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## Computer Science

**XI - STANDARD**

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# COMPUTER SCIENCE

## 11th Standard

### 1. Introduction to Computers

#### Textual Questions

#### I. Two Marks Questions :

1. What is the name of the machine developed by Charles Babbage ?

The name of the machine developed by Charles Babbage is Difference Engine. It can mechanically calculate mathematical tables.

2. What are peripheral devices ?

The hardware devices attached to the computer are called peripheral devices. Peripheral devices includes all input, output and secondary storage devices.

3. What do you mean by an algorithm ?

Algorithm is defined as a step-by-step procedure or formula for solving a problem i.e., a set of instructions or procedures for solving a problem.

4. What is a word processor software ?

The software lets the user create, edit, format, store and print text and graphics. Commonly used word processors are microsoft word, wordstar, word perfect, etc.

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**5. What is an analog computing system ?**

Analog computer is a computing device that works on continuous range of values. The analog computers give approximate results since they deal with quantities that vary continuously. It generally deals with physical variables such as voltage, pressure, temperature, speed, etc.

**6. What is a laptop computer ?**

Laptop computers are portable computers that fit in a briefcase. Laptop computers, also called notebook computers, are wonderfully portable and functional and popular with travellers who need a computer that can go with them.

**II. Three Marks Questions :****1. What is a computer ?**

A computer is an electronic machine, capable of performing basic operations like addition, subtraction, multiplication, division, etc. A computer can also be defined as an automatic electronic machine for performing calculations or controlling operations that are expressible in numerical or logical terms.

**2. Define 'Data'.**

Data is a collection of facts from which information may be derived. Data is defined as an un-processed collection of raw facts in a manner suitable for communication, interpretation or processing.

Hence data are,

- (i) Stored facts,
- (ii) Inactive,
- (iii) Technology based and
- (iv) Gathered from various sources.

**3. Define 'Information'.**

Information is a collection of facts from which conclusions may be drawn. Data when processed can be interpreted, translated or transformed to reveal the underlying meaning.

Hence information is,

- (i) Processed facts,
- (ii) Active,
- (iii) Business based and
- (iv) Transformed from data.

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

An operating system is an integrated set of specialized programs that is used to manage the overall operations of a computer. It acts like an interface between the user, computer hardware and software. Every computer must have an operating system to run other programs. DOS (Disk Operating System), Unix, Linux and Windows are some of the common operating systems.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. Write a note on Difference Engine.**

The Difference Engine was built by Charles Babbage, British mathematician and engineer which mechanically calculated mathematical tables. Babbage is called the Father of today's computer.

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**2. What is a tabulating machine ? What purpose does it serve ?**

A tabulating machine using punched cards was designed by Herman Hollerith and was called the Hollerith Tabulating Machine.

This electronic machine is able to read the information on the punched cards and process it electronically.

**3. What is a computer program ?**

Computer program is a set of instructions designed to systematically solve a problem.

**4. What is meant by hardware and software ?**

The term hardware refers to all the physical items associated with a computer system. Software is a set of instructions, which enables the hardware to perform a specific task.

**5. What is the use of input device ?**

Input devices allows the user to enter the program and data and send it to the processing unit. The common input devices are keyboard, mouse and scanners.

**6. What is a processor ?**

The processor, more formally known as the central processing unit (CPU), has the electronic circuitry that manipulates input data into the information as required. The central processing unit actually executes computer instructions.

**7. What is the use of output device ?**

Output devices show the processed data - information, the result of processing. The devices are normally a monitor and printers.



**8. What is a compiler ?**

The compiler software translates the source program (user written program) into an object program (binary form). Specific compilers are available for computer programming languages like FORTRAN, COBOL, C, C++, etc.

**9. What is the purpose of utility programs ?**

The utility programs support the computer for specific tasks like file copying, sorting, linking a object program, etc.

**10. What is a digital computer ?**

A digital computer operates on digital data such as numbers. The digital computer is designed using digital circuits in which there are two levels for an input or output signal. These two levels are known as logic 0 and logic 1. Digital Computers can give the results with more accuracy and at a faster rate.

**11. Distinguish between special purpose and general purpose computers.**

Special purpose computer is one that is built for a specific application. General purpose computers are used for any type of applications. It can store different programs and do the jobs as per the instructions specified on those programs.

**12. What is Rotating wheel calculator?**

The Rotating Wheel Calculator was developed by a French philosopher, Blaise Pascal, using simple components such as gears and levers. This is a predecessor to today's electronic calculator.

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**13. Give some typical examples.**

Some typical examples are : railway reservation system, game programs, word processing software, weather forecasting programs.

**II. Three Marks Questions :****1. What is meant by software ? How are they classified ?**

Software refers to a program that makes the computer to do something meaningful. It is the planned, step-by-step instructions required to turn data into information. Software can be classified into two categories: System Software and Application Software.

**2. What is meant by system software ?**

System software consists of general programs written for a computer. These programs provide the environment to run the application programs. System software comprises programs, which interact with the hardware at a very basic level. They are the basic necessity of a computer system for its proper functioning. System software serves as the interface between hardware and the user. The operating system, compilers and utility programs are examples of system software.

**3. What is an application software ?**

An application software consists of programs designed to solve a user problem. It is used to accomplish specific tasks rather than just managing a computer system. Application software are inturn, controlled by system software which manages hardware devices.

The commonly used application software packages are word processor, spread-sheet, database management system and graphics.

