**Chapter 1 - Unit 1**

**Components of a Computer System**

**Choose the correct option**

**Question 1**

Which of the following is not a hardware?

1. Mouse
2. Random Access Memory
3. Keyboard
4. Operating System

***Answer***

Operating System

**Question 2**

Which of the following devices is used to transfer data from source to destination over internet?

1. Thumb drive
2. RAM
3. ROM
4. MODEM

***Answer***

MODEM

**Question 3**

Which of the following is not an operating system?

1. MAC
2. UNIX
3. LINUX
4. Microsoft

***Answer***

Microsoft

**Question 4**

What is the full form of SMPS?

1. Simple Machine Power Supply
2. Simple Motor Power Supply
3. Switched-Mode Power Supply
4. System Mode Power Supply

***Answer***

Switched-Mode Power Supply

**Question 5**

Which of the following is not an application software?

1. MS Word
2. Android
3. MS Excel
4. Notepad

***Answer***

Android

**Fill in the blanks**

**Question 1**

A computer system coordinates between hardware and ***software***.

**Question 2**

A computer is an ***electronic*** data processing machine.

**Question 3**

The CPU is considered to be the ***brain*** of a computer system.

**Question 4**

Hardware and software are ***complementary*** to each other.

**Question 5**

A ***byte*** is the smallest unit of memory which represents a character in a computer.

**Question 6**

A set of computer programs with the help of which the system works, is known as ***software***.

**Question 7**

***ROM (Read Only Memory)*** does not allow new information to be written on it.

**Question 8**

***Serial*** port is used to supply data serially.

**Question 9**

***Secondary*** memory is known as an auxiliary memory of the computer system.

**Question 10**

***Ports*** are the connecting nodes to interface the peripheral devices with the processor.

**Write down the full forms of the following**

**Question 1**

ALU

***Answer***

Arithmetic and Logic Unit

**Question 2**

ROM

***Answer***

Read Only Memory

**Question 3**

BIOS

***Answer***

Basic Input Output System

**Question 4**

POST

***Answer***

Power-On Self-Test

**Question 5**

DVD

***Answer***

Digital Versatile/Video Discs

**Question 6**

SMPS

***Answer***

Switched-Mode Power Supply

**Question 7**

USB

***Answer***

Universal Serial Bus

**Question 8**

CMOS

***Answer***

Complementary Metal Oxide Semiconductor

**Label the block diagram**

**Question 1**

Label the given block diagram to depict the basic organisation of a computer system



***Answer***



**Name the following**

**Question 1**

Two application softwares

***Answer***

1. MS Paint
2. Microsoft Excel

**Question 2**

Two system softwares

***Answer***

1. Windows 10
2. Linux

**Question 3**

Four major parts of a computer system

***Answer***

1. Central Processing Unit
2. Memory
3. Input
4. Output

**Question 4**

Two types of primary memory

***Answer***

1. Random Access Memory
2. Read Only Memory

**Question 5**

Two input hardware

***Answer***

1. Keyboard
2. Mouse

**Question 6**

Two communication ports

***Answer***

1. Serial Port
2. Parallel Port

**Question 7**

Two secondary memory units

***Answer***

1. Hard Disk
2. Optical Disc

**Question 8**

Three components of CPU

***Answer***

1. Input Unit
2. Central Processing Unit (CPU)
3. Output Unit

**Case-Study Based Questions**

**Question 1**

The hardware components present inside a computer are called internal hardware. The descriptions of some of the internal components are given below:

(a) This device is one of the most useful, reliable and popular secondary storage devices that consist of a number of circular metallic plates coated with iron oxide.

(b) This component is a small box placed at the back of a computer's cabinet that provides regulated power to the computer system.

(c) This component is the printed circuit board that contains processor, Integrated Circuit (IC) chips, memory devices and other hardware components.

(d) They are the connecting nodes used to connect the peripheral devices with the processor.

Identify and write the names of the devices described above in (a), (b), (c) and (d).

***Answer***

(a) Hard Disk

(b) Switched-Mode Power Supply (SMPS)

(c) Motherboard

(d) Communication Ports

**Short Answer Questions**

**Question 1**

Define System Software.

***Answer***

System software is a set of one or more programs designed to control the operations of a computer system. They support the running of other softwares and communicate with the peripheral devices.

