Innovative University of Eurasia
Subject : Information and Communication Technologies (ICT)

THEME: AN ICT ROLE IN KEY SECTORS OF DEVELOPMENT OF SOCIETY. STANDARDS IN THE FIELD OF ICT.

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IT (Information Technology)

- The term Information Technology refers to an entire field that uses computers, networking, software, and other equipment to manage information electronically in a digital form. Consider an IT department in an organization. They are equipped with computers, database Management Systems, servers, and security mechanisms for storing, processing, retrieving, and protecting information available with the organization. You might have heard about the professionals working in such department of a company like system administrators, database administrators, programmers, IT managers, network engineers. If it is a business organization, they all work together to provide services such as providing information, providing tools to improve the productivity, automating the business processes, and providing means for connect with customers. Therefore, in the modern world, IT is an essential part of all of business operations

Information and Communication Technology

- The term **Information and Communication Technology** can be considered as an extended version of the term IT as it involves a „C" that represents the **communication** of data by electronic means, usually over some distance. Here, communication refers to the media broadcasting technologies, audio/video processing and transmission and telephony. Recently, the term ICT has been used to refer to the integrating telephone and audio/ visual networks with computer networks. This integration has provided large savings of costs due to the elimination of telephone networks. Simply, ICT can be seen as the integration of information technology with communication technology.

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Definition of ICT

ICT is a **technology** required **for information processing**, in particular, the use electronics computers, communication devices and application software to convert, store, protect, process, transmit and retrieve information from anywhere, anytime.

Information

1. Information refers to the knowledge obtained from reading, investigation, study or research.

2. The tools to transmit information are the telephone, television and radio.

3. We need information to make decisions and to predict the future. For example, scientists can detect the formation of a tsunami using the latest technology and warn the public to avoid disasters in the affected areas.

4. Information is knowledge and helps us to fulfill our daily tasks. For example, forecasting the stock exchange market.

Communication

1. Communication is an act of transmitting messages. It is a process whereby information is exchanged between individuals using symbols, signs or verbal interactions.

2. Previously, people communicated through sign or symbols, performing drama and poetry. With the advent of technology, these 'older' forms of communication are less utilized as compared to the use of the internet, e-mail or video conferencing.

Technology

1. Is the use of scientific knowledge, experience and resources to create processes and product that fulfill human needs?

2. Aiding Communication - telephone and fax machines are the devices used in extending communication.

3. Spreading Information – To broadcast information such as news or weather reports effectively. Radio, television, satellites and the World Wide Web (www) are powerful tools that can be used.

Evolution of computers

GENERATION	COMPONENT	FUNCTION
First 1940 - 1956	Vacuum tubes	• to store and process data • example: **ENIAC**
Second 1956 - 1963	Transistor	• to replace vacuum tubes in computers • do not produced lots of heats and use less power • faster, cheaper and smaller
Third 1964 - 1971	Integrated circuits	• replacing transistors • more reliable and compact than computer made with transistor • cost less to manufacture
Fourth 1971 - Current	Microprocessor	• built onto a single silicon chip • 100 times smaller than ENIAC
Fifth Present and beyond	Artificial Intelligence	• still in development • some application such as **voice recognition**

Impact of ICT on society.

FASTER COMMUNICATION SPEED

LOWER COMMUNICATION COST

SOCIAL PROBLEMS

impact of ICT on society

RELIABLE MODE OF COMMUNICATION

BORDERLESS COMMUNICATION

EFFECTIVE SHARING OF INFORMATION

PAPERLESS ENVIRONMENT

EDUCATION

✔ **Teacher** use computers to research for teaching materials, participate in online forum and online conference.

✔ **Students** use computers as reference tools for looking information in the Internet.

✔ **Researchers** use computers to collect and process data.

✔ **School administrators** use computers for administrative purposes to ensure that entire operations run smoothly.

BANKING

✔ **Bank administrators** can control the entire banking system and banking activities.

✔ To provide electronic banking services for **customers**.

✔ **Businessman** can save their time by using online services offered by banks.

INDUSTRY

✔ To **help workers** operate machine.

✔ To **help researchers** analyze and collect research data for future references.

✔ To **help administrators** to oversee and control entire operations in the factory.

✔ To **facilitate production planning** and control system.

E-COMMERCE

✔ To **make buying and selling activities** faster and more efficient through Internet

✔ To **connect online customers with suppliers** to purchase products. This method can save time and cost.

✔ To **help employees** to communicate with their customers for any inquires and to get the latest updates inventory to be informed to the customers.

Differences between computerised and non-computerised systems.

Computerised	Non-Computerised
▪more interesting & interactive experiences	▪depends on teachers & textbook
▪all transactions are done by computers	▪banking was done manually
▪Computers and telecommunications industry became very popular and profitable since production can be increased through an all day operation.	▪Production was slow because everything was done depended on human labor.
▪E-commerce plays an important role in the economic scene. It includes distribution, buying, selling and servicing products that are done electronically	▪Trading was made using the barter system and it was then later developed into currency.