**2. Number Systems****Textual Questions****I. Two Marks Questions :****1. Convert the decimal number into octal number : 512**

	Quotient	Remainder
512/8	64	0
64/8	8	0
8/8	1	0
1/8	0	1

$$512_{10} = 1000_8$$

**2. Convert the decimal number into hexadecimal number : 512**

	Quotient	Remainder
512/16	32	0
32/16	2	0
2/16	0	2

$$512_{10} = 200_{16}$$

**3. Convert the decimal number into octal number : 1729**

	Quotient	Remainder
1729/8	216	1
216/8	27	0
27/8	3	3
3/8	0	3

$$1729_{10} = 3301_8$$

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**II. Three Marks Questions :**

1. Convert the decimal number into binary number : 512

	Quotient	Remainder
512/2	256	0 (LSB)
256/2	128	0
128/2	64	0
64/2	32	0
32/2	16	0
16/2	8	0
8/2	4	0
4/2	2	0
2/2	1	0
1/2	0	1 (MSB)

$$512_{10} = 100000000_2$$

2. Convert the decimal number into binary number : 1729

	Quotient	Remainder
1729/2	864	1
864/2	432	0
432/2	216	0
216/2	108	0
108/2	54	0
54/2	27	0
27/2	13	1
13/2	6	1
6/2	3	1
3/2	1	1
1/2	0	1

$$1729_{10} = 1101100001_2$$

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**Sura's + Computer Science + Std. XI + Sigaram Thoduvom Target 15****3. Convert the decimal number into binary number : 1001**

	Quotient	Remainder
1001/2	500	1
500/2	250	0
250/2	125	0
125/2	62	1
62/2	31	0
31/2	15	1
15/2	7	1
7/2	3	1
3/2	1	1
1/2	0	1

$$1001_{10} = 1111101001_2$$

**4. Convert the decimal number into binary numbers :777**

	Quotient	Remainder
777/2	388	1
388/2	194	0
194/2	97	0
97/2	48	1
48/2	24	0
24/2	12	0
12/2	6	0
6/2	3	0
3/2	1	0
1/2	0	1

$$777_{10} = 1000001001_2$$

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$3 < 2$ , thus 2 bit is set to 1

64 32 16 8 4 2 1

1 0 1 1 1 1

$$95 - (64 + 16 + 8 + 4 + 2) = 1$$

$1 = 1$ , finally 1 bit is also set to 1

64 32 16 8 4 2 1

1 0 1 1 1 1 1

$$95_{10} = 1011111_2$$

### OTHER IMPORTANT QUESTIONS

#### I. Two Marks Questions :

##### 1. What are the kinds of data that are to be processed by a computer?

Numeric, text, date, graphics, image, audio and video are the different kinds of data that are to be processed by a computer.

##### 2. What is an analog data ?

Analog data can have any value within a defined range and it is continuous. Sound waves, telephone signals, temperatures and all other signals that are not broken into bits are examples of analog data.

##### 3. What is a digital data ?

Digital data can be represented by a series of binary numbers and it is discrete.

##### 4. What is a BIT ?

BIT stands for Binary Digit. It can have only two possible values 0 and 1. A binary number contains a sequence of 0's and 1's like 10111. A collection of 8 bits is called as a byte.

**5. What is binary number system ?**

The number system that uses only two digits 0 and 1 is called binary number system. The numbers in the binary system are represented to the base two and the positional multipliers are the powers of two.

**6. Distinguish MSB and LSB.**

The leftmost bit in the binary number is called the most significant bit (MSB) and it has the largest positional weight. The rightmost bit is the least significant bit (LSB) and has the smallest positional weight.

7.  $10111_2 = ?_{10}$

$$\begin{aligned} 10111_2 &= 1 \times 2^4 + 0 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 \\ &= 16 + 0 + 4 + 2 + 1 \\ &= 23_{10} \end{aligned}$$

8.  $0.1011_2 = ?_{10}$

$$\begin{aligned} 0.1011_2 &= 1 \times 2^{-1} + 0 \times 2^{-2} + 1 \times 2^{-3} + 1 \times 2^{-4} \\ &= 0.5 + 0 + 0.125 + 0.0625 \\ &= 0.6875_{10} \end{aligned}$$

9.  $2C_{16} = ?_{10}$

$$\begin{aligned} 2C_{16} &= 2 \times 16^1 + C \times 16^0 \\ &= 32 + 12 \\ &= 44_{10} \end{aligned}$$

10.  $110010011101_2 ?_{16}$

The hexadecimal equivalent of the binary sequence  $110010011101_2$  is :

$$\begin{array}{cccc} 1100 & 1001 & 1101 & = C9D_{16} \\ C & 9 & D & \end{array}$$

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**24 Sura's + Computer Science + Std. XI + Sigaram Thoduvom Target****11. Find the binary equivalent of the fraction 5/8.**

The fraction  $5/8 = 4/8 + 1/8 = 1/2 + 1/8$  has the binary equivalent:

$$\begin{aligned} 5/8 &= 1 * 2^{-1} + 0 * 2^{-2} + 1 * 2^{-3} \\ &= 0.101_2 \end{aligned}$$

**12. Convert 948 to hexadecimal using the repeated division method.**

Process	Quotient	Remainder
948/16	59	4 (LSB)
59/16	3	11
3/16	0	3 (MSB)

$$948_{10} = 3B4_{16}$$

**13. What is octal number system ?**

The number system that uses 8 symbols 0 to 7 is called octal number system. The numbers in this system are represented to the base 8 and the positional multiplies are the powers of 8.

