INTRODUCTION TO ICT - CHAPTER 7

1. **Mention any three ICT tools that are used in day-to-day life.**
   Mobile Phones, Television and Newspaper are the ICT tools that are used in day to day life.

2. **How is ICT used in the field of Health Care?**
   In Health Care ICT helps in hospital management and administration. It helps the doctors and nurses to diagnose, treat, and monitor patients.
   For public or common people, one can search and learn about various diseases, their symptoms, cures and precautionary measures on the internet.
   In the pharmaceutical sector ICT is very useful in developing cutting edge research and manufacturing.

3. **What is the role of ICT in various workplaces?**
   The following are the various uses of ICT in workplaces.
   1. **Communication:** ICT facilitates instant communication through email, messaging apps, video conferencing, and VoIP (Voice over Internet Protocol) systems, enabling employees to collaborate regardless of location.
   2. **Education:** ICT enables online learning and training through learning management systems (LMS), virtual classrooms, webinars, and interactive multimedia content, allowing employees to develop skills and knowledge remotely.
   3. **Mining:** ICT tools such as Geographic Information Systems (GIS), 3D modeling software, and simulation tools are used for mine planning, design, and optimization. These tools enable miners to visualize geological data, plan mining activities, and optimize resource extraction while minimizing environmental impact.
   4. **Automotive Industry:** ICT tools such as computer-aided design (CAD) and simulation software enable automotive engineers to design and test vehicle components and systems virtually before physical prototypes are built. This allows for the identification and

correction of safety-related issues early in the design process, reducing the risk of safety recalls or accidents.

5. **Financial and Public Sectors:** ICT systems manage and store vast amounts of data, including customer information, financial records, and operational data, using databases, cloud storage, and enterprise resource planning (ERP) systems.

COMPONENTS OF COMPUTER SYSTEMS - CHAPTER 8

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1. **What is the function of the CPU?**

   CPU is the main unit of the computer. It controls all the internal, external devices. It performs arithmetic and logical operations.

2. **What are the components of the CPU? Explain briefly?**

   The following are the components of CPU

   1) ALU - Arithmetic and Logical Unit: This unit of CPU performs arithmetic & logical operations on the operands.

      Ex. +, -, *, /, >, <, <=, >=, <> (not) etc.

   2) CU - Control Unit: This unit of CPU controls operations of other components of Computer. It controls the flow of instructions in and out. It also controls the flow of data from various components of the computer.
   3) MU - Memory Unit: This is the crucial unit of CPU. all the instructions and data are primarily stored in a memory unit (cache & Registers).

3. **What is a Register? Name some of them?**

   Register is a very small data holding place in a computer processor. It holds an instruction, storage address or data. Each Register has a specific function. The various types of registers are

   A. AC - Accumulator
   B. DR - Data Register

C. AR - Address Register
D. PR - Program Counter

4. What is the difference between RAM and ROM?

RAM	ROM
1. It is called Random Access Memory. 2. It is a Volatile memory, i.e. instructions or data stored will be available only until power down. Once the computer power is off, the RAM data is lost.	1. It is called Read Only Memory. 2. ROM instructions are permanent. The instructions are programmed while manufacturing, by the ROM manufacturer.

5. What are the various units of Memory?

Data or Information in systems are stored only in the form of bits i.e 0's or 1's. The bits are grouped as follows.

1. Bit - single 0 or 1
2. Nibble - 4 bits
3. Byte - 8 bits
4. Kilobyte - 1024 bytes
5. Mega byte - 1024 Kb
6. Giga byte - 1024 Mb
7. Terabyte - 1024 Gb
8. Peta byte - 1024 Tb etc

PERIPHERAL DEVICES - CHAPTER 9

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1. What are peripheral devices? Give some Examples.

Peripheral Devices are the devices, which can be easily removed and plugged into a computer system. Some of the peripheral devices are:

a. Optical Disk Drive
b. Modem
c. Bluetooth
d. Memory Card reader
e. Monitor
f. Printer

2. What is a Scanner? What are its types?

Scanner is an input device that scans text, images, and objects optically. The scanned data is then converted into a digital image or characters with OCR function.

Following are the types of scanners

a. Drum Scanner
b. Flatbed scanner
c. Handheld scanner

3. What do you understand by a Monitor? Define pixels.

Monitor is the output device. It is also called the Visual Display Unit (VDU). The output of the computer is displayed on a VDU called soft copy. Monitors can be divided into millions of dots that are arranged into rows and columns called pixels. The pixels are so close together that they appear to be connected.

4. What is HDD? Briefly explain its configuration?

Hard disk Drive (HDD) or winchester disk is the storage device, where a large amount of data is stored. Hard Disk is made of a collection of disks known as platters. Each platter requires two read/write heads, one for each side. All read/write heads are attached to a single access arm so that they do not move independently. Each platter has the same number of tracks. It is hard and inflexible. It has a large storage capacity of up to 8TB. The HDD speed varies from 5400 to 15000 RPM (Rotations Per Minute).

