ok. So, this is the date by which we determine the novelty of an invention. If the disclosure or if the anticipating material happened before the date of filing the patent application with complete specification, then it is at that point we are going to look at the prior art. The prior art for determining novelty will be the prior art before the date of filing the patented application with the complete specification.

Now, anticipation is defined here. What do we mean by anticipation? By anticipation we mean that the subject matter has not fallen in the public domain or it has does not form a part of the state of the art. Now if it is fallen into the public domain and if it is not protected by secrecy, and secrecy something which you will see that there are certain

measures even if it falls within the public domain, it will still be a protected disclosure because there was a breach of certain contractual obligations.

So, if it is not protected by secrecy and it fit falls into the public domain, we would say that the matter is anticipated or it does not form a part of the state of the art. Now if something does not form a part of the state of the ad then it is new, if the subject matter has not fallen into the public domain then again it is new or it satisfies novelty.

So, when we phrase it in the negative if something has fallen into the public domain then it lacks novelty. Or if something forms a part of the state of the art it again lacks novelty. So, anticipation is the key ingredient for determining novelty. An anticipation is done the method by which it is done is either by looking at published documents or by looking at use in a particular country or the world at large. Now we look at the second aspect or the second element of patentability that an invention should involve an inventive step. Inventive step has been defined in section 21j a.

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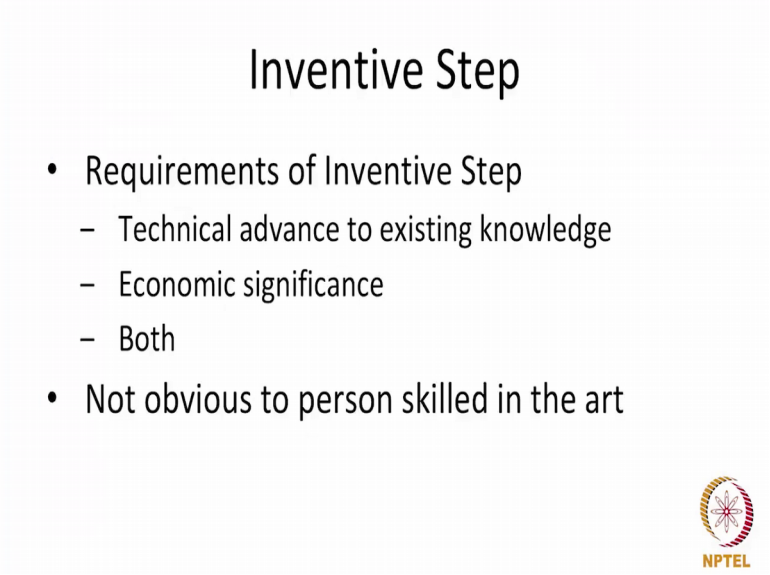

So, the requirements of inventor step would be 2-fold. First the patent applicant will have to show that there is technical advance over existing knowledge or economic significance or both. So, that is the first component, you either demonstrate technical advancement over the prior art or you show economic significance. Either of things or you show both. That is the first component. And that makes the invention the feature in

an invention that makes the invention not obvious to a person skilled in the art. This was the earlier definition that the invention is not obvious to a person skilled in the art.

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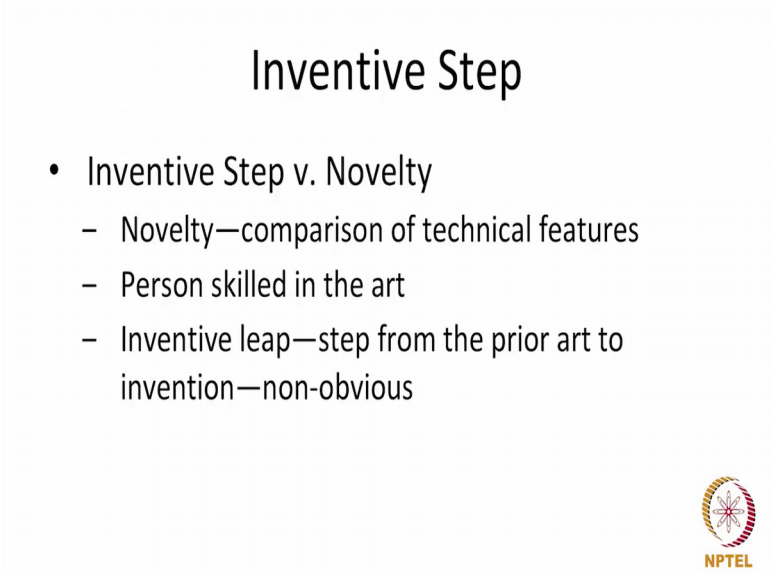