**14. What is the decimal value of the octal number  $711_8$  ?**

$$7 \times 8^2 + 1 \times 8^1 + 1 \times 8^0 = 448 + 8 + 1 = 457_{10}$$

**15. What is the octal representation of the decimal number 6410 ?**

	Quotient	Remainder
64/8	8	0 (LSB)
8/8	1	0
1/8	0	1 (MSB)

$$\text{Hence } 64_{10} = 100_8$$



### **3. Computer Organization**

#### **Textual Questions**

#### **I. Two Marks Questions :**

##### **1. What are the components of the digital computer ?**

A computer system is the integration of physical entities called hardware and non-physical entities called software. The hardware components include input devices, processor, storage devices and output devices. The software items are programs and operating aids (systems) so that the computer can process data.

##### **2. What do you mean by memory access time ?**

Memory access time, also known as response time or latency, refers to how quickly the memory can respond to a read or write request.

##### **3. List few commonly used input devices.**

Commonly used input devices are keyboard, mouse, scanner, bar code reader, digital camera, MICR, OCR, OMR, light pen, magnetic reader, smart cards, notes taker, microphone, etc.

##### **4. What is an output device ?**

An output device is capable of presenting information from a computer. It serves as an interface between the computer and the user. These devices take machine coded output results from the processor and convert them into a form that can be used by human beings.

## II. Three Marks Questions :

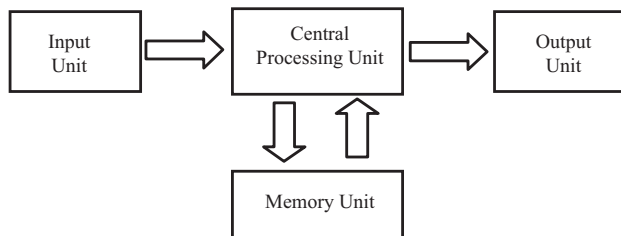
### 1. How are the human being and the computers are related ?

Computers are often compared to human beings since both have the ability to accept data, store, work with it, retrieve and provide information. The main difference is that human beings have the ability to perform all of these actions independently. Human beings also think and control their own activities. Human beings receive information in different forms, such as eyes, ears, nose, mouth and even sensory nerves. The brain receives or accepts this information, works with it in some manner and then stores in the brain for future use. If information at the time requires immediate attention, brain directs to respond with actions.

### 2. What are the functional units of a computer system ?

The functional units of the computer system are (a) Input unit, (b) Output unit, (c) Central processing unit and (d) Memory unit.

These units are interconnected by minute electrical wires to permit communication between them. This allows the computer to function as a system. The block diagram is shown below.



**Functional Units of a Computer System**

**10. What is a storage device ?**

Devices which are used to store data, programs, etc., in a computer readable medium are called the storage devices or secondary storage devices. Secondary storage is also called backup storage. It can be used to transmit data to another computer either immediately or at a latter time. It provides a mechanism for storing a large amount of data for a long period of time.

**11. What is the role of ALU ?**

The ALU is the computer's calculator. It consists of circuits which perform arithmetic and logical operations over data received from memory. The arithmetic operations include addition, subtraction, multiplication and division. The logical operation compares numbers, letters and special characters. The ALU also performs logic functions such as AND, OR and NOT. The ALU functions are directly controlled by the control unit.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. What is an Input unit ?**

A computer uses input devices to accept the data and program. Input devices allow communication between the user and the computer. In modern computers keyboard, mouse, light pen, touch screen etc, are some of the input devices.

**2. What is an logical operations ?**

The importance of the logic unit is to make logical operations. These operations include logically comparing two data items and take different actions based on the results of the comparison.

**3. What is PROM ?**

PROM is a memory on which data can be written only once. A variation of the PROM chip is that it is not burnt at the manufacturing time but can be programmed using PROM programmer or a PROM burner. PROM is also a non-volatile memory.

**4. What is an EPROM ?**

In EPROM, the information can be erased and reprogrammed using a special PROM – programmer. EPROM is non-volatile memory. A EPROM differs from a PROM in that a PROM can be written to only once and cannot be erased. But an ultraviolet light is used to erase the contents of the EPROM.

**5. What is Digital Camera ?**

The digital camera is an input device mainly used to capture images. The digital camera takes a still photograph, stores it and sends it as digital input to the computer. It is a modern and popular input device.

**6. What is Smart Cards ?**

This input device stores data in a microprocessor embedded in the card. This allows information, which can be updated, to be stored on the card. These data can be read and given as input to the computer for further processing. Most of the identification cards use this method to store and retrieve the vital information.

## 4. Working Principle of Digital Logic

### Textual Questions

#### I. Two Marks Questions :

##### 1. What is a logic gate ?

A logic gate is an elementary building block of a digital circuit. It is a circuit with one output and one or more inputs. At any given moment, logic gate takes one of the two binary conditions *low* (0) or *high* (1), represented by different voltage levels.

##### 2. List the fundamental logical gates.

There are three fundamental logic gates namely, AND, OR and NOT.

##### 3. Why NAND and NOR gates are called universal gates ?

NAND and NOR gates are called the universal gates, because the fundamental logic gates can be realized through them.

##### 4. What is a half adder ?

The unit that adds two binary digits is called a half adder. A half adder sums two binary digits to give a sum and a carry.

