CYBER LAW -I

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UNIT I CYBER SPACE

I. Definitions, Meaning, Fundamentals and Understanding of Cyber Space

The term cyber space has garnered numerous definitions and interpretations given by both experts and lexicographers. **According to Adnan (2010)**, **cyberspace is an unreal world where information is constantly transmitted through or between computers.**

On the other hand, the cyberspace according to **pfaffenberger (2000) refers to the virtual space that computer systems have aided in its creation.**

According to **Chip Morningstar and F. Randall Farmer**, **cyberspace is defined more by the social interactions involved rather than its technical implementation.** In their view, the computational medium in cyberspace is an augmentation of the communication channel between real people; the core characteristic of cyberspace is that it offers an environment that consists of many participants with the ability to affect and influence each other. They derive this concept from the observation that people seek richness, complexity, and depth within a virtual world.

History of the word- Cyber Space

The term Cyber Space was introduced by **William Gibson** in his book **"Neuromancer"** in 1984. Although **Gibson** criticized the term by calling it redolent and meaningless. It is still used worldwide to describe facilities or features that are linked to internet .

Gibson initially explained the cyber Space as ***"a consensual hallucination experienced daily by billions of legitimate operators in every nations."***

Programme developers such as **Chip Morningstar** stated that the cyberspace gained its popularity as medium for social interaction as opposed to its technical execution and implementation.

Thus, unlike most computer jargon, the 'cyberspace' doesn't have a standard or objective definition. Instead , it is simply used to describe systems that extend across a global network of computers.

Cyberspace refers to the virtual computer world, and more specifically, an electronic medium that is used to facilitate online communication. Cyberspace typically involves a large computer network made up of many worldwide computer subnetworks that employ TCP/IP protocol to aid in communication and data exchange activities.

Cyberspace is an interactive domain made up of digital networks that is used to store, modify and communicate information. It includes the internet, but also the other information, systems that support our companies, infrastructure and services.

Cyberspace can be divided into a multi-layer model comprised of:

1. Physical foundations: such as land and submarine cables, and satellites that pro-vide communication pathways, along with routers that direct information to its destination.

2. Logical building blocks: including software such as smartphone apps, operating systems, or web browsers, which allow the physical foundations to function and communicate.

3. Information: that transits cyberspace, such as social media posts, texts, financial transfers or video downloads. Before and after transit, this information is often stored on (and modified by) computers and mobile devices, or public or private cloud storage services.

4. People: that manipulate information, communicate, and design the physical and logical components of cyberspace.

Collectively these tangible and intangible layers comprise cyberspace, which we are increasingly dependent on for essential components of daily life. A dependable and stable cyberspace is necessary for the smooth functioning of critical infrastructure sectors such as energy, transport, food, health and finance. As dependence increases, so do the costs of disruption—whether accidental or intentional—as well as possibilities for misuse and abuse.

Inside the internet is yet another circle—the web, or the pages that can be accessed using a web browser such as Firefox, Chrome or Safari. The internet and web are often used interchangeably, but in fact they are different and one of them sits inside the other. Although this chapter (and most popular commentary) talks about cyber security, what is really meant is security of the internet, where the vast majority of global communication takes place.

The four layers of cyberspace described above (**physical, logical, information, and people**) have three primary characteristics—**connectivity, speed and storage.** These characteristics enable both the positive and negative aspects of the digital environment and should be understood in order to place cyberspace in context. This is also how readers can begin to understand cyber security—by examining the basic layers of cyberspace and their characteristics and analysing what this means for the safety and stability of the modern digital world.

Connectivity

Nearly 40 per cent of the world's population is connected to the internet, through PCs, laptops, tablets and mobile phones. In addition, there are billions of other connected 'things' such as sensors embedded in cars, factories, buildings, airplanes, TVs and toasters. This rapidly increasing connectivity produces value and benefits that are more than the sum of the individual parts. This is known as a positive 'network effect'—as more devices are connected, more information is generated and shared, and the value of the network increases for everyone.

Speed

Why does cyberspace seem to change so quickly, presenting opportunities and challenges at greater speed than we are accustomed to in the physical world? There are a number of reasons for this change, and they are scattered throughout the twentieth century. They

include the inventions of the semiconductor and transistor. Steady advances in technology led Gordon Moore (co-founder of Intel) to state his belief that engineers would be able to double the number of transistors on a computer chip every two years. This observation, known as Moore's Law, was made in 1975 and has held true for the past four decades. It means that the speed—processing power—of computer chips increases steadily, making laptops more powerful, turning smartphones into handheld computers, and allowing Google searches to be completed ever-faster.

Storage

Greater connectivity and speed are nice, but they mean little without storage. What good is an email, text, spreadsheet or document if it can be sent and received, but not stored and retrieved? Storage capacity has come close to matching Moore's Law (namely, doubling roughly every two years) as hard drives have moved from gigabytes to terabytes and continue to grow.

Storage involves not only capacity, but also performance, which is the input/output speed of a storage device. Performance has increased dramatically with the transition, over the past decade, from traditional hard drives with spinning discs to solid state hard drives that have no moving parts—the same storage in smartphones and flash drives. Storage allows internet users to download and retain music, videos, pictures.