So, how different is the inventive step from the novelty requirement? The novelty requirement we had seen involves a comparison of a document that has been published or a use with the claim of a patent application.

So, it is a comparison, if the comparison matches in all the technical features, then the invention is said to have been anticipated. Provided there are no secrecy provisions and the prior art document predates the date of filing of an application with the complete specification. We saw that in the definition the definition of new invention did not mention anything about the person skilled in the art. There was no person or the entity who would be instrumental in the analysis was not there.

Whereas the construction for a novelty analysis, would be in from the perspective of a person skilled in the art because all patents are addressed to a person skilled in the art. It is a hypothetical construct, but the person skilled in the art himself is not instrumental in determining novelty because definition of new invention simply does not mention anything about the person skilled in the art whereas, in an inventive step analysis the key ingredient is to see whether the invention was not obvious to a person skilled in the art.

So, the person skilled in the er comes into the picture for an inventive step analysis. And the person skilled in the art is attributed various traits. For instance, a person skilled in the art is attributed to know every knowledge in that particular domain that has been published or that forms a part of the common general knowledge. He is attributed to it because he is in a hypothetical construct.

The person skilled in the art is attributed some cases have attributed a capacity of not getting bored, which means if there are thousands of documents, which form the knowledge of or the common general knowledge of a particular art, then the person skilled in the art would be attributed the knowledge of all those thousand documents which meaning which it would be assumed that he has read all those documents.

So, he has a capacity to understand things in the particular art and that capacity is almost infinite in the sense that he will not be expected to get bored in the process of understanding the scope of the prior art. Now what cuts the person skilled in the art and inventor who has come up with a patentable invention is that the person skilled in the art though he had the entire knowledge pertaining to the art, he was not able to make that inventive leap or that inventive step.

Now the inventor step there are various analysis which tells us what the inventive step is. We just understand an inventive step as a step from the prior art to the invention, which is a non-obvious step. A person in the art would not; obviously, take that step it is non obvious which means not every person in the art who has the knowledge of the art would take that particular step. Now there are art sticks for determining that step is one yardstick, which is now a part of the definition his technical advancement.

So, the art advance to a particular point and the entire art that is the field of technology was at a particular point of development. The invention which claims to have an inventive step or which involves an inventive step made an advancement from that point, what is contained in the phrase technical advance as compared to the existing knowledge.

So, there was a technical advancement and that was a substantial advancement not something which a person skilled in the art could have foreseen. So, that was a substantial advancement and the substantial advancement is something which is not an obvious extension of what the work that is normally done or the quotes have also used

the word workshop improvement or workshop variation. By workshop improvement or workshop variation, we understand the various things a person skilled in the art would do if he is encountered with a problem.

So, there is a problem and to solve the problem, you can attribute the person skilled in the art in a particular field of technology to do various courses or take recourse to various steps and all those steps if it results in something what could be claimed as an invention will still not amount who have satisfied the requirement of an inventor step because those steps the person skilled in the art would have anyway taken if he was faced with a problem.

So, anything that would be done ordinarily by a person skilled in the art will not be regarded as constituting or contributing to the inventive step.