For example, operating system.

**Question 2**

Define the term 'hardware' with an example.

***Answer***

Hardware refers to the machinery and to the various components and equipment of the computer system. It refers to all the physical devices of the computer system.

For example, monitor, keyboard etc.

**Question 3**

Define software. How is it classified?

***Answer***

Software refers to a set of computer programs, procedures and associated documents that describe how the programs are to be used. It is a collection of programs that aim at enhancing the capabilities of the hardware.

Softwares are classified into two types:

1. System software
2. Application software

**Question 4**

What is meant by the term 'memory'? What are its types?

***Answer***

Memory is the basic unit of a computer where it can store data and instructions.

Memory is of two types-

1. Primary Memory
2. Secondary Memory

**Differentiate between the following**

**Question 1**

Hardware and Software

***Answer***

| **Hardware** | **Software** |
| --- | --- |
| It is required to store and run a software. | It refers to the programs that enable a computer to perform specific tasks. |
| Hardware starts functioning once a software is loaded. | Software is installed on the hardware to deliver its set of instructions. |
| Hardware is physical in nature. | Software is logical in nature. |
| There are more chances of failure in hardware devices. | Software does not have a failure rate and hence, is more reliable. |
| Hardware components can be seen and touched. | Software can be viewed at the time of execution/loading. |

**Question 2**

System Software and Application Software

***Answer***

| **System Software** | **Application Software** |
| --- | --- |
| It is designed to control the operations of a computer system. | It is designed to carry out specific tasks such as creating documents etc. |
| These programs help in the running of other softwares. | These programs allow a computer to perform useful tasks beyond the running of the system itself. |
| For example- Windows 10 | For example- MS Word |

**Question 3**

Random Access Memory (RAM) and Read Only Memory (ROM)

***Answer***

| **Random Access Memory (RAM)** | **Read Only Memory (ROM)** |
| --- | --- |
| Data or instructions can randomly be read as well as written onto it. | The stored information can only be read but new information cannot be written onto it. |
| Any information stored in it is lost when the power supply is switched-off. | The information in ROM remains intact even if the power supply is switched-off. |

**Question 4**

Primary Memory and Secondary Memory

***Answer***

| **Primary Memory** | **Secondary Memory** |
| --- | --- |
| It is the main memory of the computer system. | It is the auxiliary memory from where stored data can be retrieved. |
| Data and instructions get erased as soon as the computer is switched off. | Data or instructions are stored for future use, even when the computer has been switched off. |

**Long Answer Questions**

**Question 1**

Hardware and software are complementary to each other. Explain.

***Answer***

Hardware refers to all the visible devices which are assembled together to build a computer system. Software refers to the computer programs that are loaded into the computer system. The blending of software and hardware gives life to a computer system.

Though hardware is the physical part of a computer, it is nothing unless it has a software to control it. In a way, hardware is like a car without a driver. Software is a set of instructions that tells the hardware what to do and how to perform the requested actions.

Hence, both are essential to get the work done. Hardware and software are complementary to each other.

**Question 2**

What is a modem? What are its types? Explain.

***Answer***

A modem is a device that modulates outgoing digital signals from a computer or other digital devices to analog signals. It also demodulates the incoming analog signals and converts them to digital signals for the digital device.

Modems are of three types-

1. **Internal modem** — These are attached to the internal slot of the motherboard. These are categorised as full duplex and half duplex which are used for fax and internet communications. They can also be used for data and voice communication.
2. **External modem** — It is a small box connected to the communication port of the computer. It works similar to the internal modem. The only difference is that it is placed outside the CPU box.
3. **USB modem** — It refers to any type of data/fax/voice modem device which can be connected to a computer using the USB port. It looks just like a USB flash drive but is smaller in size.

**Question 3**

What is meant by the term 'ports'? Explain the different types of ports.

***Answer***

Ports are the connecting nodes to interface the peripheral devices with the processor. They act as a bridge between the external devices and the CPU for data communication.