##### 5. What is a combinational circuit ?

A combinational circuit is a logical circuit whose outputs are based on the inputs present at that time.

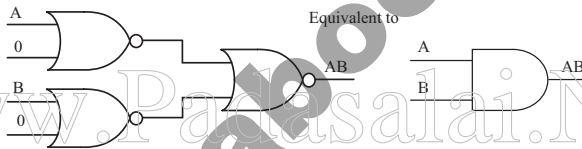
**56 Sura's + Computer Science + Std. XI + Sigaram Thoduvom Target****6. What is a sequential circuit ?**

A sequential circuit is a logical circuit whose outputs are based on, not only the inputs present at that time, but also on the previous state output.

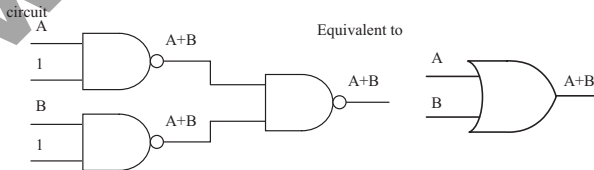
**II. Three Marks Questions :****1. How AND gate can be realized using NOR gate ?**

AND gate can be realized using NOR gate by making use of the following logic circuit :

circuit :

**2. How OR gate can be realized using NAND gate ?**

OR gate can be realized using NAND gate by making use of the following logic circuit :



**3. Give the truth table of XOR gates for two inputs.**

The truth table for XOR gate is,

Input		Output
A	B	C
0	0	0
0	1	1
1	0	1
1	1	0

**4. What is a full adder ?**

The unit that adds three binary digits is called a full adder.

A full adder consists of three inputs and two outputs.

Two of the inputs represent the two significant bits to be added and the third one represents the carry from the previous significant position.

### OTHER IMPORTANT QUESTIONS

**I. Two Marks Questions :****1. What is Not Gate ?**

The NOT gate, called a logical inverter, has only one input.

It reverses the logical state. In other words the output C is always the complement of the input. The logical symbol of the NOT gate is



**58 Sura's + Computer Science + Std. XI + Sigaram Thoduvom Target****2. What is an adders ?**

The circuit that performs addition within the Arithmetic and Logic Unit of the CPU are called adders.

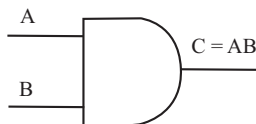
**3. What is Flip - Flop ?**

A flip flop is a circuit which is capable of remembering the value which is given as input. Hence it can be used as a basic memory element in a memory device. These circuits are capable of storing one bit of information.

**II. Three Marks Questions :****1. What is an AND Gate ?**

The AND gate is so named because, if 0 is called "false" and 1 is called "true," the gate acts in the same way as the logical "AND" operator. The output is "true" only when both inputs are "true", otherwise, the output is "false". In other words the output will be 1 if and only if both inputs are 1; otherwise the output is 0.

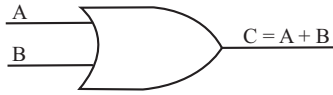
The logical symbol of the AND gate is

**2. What is OR Gate ?**

The OR gate gets its name from the fact that it behaves like the logical inclusive "OR". The output is "true" if either or both of the inputs are "true". If both inputs are "false,"

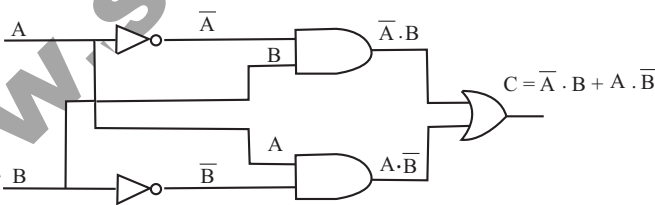


then the output is “false”. In otherwords the output will be 1 if and only if one or both inputs are 1; otherwise, the output is 0. The logical symbol of the OR gate is



### 3. What is XOR Gate ?

The XOR (exclusive-OR) gate acts in the same way as the logical “either/or.” The output is “true” if either, but not both, of the inputs are “true.” The output is “false” if both inputs are “false” or if both inputs are “true.” Another way of looking at this circuit is to observe that the output is 1 if the inputs are different, but 0 if the inputs are the same. The logic circuit of XOR gate is



## **5. Operating System**

### **Textual Questions**

#### **I. Two Marks Questions :**

##### **1. Who will access the computer hardware directly ?**

Operating system will access the computer hardware directly.

##### **2. Define an OS.**

The Operating System is one program running at all times on the computer. An Operating System is an interface between the user and hardware.

#### **II. Three Marks Questions :**

##### **1. Name some of the required features of Operating System.**

The desirable characters of the Operating System are,

- (i) User Interface,
- (ii) Memory management,
- (iii) Process management,
- (iv) File management,
- (v) Networking Capabilities management,
- (vi) Security Management,
- (vii) Fault tolerance,
- (viii) Application Base and
- (ix) Distributed Operating System.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. Write the two types of software.**

The two types of software are system software and application software.

**2. What is application software.**

Application software helps the user to do his/her work. This is similar to the voluntary actions controlling voluntary muscles like hand, etc.

**3. What is meant by data security ?**

Data security is a sort of protection which does not allow one user to write on the file/files of the other user and thus spoiling the contents of the owner of the file/files. It is an arrangement that safeguards the loss of data.

**4. What is resident monitor ?**

Automatic job sequencing mechanism is called resident monitor and it may be considered as the first elementary operating system.

