ISSUES OF CONTROL, ACCESS AND MISUSE OF TECHNOLOGY

14.10.1 Objectives
1. To understand the need for control over technology.
2. To analyze the various reasons and effects of lack of access of technology
3. To study the ways through which technology is misused.

14.10.2 Introduction
Technology has been a boon for humankind. It has led to progress and development. It has become an indispensible part of today’s daily life in several small and big ways. However, it has also led to many problems in society. Several of these problems are not due to the technologies itself but due to the improper control over it or its misuse. Many countries have realized this issue and have created strict laws to handle issues relating to technology.

14.11 ISSUES RELATING TO CONTROL OVER TECHNOLOGY

The development of technology is not the right of a certain organization or country only. Any individual researcher or organization can invent, develop and sell a certain technological product. Similarly use of technology is not confined to a single group. Every society in the world today is affected by and is a part of technological development. Technology does not remain only a product for processing in industry or advancement of communication. Today it is a part of social process which affects social relationships, methods of communication, behavior patterns and also laws. Lives of people have become so dependent on technology that life system slows down or even sometimes comes to a standstill when technology shuts down. For example, the loss of internet connectivity means time lost on business, cut off from friends on social network etc. Teenagers and adults alike suffer from addiction to mobile phones. Direct communication has suffered due to chat and mails. These issues point out the overly dependent relationship of human beings and technology.

14.11.1 Need for Control
There are several concerns of health, ethics, environment and behavioral problems relating to the use of technology. Thus there is a direct need for some kind of control over the use of technology.
Following are some of the issues that require control and discretion in their use:

1. Children’s use of technology: Today the youngest of the children can handle Smartphones with ease. Children are exposed to the wide world of information and communication. Gaming on computers has reduced physical activity among them. They can communicate to strangers and can access pornographic websites easily. Parental control is required to protect children from becoming victims of cyber crimes, bullying and also indulging in prank or act which may become dangerous. Several hardware and software solutions are available to keep ensure parental control on the use of internet by children.

2. Environmental issues: Pollution is one of the biggest ill effects of technology. Excessive use of fuels, cutting down of forest and use of artificial pesticides and chemical fertilizers in agriculture are some of the reasons of pollution. Increasing global heat, the alarming quantities of carbon, mercury and sulphur are adversely affecting the life of flora and fauna. Natural cycles and bio diversity is affected. The concept of corporate social responsibility (CSR) has been developed to ensure environmental protection alongside industrial growth.

3. Genetically modified food: Researches have proved that genetically modified food is better in quality, has better natural features and is also beneficial for farmers. However the production and consumption of genetically modified food raises several ethical and health related issues. Some religious and ethnic groups are against the production of plants with animal genes in them. There are debates over health issues relating to the consumption of such food. Genetically modified plants may require lesser amount of pesticide but it requires much greater amount of chemical fertilizers than natural plants. Adequate research has not yet been carried out to identify the effects of eating animals fed with genetically modified food grains. Genetically modified food is largely used worldwide without much of awareness. Proper research in this area and proper control over the mediums of production of genetically modified is required.

4. Cloning: Be it animal or human cloning, it is considered as unethical by many people, especially those with strong religious beliefs, all over the world. They believe that living beings should not be considered as objects of experiments. Cloning has opened many options for providing solution on several diseases. The US government has approved the consumption of meat from cloned animals. There are
debates regarding the risks related to consumption of such food. Scientists continue to research in bioengineering and cloning to explore greater possibilities despite the opposition. Effective control is required to prevent harmful effects and misuse of such technology.

5. Information technology: Information technology has made communication quicker and easier. However, hacking of email accounts, bank accounts, personal data are some of the issues relating to its use. To prevent cyber crime and help its victims, a specialized cyber police force is required. Strong cyber laws can help in such issues with strictness.

6. Danger of cell towers: Increasing number of cell towers in residential areas has led to serious health hazards. Results have proved that people suffer from variety of physical and mental disorders like hearing problems, attention disorder and even cancer due to immediate exposure to radiation from cell towers for a long time.

Above examples clearly show that there is utmost need for control over technology. The nature and degree of control can be different depending upon the intensity of ill effects of the particular technologies.

14.11.2 Forms of Control

Various agencies in the society can exercise control over technology, it should be kept in mind that such control should be legal. Moreover it should be exercised in such a manner that research and development in science should not be harmed. The agencies should keep in mind the rights of human society in total and should have proper knowledge of the problems posed by technology. Following forms of control over technology can be seen:

- State control: Government can exercise effective control over technology by making relevant laws. Cyber laws exist to curb crimes related to technology. Government granting patents has provided a legal framework for technological innovation.

- Non-governmental organizations: Civil societies can play an important role in exercising control over technology in use. NGOs are in direct contact with the people. They can generate awareness among them, gather feedback from them about their experiences with certain technology and convey such feedbacks to the government and technological experts effectively.
International control: International organizations like the UNO, Nuclear Energy Agency (NEA) etc work towards cooperation in production of technology and its use.

14.12 ACCESS TO TECHNOLOGY

The application of any technology becomes successful when the technology becomes useful to a greater number of people directly or indirectly. There are several issues relating to access to technology. Several efforts are made by different agencies to make technology accessible to all people around the globe.

14.12.1 Hindrances to Free Access

Following are some of the important factors which are hindrances to the access of technology;

1. Patents: Patents are legal rights of the inventors over the access and its use. It is gained so that the inventor gets monetary rewards related to the development and use of the invention in terms of royalty. Copyrights and patented technology may be expensive for some people and hence not accessible.