Cyberspace's core feature is an interactive and virtual environment for a broad range of participants.

In the common IT lexicon, any system that has a significant user base or even a well-designed interface can be thought to be "cyberspace."

Cyber space is the virtual computer world that could be an object that is floating around a computer network or system. Cyberspace has now extended to the global computer network as well. A better understanding of cyber space can be developed by finding the answer of following questions:

1) What Exactly Is Cyberspace?

Let us delve deep into understanding what Cyber space actually is. Cyberspace is where users are allowed to share varied information, swap ideas and interact, play games, and engage in various social forums. They can conduct business here and indulge in various activities. It is any feature that is linked on the internet. Every kind of a virtual interface that creates some form of digital reality is cyberspace. Global content can be used for various purposes that could include entertainment and commerce. It is how human society makes it is what defines cyberspace. So what is cyberspace? Cyberspace exists when the stakeholders hold virtual meetings. The use of smartphones brings the sense that there is growth in cyberspace.

Also, massive gaming players online is an example of cyberspace. Here people do not sit face to face but get connected through the digital world. They look at their device from a

remote location. Cyberspace also comes into the picture when there is language translation that occurs automatically in the blink of an eye.

In a nutshell, when you define cyberspace, cyberspace is everything that uses the internet. It is evolving and also promises to get more diverse as years come by.

2) What is the Use of Cyberspace?

Now let us talk about what use cyberspace has for us. We live in an internet era and the indispensability of the internet is something that we cannot deny about. The expanding computer network, technologies, and the internet have evolved into what is known as cyberspace. It is a virtual environment where there is communication between computer networks.

Cyberspace brings in many uses. It lets you do everything possible through the internet. Be it education, military, finance, or even education today everything is connected to what is known as cyberspace. There is not a single sphere in our life that is not connected to social media.

The internet has made it efficient to store and to handle data. It has made man's life organized and more systematic. Be it for e-banking or booking tickets or even to work online, cyberspace is everywhere.

3) Working of Cyber Space

Cyberspace allows users to share information, interact, swap ideas, play games, engage in discussions or social forums, conduct business and create intuitive media, among many other activities. We know that cyberspace is something without which life cannot be imagined today. So how does cyberspace function? Be it from up in space or from under the water, understand how the internet makes it possible to transfer information. It seems pretty straightforward to get online. However, there is much more than what occurs backstage.

Hidden below the sea level and above the surface of the earth, there are complex and large cables as well as networking satellites that let you stream your favourite movie and use the maps to navigate to your preferred location. There are many physical installations that let you be connected wirelessly.

Private hands mostly develop and maintain cyberspace infrastructure. We are all online but no international or centralized authority contains what occurs on the internet or how cyberspace is managed and structured. There are submarine cables that transmit the data making use of fiber optic technology. These submarine cables are the major carriers of data and they transmit lots of data cheaply and quickly.

4) Is Cyberspace The Same As The Internet?

Cyberspace and the internet have been capable of creating a virtual world for cultural as well as for various social practices. With virtual cyberspace reality, it is now possible to see, communicate, and represent information. The cyberspace internet is a virtual world of

computers that facilitates communication online. It is a world where information gets transmitted through the internet. **Cyberspace internet is however different from the internet.** The internet is a global network of computers that offers information and facilitates communication through the networks that are interconnected. This it does by using standardized communication protocols.

The cyberspace internet on the other hand is the virtual world of computers which is the world over a virtual computer network environment.

To understand the cyberspace meaning and its differences clearly it can be said that the internet is a set of networks of computers that make use of the internet protocol to communicate. This is the internet. Cyberspace is an information world through the internet.

5) Is the web not the internet?

When cyber security is mentioned, many people tend to think of the security of their devices, home or work computers, or the websites they visit on a daily basis. But cyber-space is much larger than this and includes the sum of global digital networks. It includes all digital communications including obscure and legacy communication protocols or isolated networks (for example, nuclear weapons silos) that are not accessible through the internet. The internet (the IP—or Internet Protocol—network) is a slightly smaller circle that includes the most popular and widely used forms of communication. Author and journalist **John Naughton** provides a useful analogy to describe the difference between the internet and the web:

"Think of the internet as the tracks and signalling, the infrastructure on which everything runs. In a railway network, different kinds of traffic run on the infrastructure—high-speed express trains, slow stopping trains, commuter trains, freight trains and (sometimes) specialist maintenance and repair trains".

On the internet, web pages are only one of the many kinds of traffic that run on its virtual tracks. Other types of traffic include music files being exchanged via peer-to-peer networking, or from the iTunes store; movie files travelling via Bit Torrent; software updates; email; instant messages; phone conversations via Skype and other VoIP (internet telephony) services; streaming video and audio; and other stuff too arcane to mention.

II. Interface of Technology and Laws defining Cyber Laws

The core feature of Cyber Space is an extremely interactive virtual environment for an incredibly large range of participants. Through the cyber space users are allowed to share information, swap ideas, engage in social discussion, interact and play games, create media conduct business.