**5. What is DMA ?**

DMA stands for Direct Memory Access. It is a mechanism which allowed transferring of data to and from memory without the intervention of the CPU.

**6. What is meant by spooling ?**

Spooling is a way of dealing with dedicated I/O devices in the multi-programming system which allowed and still allows reading a set of jobs in disk system from the card reader.

**7. How is spooling superior to buffer ?**

Spooling is superior to the buffer, because in spooling I/O operations can be overlapped with the working of other jobs but that is not possible with the buffer.

**8. What is meant by Job scheduling ?**

Job scheduling is a concept which allowed the CPU to choose a particular job for execution.

**9. Write a note on single user operating system.**

In a single user operating system, at a time, only one user can operate the system. MS Operating System is an example of single user operating system.

**10. What is meant by system call ?**

A set of extended instructions providing an interface between the Operating System and the user programs, is called a System Call.

**11. What is a directory ?**

A directory is a container for storing files on other sub-directories.

**12. What is the purpose of process management ?**

Process management undertakes the allocation of processors to one program. Several algorithms are used to allocate the job to the processor.

**13. Write a note on file access level security.**

As per file access level security permission to access files can either be granted by the creator of the file or by the administrator of the system.

## 6. Computer Communications

### Textual Questions

#### I. Two Marks Questions :

##### 1. List the general types of networks used today.

The following are the general types of networks used today :

- (i) Local Area Network (LAN)
- (ii) Metropolitan Area Network (MAN)
- (iii) Wide Area Network (WAN).

##### 2. Explain WAN.

A WAN is typically two or more LANs connected together across a wide geographical area. The individual LANs separated by large distances may be connected by dedicated links, fiber-optic cables or satellite links.

#### II. Three Marks Questions :

##### 1. Mention a few areas, where computer networks are employed.

The following are the areas where computer networks are employed :

- (i) Electronic data interchange,
- (ii) Tele-conferencing,
- (iii) Cellular telephone,
- (iv) Cable television,
- (v) Financial services, marketing and sales,
- (vi) Reservation of Airlines, trains, theatres and buses,

- (vii) Telemedicine,
- (viii) ATM,
- (ix) Internet banking.

## 2. What are the elements that a computer communication should ensure ?

The computer communication should ensure safe, secure and reliable data transfer.

**Safe** : The data received is the same as the data sent.

**Secure** : The data being transferred cannot be damaged either will fully or accidentally.

**Reliable:** Both the sender and the receiver knows the status of the data sent. Thus the sender knows whether the receiver got the correct data or not.

These are the elements that a computer communication should ensure.

## 3. How data is transmitted in different forms ?

Data is transmitted in two forms. (i) Analog data transmission, (ii) Digital data transmission.

**(i) Analog data transmission.** It is the transmission of data in a continuous waveform. The telephone system, for instance, is designed for analog data transmission. Analog signals are sometimes modulated or encoded to represent binary data.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. What is a computer network ?**

A system consisting of connected nodes made to share data, hardware and software is called a Computer Network.

**2. What is MAN ?**

MAN stands for Metropolitan Area Network. A network that spans a geographical area covering a Metropolitan city is called Metropolitan Area Network (MAN).

**3. What is meant by network topology ?**

The network topology is the structure or layout of the communication channels that connects the various computers on the network. Each computer in the network is called a node.

**4. List the factors that determine the network topology that is suitable for a given situation.**

There are a number of factors that determine the topology suitable for a given situation. Some of the important consideration is the type of nodes, the expected performance, type of wiring (physical link) used and the cost.

**5. What is a hybrid network ?**

A hybrid network is a combination of star, ring and bus network suited to the need.

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**6. Write a short note on network services.**

Network services are provided by numerous combinations of computer hardware and software. Depending upon the task, network services require data, input/output resources and processing power to accomplish their goal.

**7. What is a protocol ?**

A protocol can be one rule or a set of rules and standards that allow different devices to hold conversations.

**8. What is meant by file transfer ?**

Rapidly moving files from one place to another place regardless of file size, distance and local operating system is called file transfer.

**9. What is LAN ?**

A network, connecting systems and devices inside a single building or buildings close to each other is called Local Area Network.

**10. What is meant by file server or network server ?**

File server or network server is a computer sharing software package and hard disk.

**11. What is WAN ?**

WAN stands for Wide Area Network. Two or more LANs connected together across a wide geographical area is called Wide Area Network.

**12. What is a node ?**

Each computer in the network is called a node.



## 7. An Introduction to Windows XP

### Textual Questions

#### I. Two Marks Questions :

##### 1. What are the two different types of files ?

All information in Windows is stored as files. These files are broadly classified into two categories:

- (i) Application Files,
- (ii) Document Files.

##### 2. Where is the MS-DOS Prompt available ?

MS-DOS prompt is available in the MS-DOS window.

#### II. Three Marks Questions :

##### 1. What is Windows XP?

Windows XP Professional is a user-friendly operating system designed for popular use. The most important advantage of using Windows is its GUI.

Windows XP Professional combines all the positive aspects of its Microsoft predecessors. This satisfies all the users who want to prevent frequent crashing of software and want to use easy techniques.

Windows XP professional is designed to satisfy the insatiable demand of the business community but its immediate predecessor, Windows XP home targeted home users.

## 2. What is desktop? What are the things you see on the desktop?

In Windows XP, the basic working platform is the Desktop. It is also the opening screen of windows XP. All the programs in the computer are available on the desktop.