BASIC COMPUTER OPERATIONS - CHAPTER 10

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1. **What is an operating system?**

   An operating system (OS) is software that manages computer hardware and software resources and provides common services for computer programs. Here are some key functions and features of an operating system:

   The most common operating systems are

   a. Windows from microsoft.
   b. OSX and IOS from Apple
   c. Linux is an open source OS with many variants like ubuntu, opensuse, CenOS, Fedora etc.
   d. Chrome OS, Chrome OS Flex and Android from Google.

2. **What do you mean by multi-tasking operating system?**

   An Multitasking operating system is the operating system which can perform more than one task at the same time (parallelly). All modern OS are multi tasking operating systems.

3. **What do you know about IOS?**

   IOS is a mobile operating system developed by Apple. It is designed for iPhone, iPad and iPod Touch. This is hardware specific i.e. unlike android or other os which can be installed on any hardware, IOS cannot be installed in any hardware except Apple Hardware. IOS is well known for its security, User Interface and applications which are exceptional when compared with other OS apps.

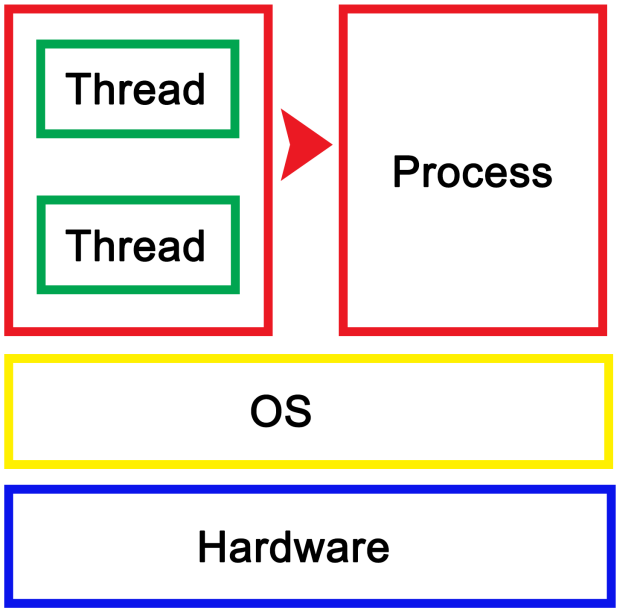
4. **What is a multithreading operating system?**

   The operations system that allow different parts of an application or program to run simultaneously are called multithreading operating systems.

A multi-threading operating system supports the concurrent execution of multiple threads within a single process. This ability to handle multiple threads allows for more efficient use of CPU resources, leading to improved system performance and responsiveness.

A thread is the smallest unit of execution within a process.

A Process is the execution of an application or program under os.



5. What are the various categories of mobile operating systems?

The various mobile operating systems are

a. IOS from Apple.
b. Android from Google.
c. BlackBerry from RIM.
d. Symbian from Nokia.
e. Windows mobile from Microsoft.

6. **What security measures does an operating system provide to a computer?**

   Operating systems incorporate a comprehensive set of security measures to protect against a wide range of threats. These measures include

   a. Authentication: i.e passwords and biometrics like fingerprint and facial recognition etc.
   b. Access Control: Securing system or data by providing various access levels ie. Limits user access to files, directories, and system resources based on their role and privileges.

      Ex. Administrator / Root and normal user etc.

   c. Network Security: Protecting the system and data when connected to the network or internet.

      Ex. Firewall protects from unauthorized access or intrusions.

7. **Write down the functions of an operating system.**

   User Interface: Provides a user interface (UI) that allows users to interact with the computer system. This can be a command-line interface (CLI) or a graphical user interface (GUI).

   Memory Management: Controls and coordinates computer memory, assigning blocks to various running programs to optimize overall system performance. It ensures that each process has enough memory to execute efficiently.

   File System Management: Manages files on a computer system, including file creation, deletion, reading, writing, and storage. It organizes files in directories for easy navigation and access.

   Device Management: Manages device communication via their respective drivers. This includes input and output devices like keyboards, mice, printers, and storage devices.

Security and Access Control: Ensures that unauthorized users do not access the system and that users have access only to the resources they are permitted to use.

Process Management: Manages processes in a system, including the scheduling of processes, execution, and termination. It ensures that processes do not interfere with each other and manages the sharing of resources.

OPERATING SYSTEMS : CHAPTER 11

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1. **What is Linux? Discuss a few features of Linux.**

   Linux is an open source operating system developed by Linus Torvalds in 1991. Though the core of Linux is developed by Torvalds, millions of developers and organizations like FSF contributed to its development.