The different types of ports are as follows:

1. **Serial port** — It is used to supply data serially i.e., bit by bit. It uses a single wire for communication. This port takes much time to transfer data i.e., it transfers a byte in eight tries. Serial ports are usually available with 9 pins or 24 pins and allow connections of mouse, modem etc.
2. **Parallel port** — This type of port is available with a 24 pins female connector and is capable of transmitting eight bit signals at a time i.e., the bits travel parallel to each other. The transfer rate is eight times faster than a serial port. This port is basically to connect CD-writers, scanners, printers, hard disks etc.
3. **USB port** — This port is usually designed to connect printers, plotters, mouse, joystick, pen drives, digital cameras etc. with a single plug arrangement. It avoids pin configuration of the ports.

**Question 4**

How the data is recorded on the disk and then retrieved from the hard disk? Explain.

***Answer***

The data is recorded on the disks through the read-write head, which resembles a record player. The information that comes from the CPU is recorded digitally (in the form of 0 and 1) on the disk surface through the read-write head. On the other hand, the information is also retrieved digitally from the disk through the read-write head to the computer system for further processing.

**Question 5**

What are the main functions of the CPU? Explain.

***Answer***

Central Processing Unit is 'the brain of the computer' and takes all the major decisions in a computer system. CPU consists of three main components. The functions of these components are as follows:

1. **Arithmetic and Logic Unit(ALU)** — All the arithmetical and logical operations are performed through this unit. An arithmetical operation includes addition, subtraction, multiplication, division and logical operations include all types of comparisons.
2. **Control Unit** — This unit controls each and every part of the computer system along with the peripherals. It retrieves data and instructions from the memory and sends the commands to various parts of the computer system.
3. **Memory Unit** — This unit provides space for storing data, instructions, intermediate results and final results.

**Chapter 1 - Unit 2**

**Peripheral Devices**

**Choose the correct option**

**Question 1**

Which of the following is called the physical part of a computer system?

1. Hardware
2. Utility programs
3. Application software
4. System software

***Answer***

Hardware

**Question 2**

What type of device a computer mouse is?

1. Communication device
2. Output device
3. Pointing device
4. System device

***Answer***

Pointing device

**Question 3**

Which of the following devices is used to track the movement of people for security purposes?

1. Digital camera
2. Webcam
3. CCTV camera
4. Phone camera

***Answer***

CCTV camera

**Question 4**

Which of the following is the most appropriate statement of dot matrix printer?

1. It is very costly.
2. Printing quality is very high.
3. It prints the characters or images by a striking mechanism.
4. It is a non-impact printer.

***Answer***

It prints the characters or images by a striking mechanism.

**Question 5**

What another name is given to a pen drive?

1. Flash drive
2. Small drive
3. Hard drive
4. Soft drive

***Answer***

Flash drive

**State whether the following statements are True/False**

**Question 1**

Input devices are used to feed the data and instructions in the computer system.
***True***

**Question 2**

A mouse is popularly known as a pointing device.
***True***

**Question 3**

You cannot receive or send a fax through an all-in-one printer.
***False***

**Question 4**

A cordless mouse or a keyboard works within a short range of distance from your computer system.
***True***

**Question 5**

A scanner can be compared to a photocopy machine.
***True***

**Question 6**

A light pen is used in computer aided designing (CAD).
***True***

**Question 7**

A scanned image cannot be sent to an e-mail editor.
***False***

**Question 8**

Digital photographs have low resolutions as compared to other photographs.
***False***

**Question 9**

A touchscreen is a menu-driven input device.
***True***

**Question 10**

A liquid crystal display (LCD) screen consumes less power and also radiates less heat.
***True***

**Write the full forms of the following**

**Question 1**

LCD

***Answer***

Liquid Crystal Display

**Question 2**

SD Card

***Answer***

Secure Digital Card

**Question 3**

CPS

***Answer***

Character Per Second

**Question 4**

CAD

***Answer***

Computer Aided Designing

**Question 5**

RPM

***Answer***

Revolution Per Minute

**Question 6**

CRT

***Answer***

Cathode Ray Tube

**Name the following**

**Question 1**

Four input devices

***Answer***

1. Mouse
2. Keyboard
3. Joystick
4. Scanner

**Question 2**

Four output devices

***Answer***

1. Speaker
2. Monitor
3. Printer
4. LCD Projector

**Question 3**

Two types of impact printers

***Answer***

1. Dot Matrix Printers
2. Daisy Wheel Printers

**Question 4**

Two types of non-impact printers

***Answer***

1. Inkjet Printers
2. Laser Printers

**Question 5**

Two pointing devices

***Answer***

1. Mouse
2. Light Pen

**Question 6**

Two secondary storage devices

***Answer***

1. Hard disk
2. DVD

**Case-Study Based Questions**

**Question 1**

There are some devices in a computer system which are used to give out the result of data processing. A popular output device about which you would be well aware of resembles a TV screen. In case, the output is to be displayed on a big screen for showing it to numerous people, an LCD projector is used. Other than these devices, we can also use printers (impact and non-impact) to produce the output on paper.