The desktop has several **Icons**. Each icon has a label specifying the name of the application it represents. **My Computer, My Documents, My Recent Documents** are some of the standard icons that the user can see on the Windows desktop.

## 3. How can you customize the desktop?

The most attractive features of Windows XP is that it allows the user to customize the desktop. The user can change the appearance of the desktop by changing the background, adding icons, moving icons, moving and resizing the taskbar and so on. One can also add Screen Savers.,,

- ◆ Customizing the Taskbar
- ◆ Taskbar Settings
- ◆ Changing the Wallpaper
- ◆ Screen Savers
- ◆ Select one

**4. How do you switch between multiple applications ?**

The buttons on the taskbar are used to switch between the different applications. Every time the user starts an application, its button appears on the taskbar. The button of the application that is currently being used is highlighted and its window is called the **Active Window**. To switch to another application, the user may click on any part of that application's window that is visible. If no part of the window is visible, the button of the application on the taskbar is clicked.

**5. What is Paint ? Describe briefly the different parts of the Paint window.**

Paint is an application that lets the use to draw and colour pictures. To start Paint, the user clicks on **Start** → **All Programs** → **Accessories** → **Paint**.

The paint window appears on the screen.

Just like any other window, the Paint window also has a title bar with sizing buttons, a menu bar and a status bar. In addition, it has a **Toolbar** and a **Colour Box**. The Toolbar has various tools that one can use to draw and colour. Fig. shows the Toolbar with the different tools.

**6. Where is the Calculator available ? How do you use it ?**

The Calculator is a useful application that comes with Windows. It can be used to perform mathematical and scientific calculations. To start the Calculator, the following action is executed

**Start → All Programs → Accessories → Calculator.**

The Calculator can be used in one of the two modes - **Standard** mode or **Scientific** mode. Calculator in the standard mode is very similar to an ordinary calculator.

To use the Calculator in the **Scientific** mode, the **View** menu is clicked on and **Scientific** option is selected.

### OTHER IMPORTANT QUESTIONS

#### I. Two Marks Questions :

##### 1. What is interface?

Interface is a connection between two entities. For example, operating system serves as an interface between the user and the computer.

##### 2. What is the aim of logging In?

The aim of logging in is to take the user to windows XP desktop. The user can select his account by clicking the appropriate icon or user name. If a person does not have a user account, he can make use of the guest account.

##### 3. What is an Icon ?

An Icon is a small picture/image representing application. Icon literally means a statue.

##### 4. What is meant by logging off?

Logging off is the process of closing the desktop and returning to the Windows Log In screen.

##### 5. What is meant by network ?

Two or more computers connected together form a network.

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**6. Name the standard icons seen on the desktop of Windows XP.**

My Computer, My Document, My Recent Documents are some of the standard icons that can be seen on the desktop of windows XP. Each of these icons represents an application that is frequently used.

**7. What is purpose of Quick launch toolbar?**

The Quick launch toolbar contains icons that allows the user to select some commonly used internet related applications.

**8. What is the purpose of Start menu?**

The Start menu acts as a launch pad for most of the things the user want to do with Windows XP. Using this menu, one can start applications, change the settings of your computer, find files, get help and do much, much more.

**9. Mention the different types of Start menu.**

The different types of Start menu are,

- (i) Start menu
- (ii) Classic Start menu.

**10. What are the different ways in which you can start an application in Windows XP?**

Windows XP allows you to start an application in many ways. The most frequently used ones are :

- (i) Using icons on the desktop,
- (ii) Using the Start menu.

## **8. Windows Explorer**

### **Textual Questions**

#### **I. Two Marks Questions :**

##### **1. What are files and folders ?**

All information on disks are stored as Files. A collection of files is called a Folder.

##### **2. What is the difference between copying and moving files ?**

The difference between copying and moving files is that moving removes the files or folders from the source location and places them in the destination location. Copying leaves the source files or folders untouched and makes a copy in the destination location.

#### **II. Three Marks Questions :**

##### **1. Write short note about opening Explorer Window in Explorer Bar and Folders bar ?**

**Windows Explorer** is a program that helps the user to manage his/her files and folders. Windows Explorer can be started by, clicking on **Start** → **All Programs** → **Accessories** → **Windows Explorer**. You can also start **Windows Explorer** by right clicking on the **Start** button and then selecting **Explore** from the short cut menu.

The Explorer window opens on the screen.

**2. What is the Run command used for ?**

The Run command on the Start menu offers an alternate method to start applications or open data files. There is one advantage in using the Run command. When you use the Run command to open a data file, say a word processing document or a paint picture, it automatically starts the corresponding application also. The Run command is most often used to install new software or games from a CD or a floppy disk.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. How many components does a file name have ? What are they ?**

A file name has two components. They are,

- (i) Main component,
- (ii) Extension.

**2. How is the explorer bar classified ? What are they ?**

Explorer bar is divided into three categories. They are :

- (a) File and folder task
- (b) Other places
- (c) Details.

**3. Discuss the task of other places and details category of the Explorer Bar.**

**Other Places.** One can select options in other places to switch over to other folders.

**Details.** Details provides some detail about the open folder.

**4. What is a clipboard ?**

A clipboard is a temporary storage area where files or folders are stored before being copied to the new location.

**5. What is CD-R burner is used for ?**

CD-R burner is used to burn data to blank CD-R disk. One can make use of the resultant disks in any computer that has CD drive in it. If it is an audio CD one can use it in any standard stereo too.