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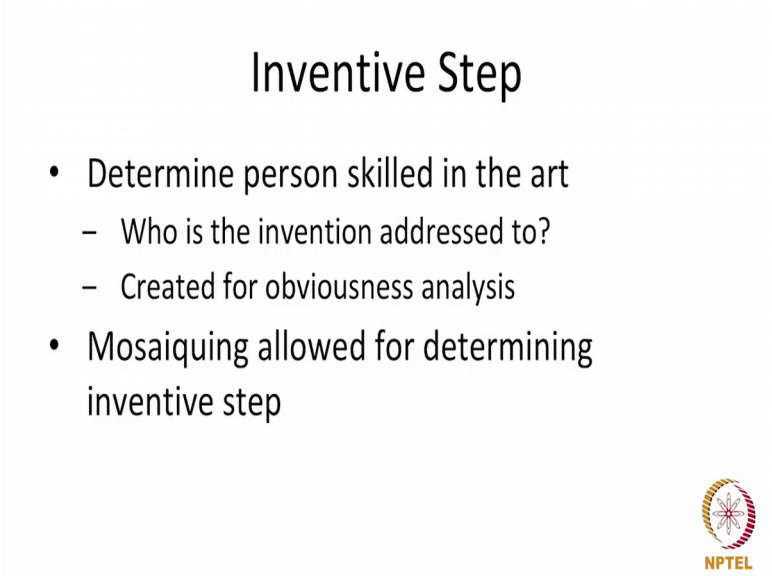

So, the first step in understanding an inventive step is to determine the person skilled in the art. Who is the person skilled in the art? To whom is the invention address to? The person skilled in the art is actually the addressee of an invention. The invention is addressed to him though an invention can be read by anyone and understood by anyone the invention is phrased in a manner in which it can be understood by a person skilled in the art.

So, the person skilled in the art is a hypothetical construct, which is created for an obvious ness analysis. And the quotes in many cases the first step the court will do is to identify the field of technology, to which because in some inventions the inventive part or the inventor step may come from different fields of technology. So, the court would identify the field of technology and then identify who is the relevant person skilled in the art for that technology.

And from that person once they identify that person it need not be a person in the modern world, it could be a team of people from the perspective of that person, the court will now try to analyze whether the invention involved an inventive step. Mosaiquing, which we had said is not permissible for a novelty analysis. This allowed in determining invented step. Because the person skilled in the art is capable of reading multiple documents, taking things from multiple documents putting them together and seeing whether particular problem can be solved.

So, the approach of a person skilled in the artist when he is faced with a problem, when he has faced with a technical problem he would normally do everything his peer would do. If everything that his peer would do, then that would not make the invention to have an inventive step. Because the problem got solved by a person skilled in the art doing what anybody else would have done if faced with that problem.

So, mosaiquing is allowed for determining an inventive step, whereas, it is not allowed for determining a novelty step. For determining a novelty analysis for the rim simple reason novelty analysis have to be a perfect match of the disclosure in the complete specification and in the prior art. It has to be a perfect match it has to be complete the match has to be complete all the technical features has to be disclosed in one document in 1 place whereas, because the inventive step involves the person skilled in the art, the person skilled in the art will be attributed the skill of combining and reading together documents.

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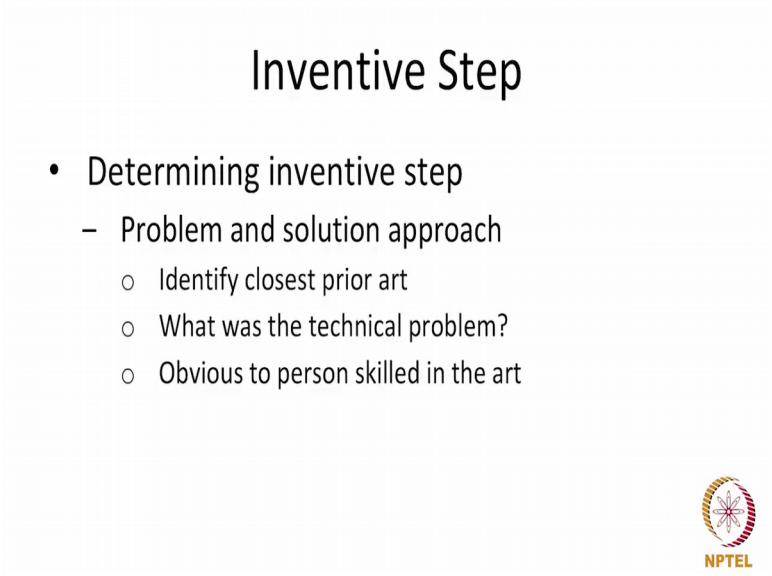