   The features of Linux are

   a. It's open source and Free.
   b. It is the most secure OS compared to others.
   c. It’s customizable and one can develop or utilize apps as required.
   d. It is compatible with major hardware available in the market.
   e. It’s community driven so if any solution is needed easily available.

2. **What is a screen saver?**

   Screen Saver is the application that blanks the screen or VDU when inactive. This reduces the phosphorus burn in old CRT monitors. It enhances the life of modern VDUs. In modern systems one can customize the screen saver according to their taste like, bubbles, arora, Date or Time or Text with 3D visualization etc.

3. **What is a Recycle Bin in windows? How does one empty it?**

   Recycle Bin in Windows is the application which stores all the deleted files. Recycle Bin is used to restore the files deleted earlier. Yet one cannot recover the files deleted, once the recycle bin is emptied. Or if the file is deleted with SHIFT + DEL.

   One can empty the recycle bin by right clicking on the recycle bin and selecting empty recycle bin.

   One can restore the files by opening the recycle bin and right click on the file to be restored and selecting restore.

4. **How is system date and time setup in Windows?**

   One can set the date and time in windows by following methods

   a. Right click on the date in the notification area and select Adjust Data & Time. Date and Time settings open where one can set the date and time if the Auto Set date and time is off.
   b. Similarly one can open Date and Time settings from the Settings > Time & Language > Date and Time.
   c. Or one can search for date and time in the search bar on the taskbar.
   d. Date and Time is also affected by Time Zone, so one should keep the Time Zone to Auto or select the correct time zone according to their country.

5. **Define icon. Mention some of the important icons present in Windows desktop?**

   Icons are the small graphic images on the Desktop or in the system which are the links to the resources.

   The common icons on Desktop of Windows are

   Recycle Bin, This PC, browsers or any user defined application links.

INTRODUCTION TO INTERNET : CHAPTER 12

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1. **What is the internet? What are its applications?**

   The internet is a global system of interconnected networks, computers and devices.

   Following are some of the applications of internet

   A. Education
   B. Communication - email, social networking etc
   C. Business - ecommerce, banking etc
   D. Media and Entertainment
   E. Forums / blogs
   F. Health & Fitness

2. **What do you understand by the term Web Browser? Mention some popular web browsers?**

   Web Browser is the interface between user and Internet. It is the application through which a user browses the information or explores the internet.

   Some of the popular web browsers are

   a. Edge from microsoft
   b. Safari from Apple
   c. Firefox from Mozilla
   d. Brave from Brave foundation Inc.
   e. Opera

3. **What is the difference between a website and a Web page?**

   Web Site is the collection of related web pages. Where as web page is the single page containing images, text, videos etc, written in HTML.

4. **Define URL? Explain its parts with the help of an example?**

   URL means uniform resource locator which is the global address of any resource on the internet. The resource can be a webpage or image or blog or any media etc.

   URL consists of 2 parts

   A. Protocol - it is the standard with which communication is initiated on the internet. The common protocols are www, http, https, file, rtp, rdp etc
   B. Resource Name - it is the complete address of the resource on internet.

      Example: https://vasishtaschools.in/cbse

      In the above example https is the protocol and vasishtaschools.in/cbse is the resource name.

INTRODUCTION TO E-MAIL : CHAPTER 13

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1. **What are the two parts of an e-mail address? Briefly explain each of them.**

   Email has two parts separated by @. Ex. rakesh123@gmail.com

   A. Username
   B. Domain name

      Both username and domain name should be unique.

      Usernames are unique to domain. I.e rakesh123 shall be present in gmail or micorsoft mail etc. but for each domain like gmail.com only one rakesh123 will be available.

      Domain names need to be purchased from the registrar of the internet or one can use free domains offered by corporations like google - gmail.com, microsoft - microsoft.com / outlook.com.

2. **Why is the e-mail so popular over conventional mail?**

   Email is fast and literally free when compared to conventional mail. The mail costs with expenses of letters, covers, stamps etc and will take 3 or more days based on distance of the place to which mail is being sent.

   Whereas email will be delivered within minutes to the concerned persons inbox.

3. **What are the parts of an e-mail?**

   Email has the following parts

   A. To - is the address of the persons to whom we are sending email.
   B. CC - called carbon copy, additional addresses
   C. BCC - blind carbon copy, additional addresses of the persons who are private
   D. Subject: topic sentence of mail
   E. Body: mail body
   F. Attachments: any attachments like images or video etc.

4. **Discuss the procedure to attach a file to an e-mail message?**

   In the compose mail window, on the bottom bar the attach icon is present which is normally a paper clip icon. Once the attach a file icon is clicked, an attach file pop up window appears, through which the attachment is browsed and on clicking attach, the image / file / video etc will be attached to the mail.

   Only 25 Mb maximum size of the attachment is allowed.