One way to talk about cyberspace is related to the use of the global Internet for diverse purposes, from commerce to entertainment. Wherever stakeholders set up virtual meeting spaces, we see the cyberspace existing. Wherever the Internet is used, you could say, that creates a cyberspace. The prolific use of both desktop computers and smartphones to

access the Internet means that, in a practical (yet somewhat theoretical) sense, the cyberspace is growing.

Cyberspace is a concept describing a widespread, interconnected digital technology. "The expression dates back from the first decade of the diffusion of the internet. It refers to the online world as a world "apart," as distinct from everyday reality. In cyberspace people can hide behind fake identities, as in the famous The New Yorker cartoon." (Delfanti, Arvidsson, 150) The term entered the popular culture from science fiction and the arts but is now used by technology strategists, security professionals, government, military and industry leaders and entrepreneurs to describe the domain of the global technology environment, commonly defined as standing for the global network of interdependent information technology infrastructures, telecommunications networks and computer processing systems. Others consider cyberspace to be just a notional environment in which communication over computer networks occurs.The word became popular in the 1990s when the uses of the Internet, networking, and digital communication were all growing dramatically and the term cyberspace was able to represent the many new ideas and phenomena that were emerging.

As a social experience, individuals can interact, exchange ideas, share information, provide social support, conduct business, direct actions, create artistic media, play games, engage in political discussion, and so on, using this global network. They are sometimes referred to as cybernauts. The term cyberspace has become a conventional means to describe anything associated with the Internet and the diverse Internet culture. The United States government recognizes the interconnected information technology and the interdependent network of information technology infrastructures operating across this medium as part of the US national critical infrastructure. Amongst individuals on cyberspace, there is believed to be a code of shared rules and ethics mutually beneficial for all to follow, referred to as cyber ethics. Many view the right to privacy as most important to a functional code of cyber ethics.Such moral responsibilities go hand in hand when working online with global networks, specifically, when opinions are involved with online social experiences.

Laws Defining Cyber Laws

Cyber Law is a generic term referring to all the legal and regulatory aspects of the internet. Everything concerned with or related to or emanating from any legal aspects or concerning any activities of the citizens in the cyberspace comes within the ambit of cyber laws. Cyber Law encapsulates legal issues which are related to the use of communicative, transactional, and distributive aspects of networked information technologies and devices. It encompasses the legal, statutory, and constitutional provisions which affect computers and networks. Let’s study the meaning and basic elements of cyber law.

The laws prevailing the area of cyber space and the world of the internet is cyber law and the users of the areas fall within the ambit of these cyber laws.

Thus cyber law is essentially the branch of law that deals with legal issues which are related to use of inter-networked information technology. The governing mechanism and legal structures that oversee the growth of electronic commerce in India fall within the domain of cyber law.

Cyber law essentially encompasses laws relating to electronic and digital signatures, cybercrimes, intellectual property, data protection and privacy . The major areas of cyber laws includes defamation, fraud, copy right harassment or stalking , trade secrets freedom of speech, contracts and employment law.

Regulation and legislation in India

Due to the increase in globalization, computerization and the growth of e-commerce in 90s, **UNCITRAL** adopted its **Model Law on e-commerce in 1996**. So In 1996, the United Nations Commission on International Trade Law (UNCITRAL) adopted the model law on electronic commerce (e-commerce) to bring uniformity in the law in different countries.
Further, the General Assembly of the United Nations recommended that all countries must consider this model law before making changes to their own laws. **The UN General Assembly** then passed a resolution in 1997 recommending the states in the **UN** to give favourable considerations to the model Law. India became the 12th country to enable cyber law after it passed the Information Technology Act, 2000.

In the IT Act, 2000, there are special provisions under Chapter III to grant legal recognition to electronic records, signature, and also encourage the government and its agencies to use them.

The detailed analysis of the IT Act and UNCITRAL Model Law of India is given in Unit 2 and Unit 3 of these notes.

Conclusion:

Cyberspace is thus something that is now a part of human life. It has eased the way of carrying out work and makes life easier for all. However, with its boons comes some bane as well. The ease of carrying out work through cyberspace has also caused some serious issues to the personal security and safety of an individual. There is a rise in the incidents caused because of cybercrimes which are on the rise. Counterfeit calls, hacking online frauds have now become a daily affair. And cyberspace is the thing to be blamed for these.

Because of unregulated and uncontrolled internet usage, people have now been exposed to many kinds of unwanted dangers. Children are exposed to inappropriate content on the internet which they have an easy access to. They may play inappropriate games that tend to impact their minds. Cyberspace increases unproductive work which in turn leads to a waste of time. It also affects mental and physical health. Sitting in front of a computer or TV screen for long hours has a serious impact on health.

While all is not good all is also not bad with cyberspace. Cyberspace is essential to grow and develop as a community. However, care should be taken to ensure adequate caution and precautions when using cyberspace. The government also should get involved and takes the

appropriate measures so that there is no misuse of cyberspace and such that it can be used for the betterment of the human society.