2. Government restrictions: The Government exercised a certain degree of control over what kind of technology its citizens use. It may put restrictions over the use of such technology which it considers harmful for its society.

3. Lack of infrastructure: Technology requires a certain environment to function properly. For example computers require electricity or for distribution of electricity a wider grid network is required. So people living in villages with no electricity will not be able to use electrical devices.

4. Illiteracy: Certain technology requires the users to be literate. For example illiterate people will not be able to use mobile phones. There is a known ‘technological illiteracy’ as well. ‘Technological illiteracy’ means lack of knowledge and training in the use of a certain technology. Many educated people from the older generations cannot use computers because of lack of technical knowledge.

14.12.2 Effects of Lack of Access

The reason for lack of access to technology will vary from region to region. Due to lack of access, the society may lag behind in the developing world. Following are some of the conditions which may arise due to lack of technological access.

1. Lower standards of living: The use of technology in daily life signifies a comfortable standard of living even if it does
not involve luxuries. Technology facilitates easy life. Lack of access to technology may result in poor standard of living in the society. The people may remain dependent upon older, time and energy consuming ways for daily life.

2. Inequality: If a part of society does not have access to technology they may be looked down upon by those having access. They may be discriminated and treated unequally. For example those regions having lesser technological access are considered backward, like many villages in India. This inequality is reflected in social, economic as well as political fields.

3. Emphasis on labour use: Minimum or no use of technology in work puts greater pressure on the labour. It increases their hardships, working hours and amount of energy they put into work.

4. Environmental degradation: Technology is the answer to all problems created by technology. For example chemical waste created by industries can be passed through a cleaning machinery to be treated before letting it out so that it does not become harmful to nature. Many such technologies can be adopted to maintain balance between development and sustainable environment.

14.13 MISUSE OF TECHNOLOGY

Access to technology is made accessible by following various mediums to ensure all round development of society. However technology has been misused by many on several occasions in the past. The misuse of technology should not discourage innovation. In fact with proper protection measures and awareness misuse can be prevented. Some of the misuses are explained as below:

1. Information technology: Information technology is the most widely available form of technology. Television, radio
and today even computers and mobile phones are accessible to the youngest of the society. A large amount of information is stored on computer databases. Though protected with passwords and security checks, this information can be accessed discreetly and misused. The degree of crime related to internet and computers has been such that cyber laws specific to this field had to be evolved. Fake profiles, websites, offers employments and investments are created to cheat people. Malwares and viruses are created to destroy information on computers. Such viruses corrupt the system and render it useless. Many viruses have led to losses of millions to bigger organizations. Email and messaging through phone or SMS are widely used by stalkers, miscreants to threaten, bully, blackmail or even defame people. Various fraud employment schemes and investment offers have led to loss of their life savings to people. Pornography and creation and sharing of sexually illicit material are a problem faced by several countries.

2. Nuclear technology: In today's times nuclear energy is considered as the most powerful and best non-conventional source of energy. Its application in the production of electricity and other researches is increasing tremendously. However the beginning of the use of nuclear power happened in the most inhuman way. This power was introduced to the world in the Second World War by USA when it dropped atomic bombs on Japan. Since then every developed nations is producing and accumulating nuclear weapons to increase its strength. Though an international agency exists to regulate its use many countries such as Iran and North Korea threaten the world with their increasing nuclear weaponry.

3. Food technology: Use of chemicals at various levels of production of food has resulted in severe health hazards. The chemical preservatives and emulsifiers used in processed food have harmful effects on important systems of the body. Synthetic colours and flavours used in ready to eat foods, snacks and beverages have serious effects on the cells of human body. These foods can cause serious diseases such as cancer, diabetes, premature ageing and arthritis. They can cause genetic disorders which may affect future generations. Also the pesticides for protecting the plants can become dangerous for human health if not treated properly.

4. Genetically modified food: Genetically modified food has created a revolution in food production. There are several health issues that can arise as a result of consumption of such foods. Scientists have expressed fear of diseases like
cancer; food allergies and damage to the immune system may develop.

5. Media: Media is the most direct and widespread means of technology. Its misuse therefore affects large number people at one time. The direct exposure of sensationalised news to children is a matter of serious concern. Also the addiction of children to T.V and internet hamper their personality development and social skills. They also face challenges of health like obesity, laziness attention disorders. They may fall prey to internet bullies and scams.

6. Sonography: Ultrasound machines are used to check the growth and health of fetus growing in the womb detect abnormalities in the abdomen and chest and test some functions of the heart. Check up through ultrasound is an important and basic medium, beneficial in many ways. It is a considerably affordable medium of diagnosis. In India however people use the facility to detect the sex of the fetus. If it is a girl child then she is killed. Many cases of doctors involved in female foeticide have come up in the past. Though there now exist a law prohibiting sex determination at Sonography centers, such practices are continuing especially in the backward and rural areas. This has resulted in skewed sex ratio in many regions.

14.14 SUMMARY

The technological development in various fields of science has brought revolutionary changes in today modern society. The usage of these technologies in agriculture, industry, for effective communication, defense, in medical science and in everyday life has proved to be boon to entire human kind. The remarkable inventions and their successful application in above mentioned fields have led to development of societies. However one must be careful about their use as there are chances of misuse of these technologies. Therefore it has raised many issues over how to control technology and prevent its misuse.