Now, there are different approaches in determining the inventive step. One is the problem and solution approach. The problem and solution approach is to look at the invention as a solution to an existing problem. There was an existing problem and that problem could not be solved by the person skilled in the art in that particular field. And the problem existed either it existed for a long time or the fact that people were repeatedly trying to prove that problem and solve the problem and they were unsuccessful.

the problem if it got addressed by an invention, then we would say that the invention solved an existing problem. So, this is called the problem solution approach. There is a problem that existed in the prior art and the documentation in the prior art shows that there is a problem and the invention actually solved that problem. So, the problem solution approach is an important tool in patent drafting because once you envisage the invention as a solution to a particular problem then it becomes easier to demonstrate inventive step.

Because the invention is now presented in the claims as a solution to an existing problem now there are 3 stages in the problem solution approach. The first stage what are we doing in a problem solution approach in the problem solution approach, we are trying to determine whether an invention involves an inventive step. So, there is an invention which is disclosed in a patent application which is filed along with a complete

specification. So, we have a claim which discloses an invention. Now we want to ascertain whether this claim stands clear of an inventive step analysis. So, one of the approach and this is predominantly followed by the European patent office, is the problem solution approach.

And in the problem solution approach the first step would be to determine the closest prior art. Because as we mentioned if we understand the inventive step as a step taken from the prior art, which a person skilled in the art could not take then it means the step was taken from the closest prior art. So, the closest prior art they could be multiple prior arts in a particular domain, what was the prior art that was closest to this image?

So, the first step will be in determining the closest prior art. So, if there is a mistake or an error in identifying the closest prior art then your problem solution approach for determining inventive step will be faulty. Because you did not identify the closest prior art. So, the closest prior art will tell you whether the leap from the closest parrot or to use the step from the closest prior art was something which was not obvious to a person skilled in the art.

So, the first step in the problem solution approach is to determine the closest priority. Second step is to establish the objective technical problem to be solved. Now we identify the closest prior art, and the second step is to establish the objective technical problem. Now these are phrases, which has come from the European codes. We may simply phrase it as what was the technical problem? Because the closest prior art would have enumerated the problem, but it would not have solved it.

So, first we identify the closest prior art. Then we establish the objective technical problem to be solved. So, we define the problem or we identify the problem to be solved. And the third step is considering whether or not the claimed invention starting from the closest prior art and the objective technical problem would have been obvious to a skilled person that is the obviousness analysis.

So, we start from the closest prior art and keep the technical problem in mind. And see whether the invention would have been obvious to a person. So, it is still an analysis of weather from the closest prior art keeping in mind the problem to be solved a person could have done this. Let us take the example of a paper clip. The paper clip when it was first invented, it did the job of holding papers together without damaging them. Let us

assume that the prior art before the paper clip was a wire which has to be pierced through the document. Or it was some fine some kind of a clip, which had to bind the document which could damage the document.

So, the paper clip solved the problem of holding papers together without damaging them. Now the paper believers are quite a simple invention because it is a steel wire which is bent appropriately in places to hold paper in between the wire now what would be the closest prior art for a paper clip? The closest for a prior art could be a clip the closest prior art could be a steel wire it could be a thread it could be punching machine and which could punch holes onto the document and item it could be. So, off the list of prior arts that are there the first step will be to determine the closest prior art. Let us assume it is a steel wire which can be pierced through the document and tied together let us assume for the sake of understanding this better.

Now once we identify a steel wire or a bit of a wire as prior art closest prior art, and by this we understand that it is either disclosed it is manufactured or it is disclosed in some document. Now we understand what is the technical problem that had to be solved. Objective technical problem to be solved he objective technical problem to be solved is managing paper or grouping paper together without damaging them.