**6. Mention the two ways in which the user can create shortcuts.**

Windows XP allows you to create two kinds of shortcuts.

(i) Keyboard shortcuts,

(ii) Desktop shortcuts.

**7. What is the disadvantages of using RUN command ?**

The disadvantage of using the Run command is that the user should enter the complete file name along with the Path.

**8. What is computer virus ?**

Computer virus is a mischievous program designed to damage the Software, Hardware and / or data.

**9. What are file infectors ?**

File infectors is one flavour of computer virus. File infectors attach themselves to executable files and spread among other files when the user runs the program.



## 9. Linux

### Textual Questions

#### I. Two Marks Questions :

##### 1. Who is the super user ?

System Administrator is known as the super user or root user.

##### 2. How will you change your current password?

A user can change password with the `passwd` command.

##### 3. How will you know your working directory ?

The user know where is in the directory system. By using `pwd` (print working directory or path of your working directory or the present working directory)

##### 4. How will you know a hidden file name ?

The command (`ls-a`) brings details about the files in the current directory including the hidden files. Thus we can know the hidden file name using (`ls-a`) command.

##### 5. How will you sort your files by size ?

One can sort the files by size using (`ls-s`) command.

##### 6. What are the essential conditions to remove a directory using `rmdir` command?

The essential conditions to remove a directory using `rmdir` command are :

- (i) the directory to be removed should be empty.
- (ii) the directory to be removed should not be the current directory.

**7. How will you execute a file in a floppy disk with the help of SA ?**

System Administrator executes a file in the floppy disk after taking backups to prevent loss of data due to system breakdown.

**8. How will you display your name like My name is x ?**

Imagining that the message My name is x is stored in file1 the following command is given to display it

```
$ echo "Please enter your name"
```

```
$ cat file1
```

The output is :

```
My name is x
```

**9. How can you copy a directory along with all files in the directory ?**

One can also copy a directory recursively using **cp** command with the **-r** option.

```
$ cp -r alpha alpha1
```

This command copies all the files and sub-directories of the alpha directory to the alpha1 directory recursively.

**II. Three Marks Questions :****1. What are the rules that you should follow when you change your password ?**

Some of the rules for changing the password are :

The password should not be less than six characters in length.

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When changing a password, the new password should differ from the old password by at least three positions.

The password should be different from the user's Login name.

The new password cannot be the same as the old password. It is ridiculous to change the password with same password.

Since the SA can execute control over the entire system, SA can change the password of any user of the Linux system.

**2. What are the privileges of the root user ?**

The System Administrator (SA) or Root user is primarily responsible for the smooth functioning of the system. The SA also creates /home directories for the users and he/she does the service to groups of users for the system. He/she is the only one to use floppy disk and CD-ROM in the system and takes backups to prevent loss of data due to system breakdown. In Linux, he/she is also known as the root user or super user.

**3. Explain the function of man.**

To have help for some command say ls the user has have to use the command man (manual). The man command works as Man Friday (a general servant or employee who does all kinds of jobs).

*Example :*

\$ man ls.

One can also specify the level of help he/she needs from man, the level number should be specified in between man and the command for which the help is sought. Now the user can get help, online.

**4. What is the difference between the commands rm-r and rmdir?**

rmdir command removes a directory which is empty and that which is not the current directory.

To delete existing files or directories, the rm command is used. This is superior to rmdir.

In case if the file/s is/are not in the current directory then the complete path name has to be given.

To delete a directory which is not empty, the rm command is employed with -r or -R (for recursion) option.

**5. How will you delete a directory along with its sub directories ?**

The command

```
$ rm-r
```

deletes a directory along with its sub-directories.

*Example :*

```
$ rm-r alpha1
```

The above command removes alpha1 directory along with its sub directories.

**6. Distinguish between pipes and redirection.**

The redirection operator (>), “greater than” symbol achieves output redirection. The redirection operator (<) “less than” symbol achieves input redirection. The output redirection operator, redirects the contents of the left hand side file (that is the file name before the “>” symbol) to the file in the right hand side (that is the file name after the “>” symbol). Redirection operator works only on files.

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The pipes sends the output of the command to another command. The pipe receives the data from the command, placed before the pips and sends the data as input to the command placed after the pipe. The piping symbol is the vertical bar.

**7. Distinguish between mv and cp commands.**

Copying of files is made possible by several sophisticated commands, the user can do the same in a straight forward manner by the command cp (copy).

**Syntax.**

\$ cp [options] <source file/s> <destination directory/file>

The cp command copies the <source file/s> into the destination directory/file>

The mv (move command) is used to move a file or directory from one location to another.

**Syntax.**

\$ mv [options] <source> <destination>

Moving a file from one location to another is different from copying a file in that no file is created while moving file.

**8. How will you copy contents file1 into file2 in different ways ?**

To copy the contents of the file1 into file2. The command is

\$ cp file1 file2

The file1 is the source file (that is data emanate from file1) and file2 is the destination file (that is data go to file2).

The above command will not affect the contents of the file1. If file2 already exists its contents will be overwritten by the contents of file1.

\$ **cp -i** file1 file2

overwrite file2 ? n \$

If files are not in the current directory, then the full path should be given. If the user wants to establish a link between file1 and file2, he/she should replace **-i** by **-l**.

### OTHER IMPORTANT QUESTIONS

#### I. Two Marks Questions :

##### 1. What is POSIX ?

Linux was developed from the beginning according to the ANSI standard for Unix called the Portable Operating system Interface for Computer Environments (POSIX).

