TRENDS AND ISSUES IN ICT

1. **Generations in mobile communication**
   1G: Voice calling using analog signal
   2G: GSM and CDMA with the help of SIM cards using digital signals technology enables calling and multimedia messaging.
   3G: Faster communication,Transfer audio and video files,Send & receive large amounts of data.
   4G: It is called Long Term Evolution. It has high quality, speed and capacity.
   5G: Faster and better quality long-range connectivity than the previous generation

2.***Mobile communication services:

▶▶ **Short Message Service (SMS) :** Allows transferring short text messages containing up to 160 characters between mobile phones using the protocol called Signalling System No.7(SS7).
▶▶ **Multimedia Messaging Service :** Allows sending multimedia contents (text, graphics, music, video clips etc)
▶▶ **Global Positioning System :** It is a satellite based navigation system.
▶▶ **Smart cards :** Plastic card embedded with a computer chip that stores and transmits data.
Eg : SIM Card, ATM Card

3.*Mobile operating system :** It serves as an interface between the end user device(hardware) and the application(software)
Eg : iOS from Apple, BlackBerry OS from BlackBerry , Windows Phone from Microsoft
Android from Google (Android OS has Linux kernel)
Functions of mobile operating system : File management, memory management
Process management,User interface.

4.Intellectual Property Rights(IPR) :

4.1 **Industrial property :**
4.1.1 Patents : It is the exclusive rights granted for an invention.

4.1.2 Trademark : It can be name, logo, symbol,etc that used to recognise a product or service.
Two popular trademarks,
4.1.2.1 Industrial design : It process of design applied to physical products that are to be manufactured by mass production.   Eg : Design of Coca -Cola bottle
4.1.2.2 Geographical indications : It is a tag for natural and agricultural products produced in a particular area or region.   Eg : Kozhikodan Halwa
4.2 **copyright** : Copyright is the legal right given to creators for works such as books, music, etc.

5.Cyberspace: It is a virtual environment created by computer systems connected to the internet.

6 Cyber crimes: Criminal activity using computer ,mobile phone and Internet.

6.1. Cyber crimes against individuals : An act of a person in cyberspace that causes physical or mental trouble to an individual is referred to as cyber crime against individuals.

➤ **Identity theft :** Stealing someone's username, password etc.
➤ **Harassment** : Post humiliating(insulting) comments against individuals.
➤ **Impersonation and cheating :** Creating fake accounts and deceiving others.
➤ **Violation of privacy :** Distributing other people's data, photos etc.
➤ **Dissemination of obscene material :** Distribute obscene videos and photos.

6.2 Cyber crimes against property

i) Credit card fraud   ii) Intellectual property theft iii) Internet time theft

6.3 Cyber crimes against Government

i) Cyber terrorism ii) Website defacement
iii) Attacks against e -governance websites

7. Cyber forensics : Cyber forensics can be defined as the discipline that combines elements of law and computer science to collect and analyse data from computer systems ,networks, communication systems and storage devices in a way that is admissible as evidence in a court of law.

8. Infomania : Infomania is the state of getting exhausted with excess information.

Expansion

ICT -Information and Communications Technology

GSM - : Global system for mobile communication

CDMA - Code Division Multiple Access

SIM - Subscriber Identity Module

GPRS - General Packet Radio Services

EDGE - Enhanced Data rates for GSM Evolution

SMS - Short Message Service

MMS - Multimedia messaging service

GPS - Global Positioning System

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