So, to keeping holding paper together if you stick the paper together when you remove them apart it damages them. If you stitch them together it damages them. If you put a hole and tie it up with a string or with a thread it again damages them. So, if we understand the issue of the problem to be solved by the paper clip as holding paper together without damaging them. Then we will say that the technical problem or the objective technical problem to be solved is to manage papers together without damaging them.

Now we have the closest prior art which is a steel wire and we have the problem of managing paper together without damaging them. Now with these 2 things will it be obvious to a person to come up with the paper clip? Now if the answer is yes it would be obvious then paper clip would not solve or would not involve an inventor step. And it would not be granted a patent, but history tells us that, but there are multiple patents over paper clips over a period of time, especially from the US patent office and history also

tells us that paper clip was a hugely successful product which had got which had multiple patents on order over a long period of time.

So, the problem the first paper clip solved was managing paper without damaging them. And if you look at the prior art which was just a steel wire, it would have been difficult for a person at that point to end this age a steel wire in such a way that it could be used to hold paper without damaging them. So, this was the problem that was solved by the paper clip. So, the starting point of the closest prior art will assume that it is a steel wire plain steel wire and the objective technical problem which we will assume that managing people holding paper together without damaging them in any way. So, that you could remove the papers and use them as they were in it is original condition.

If a person who knew the closest prior art and the technical problem, could have solved it by coming up with a paper clip by bending a steel wire in particular places to hold the paper. If the analysis would allow that to happen, then we would say that the invention would not involve an inventive step. If on the other par hand if it can be ascertained that it would not have been obvious to a person, who had a steel wire and papers to manage and this problem of damaging paper then the invention would be non-obvious or the invention would involve an inventive step. The third requirement for determining patentability is that the invention should be capable of industrial application.

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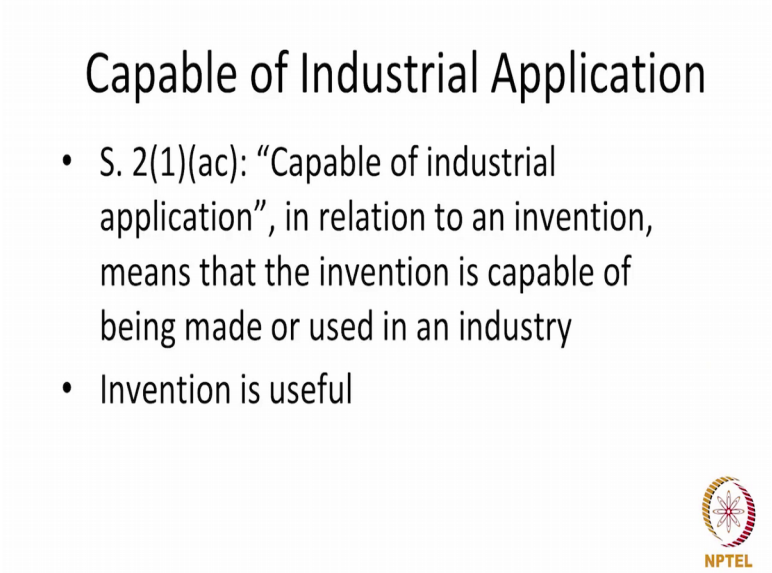

Capable of industrial application is defined under 2 one ac. It states that in relation to an invention, means that the invention is capable of being made or used in an industry.

So, if it is capable of being made or used in an industry. It is understood that it is capable of industrial application. Now the alternative word for capable of industrial application is utility, that the invention is useful. Usefulness is tied to industrial application. There is a reason for this because the industry as we understand it is a place where things are mass produced.

They are you can replicate things in a large number and duplication of things in an industrial scale means there is an assembly line of production and things can be duplicated in great number. Intellectual property rights especially when we talk about patents, patents are granted for things that you can repeat in big numbers. So, if an invention is patented and a patent is granted, it is granted with the promise that you have disclosed something which will be useful.