##### 2. What is root directory ?

All the files are stored on the disk under one main directory called the root directory.

##### 3. What is dot files ?

Argument usually refers the name of the file on which the command should work with. It should start with an alphabet. Some system files called dot files start with a . (dot).

##### 4. What is shell script ?

A shell script is a text file that contains Linux commands. A shell script is handy in these circumstances because you have to enter the command only once. Shell scripts allow input/output operations and manipulation of variables.

## 10. Problem Solving Techniques and C Programming

### Textual Questions :

#### I. Three Marks Questions :

1. Give two important differences between the flow chart and the pseudo code.

Flow chart is a pictorial representation of an algorithm, whereas pseudo code is in between English and the high level computer languages. Flow charts will occupy many pages where as pseudo codes are small in their size but they have the power to specify any procedure.

2. State three differences between definite and indefinite iterations.

	Definite iteration	Indefinite iteration
1.	In definite iteration one can know how many times the actions are going to be repeated.	In indefinite iteration one cannot say how many times the action is going to be repeated.
2.	Index variable is used to count the number of times the action being performed.	In indefinite iteration there is no such index variable.
3.	In the definite iteration, iteration will be continued until the counter reaches the specified value.	In indefinite iteration, iteration is continued by checking a condition.

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**3. Give the properties of an algorithm.**

An algorithm is a procedure with the following properties.

1. There should be a finite number of steps.
2. Each step is executable without any ambiguity.
3. Each step is executable within a finite amount of time, using a finite amount of memory space.
4. The entire program should be executed within a finite amount of time.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. What are tokens?**

Constants, identifiers, operators, punctuation, and keywords are collectively known as tokens. A token is a source program text that the compiler does not break down into component elements.

**2. Name the three types of Numeric constant.**

Numeric constants are of three types:

- ◆ integer constant
- ◆ floating-point constant
- ◆ character constant

**3. Define escape sequence characters.**

An escape sequence may be used to represent a single quote as a character constant. Character combinations consisting of a backslash \ followed by a letter are called escape sequences.



## **11. Introduction to Web Design**

### **Textual Questions**

#### **I. Two Marks Questions :**

##### **1. What are the attributes used along with the <font> tag ?**

Face, size and color attributes are used along with <font> tag.

##### **2. How do you play movie in a Web browser?**

To play a movie in the web browser, the <img> tag can be used with dynsrc attribute.

<img dynsrc=music.dat width=150 height=150>

The music.dat is a video file. The player width and height are specified as attributes of the <img> tag.

##### **3. What are the different types of lists offered by HTML?**

There are three kinds of lists in HTML : They are

- Unordered lists <ul> .... </ul>
- Ordered lists <ol> .... </ol>
- Definition lists <dl> .... </dl>

**II. Three Marks Questions :**

- 1. How do you make a Web page to reload automatically for every 10 seconds ? What is the need for such reloading ?**

In most browsers, user can reload the page by clicking the button Reload or Refresh. In some web documents, the contents are changing periodically. So we have to refresh or to reload the page again to view the new contents. But the <meta> tag can be used for automatic reloading of pages at specific intervals. The attribute http-equiv is used for this purpose.

*Example :*

```
<meta http-equiv="refresh" content="10">
```

The current web page, which is shown on the browser, is automatically reloaded every 10 seconds.

- 2. How do you make an image as a hyperlink ?**

A hypertext link can consist of text, an image, or a combination of both.

The following code makes the user to click an image which will link to the home page of the web site.

```
<body>
```

```
<p>
```

```
<a href = "http://www.tn.gov.in" > <img src=tnlogo.gif></a>
```

```
</p>
```

```
</body>
```

**140 Sura's + Computer Science + Std. XI + Sigaram Thoduvom Target****3. How do you play background music in a Web document?**

The bgsound <bgsound> tag directs the browser to play a sound file. The audio file should be specified using the src attribute. The number of times the audio file to be played can also be specified. The acceptable audio file formats are: .au, .wav, and .mid.

The code to introduce a background sound in your Web document is:

```
<bgsound src=music.au loop="infinite">
```

The loop attribute specifies the number of times the audio file is played. The value "infinite" directs the browser to play the sound indefinitely.

**OTHER IMPORTANT QUESTIONS****I. Two Marks Questions :****1. What are web pages ?**

Hypertext documents that are shared on the Internet are called web pages. Web pages are files stored on computers called Web Servers.

**2. What are web servers ?**

Computers in which web pages are stored in files are called web servers.

**3. What are web clients ?**

Web clients are the computers that are requesting the web pages from the web servers. Web clients can view the web pages with a program called web browser.

**4. What is meant by web browser ?**

The program with which web clients view the web pages is called web browser.

**5. What is HTTP ?**

Hypertext Transfer Protocol (HTTP) is the communication protocol used by the Internet to transfer hypertext documents.

**6. What is a protocol ?**

A protocol is a rule, which guides how an activity should be performed. More precisely, a protocol is a formal description of message formats and the rules that two computers must follow to exchange those messages.

**7. What is a URL ?**

The location address of the hypertext documents (Web pages) is known as a Uniform Resource Locator (URL).

**8. List the two commonly used browsers.**

The two most commonly used browsers are Microsoft Internet Explorer and Netscape Navigator.

**9. Name the editors that are useful in creating the web pages.**

Web pages can be created by using a simple text editor program such as Notepad or in a Web page editor such as FrontPage.