So, the usefulness can be demonstrated when a person is able to create large numbers of it in an industrial setup. Or he is able to use it in an industry again for mass production. So, the mass production is something which is tied to intellectual property rights in general and most specifically to patent law. Patents way granted with the promise that what was patented could be repeated in the same manner by creating multiple copies of it.

So, the utility requirement which is also regarded as the invention should be capable of industrial application requires the invention to be useful in producing mass copies of the same. Now the capable of industrial application could also bring in an element that an invention when it is patented need not be immediately capable of industrial application. It could also be that a person who has filed a patent could make a working model or could make a working version of his invention sometime in the future.

So, patents are also filed for there is a prospect theory, which says that patents can also cover prospects, even before the prospect actually ends up in a working version. Person skilled in the art we had seen that in the definition of inventive step we had seen that the invention to involve an inventive step, it should not be obvious to a person skilled in the art.

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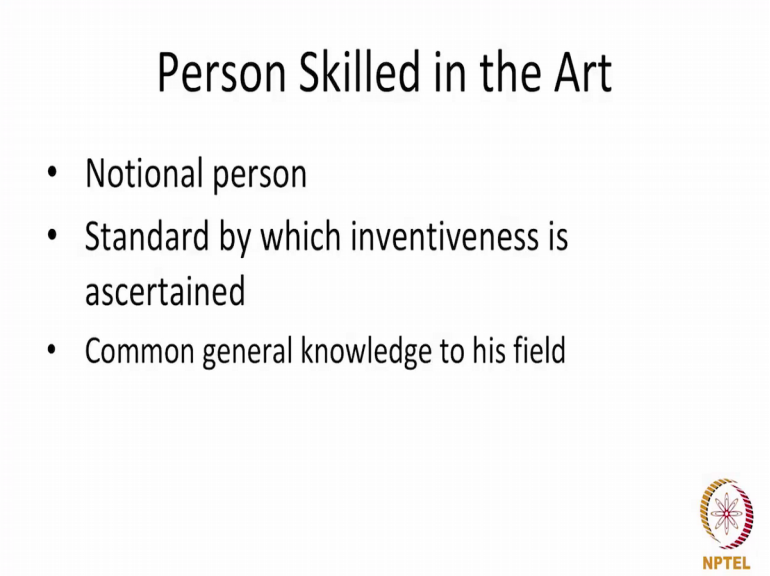

A person skilled in the art is a notional person or a hypothetical construct, who is construed or who is created to construe the invention to see whether the invention would be obvious or not.

So, the it is the standard by which the inventiveness of an invention is ascertained. It is a notional construct. It is created by the court. In cases where there are multiple technologies interfacing together, then the person skilled in the art will be a person who is attributed with all the knowledge in that particular domains. A person skilled in the art need not be a person it could be a group of persons, and in modern times we understand a person skilled in the art as a person who is attributable with the knowledge of the invention and all the fields of technology that converged to form an invention. As we had mentioned art refers to technology and art can change from invention to invention.

So, if an invention has 3 different types of technology coming together say technology on organic chemistry technology on biotechnology and technology pertaining to nanotechnology. Then the person skilled in the art will be attributed knowledge of all these 3 technologies. A person skilled in the art will be attributed of all the knowledge in the public domain and all the knowledge that he is entitled to know. In patent law we used the phrase common general knowledge.

So, the person skilled in the art will not only know every published material that is there in this domain, but he will also have common general knowledge, knowledge that is

general to his field. For in some cases tacit knowledge will be a knowledge a skilled person has which is not codified or we need not be codified or documented. A person skilled in the art will also be attributed this knowledge which need not necessarily be in a documented manner.

So, an inventive step analysis, because it brings in a person skilled in the art it is different from a novelty analysis. Because the person skilled in the art brings the mental component, he is able to read documents together. So, mosaiquing is permitted because the person skilled in the art is the person from whose view point inventive step is determined whereas, in novelty analysis it is not permissible to do mosaiquing.

A person skilled in the yard is attributed then common general knowledge which could be knowledge beyond what is in published document. So, to that extent an analysis of inventive step will have the mental element what is attributable to a person skilled in the art.