Based on the above case, answer the following questions:

(a) Which of the following devices resemble a TV screen?

1. Touch sensor
2. VDU
3. MCB
4. All of the above

(b) Which device produces result on paper with hammering effect?

1. LCD projector
2. Laser printer
3. Dot Matrix printer
4. Inkjet printer

(c) Which of the following devices produce result without making any sound?

1. Impact printer
2. Character printer
3. Dot Matrix printer
4. Laser printer

(d) Which of the following devices is used to display presentation in a hall or a gallery?

1. Digital camera
2. Laptop screen
3. LCD projector
4. Seven segment display

***Answer***

(a) VDU

(b) Dot Matrix printer

(c) Laser printer

(d) LCD projector

**Define the following terms**

**Question 1**

SD card

***Answer***

Secure Digital card is an ultra small flash memory or a non-volatile memory card designed to provide high capacity memory in a small size. It measures 32 X 24 X 2.1 mm and weighs approximately 2 grams.

SD cards are used in many small portable devices and the storage capacity varies from 1 GB to 16 GB.

**Question 2**

Mouse

***Answer***

A mouse is a pointing device. It is connected to the CPU. It consists of a roller at the bottom on which the upper part rolls. An optical mouse may not contain a roller but has a light source at the base to detect the position of the cursor.

A mouse has two or three buttons and a scroller. It moves on a soft rubber pad. With the movement of the mouse, a pointed arrow moves on the screen. The arrow on the screen is used to select items from the menu. The mouse cursor is taken to the desired place and then clicked to get the task done.

**Question 3**

Scanner

***Answer***

It is an input device which allows the user to take the images of the text and photographs from the source. The images can be saved on to the disks for further processing.

The document is placed on the glass scanning surface and a mechanically-driven scan head passes beneath it. The scanner captures high resolution images with outstanding quality that can automatically be sent for further processing.

**Question 4**

Visual Display Unit

***Answer***

A Visual Display Unit is an output device. It is similar to television screen having a cathode ray tube. A CRT consists of three main parts — electron gun, deflecting plates and a fluorescent screen.

A CRT converts electrical signals into visual signals. A computer screen receives digital signals and the resolution in a computer screen can be changed as per requirement. The size of the monitors varies from 8 inches to 21 inches.

**Question 5**

LCD Projector

***Answer***

A Liquid Crystal display projector is an output device used to magnify the presentations prepared on a computer. It accepts data/information from the CPU.

With the help of a small LCD panel, the data is fed and then passes through a convex lens. The presentations are then received on the screen in a magnified form.

These projectors are widely used in seminars, for demonstrations, in classrooms and in cinemas.

**Question 6**

Inkjet Printer

***Answer***

Inkjet Printer is the most commonly used non-impact printer. It has a fine nozzle through which a very fine stream of ink is ejected. The flow of ink is controlled in such a way that the impression of the character appears on the paper. These printers make very little noise and produce high quality graphics. The speed of an inkjet printer varies between 50-300 characters per second.

**Question 7**

Light Pen

***Answer***

It is a pointing device which has a pen-like structure. Inside the pen, there is a photo sensor which detects light. The pen is placed on the screen of the monitor that sends light signal. The photo sensor transmits its equivalent signal to the CPU. This enables us to draw a picture directly on the screen. The pen is generally used in computer aided designing (CAD).

**Differentiate between the following**

**Question 1**

Impact printers and Non-impact printers

***Answer***

| **Impact Printers** | **Non-Impact Printers** |
| --- | --- |
| It forms characters by striking a print hammer against an inked ribbon. | It forms characters without making direct contact with the paper. |
| It uses either ribbon or carbon paper. | It uses ink cartridges. |
| It makes noise while printing. | It prints smoothly on the paper. |

**Question 2**

Input devices and Output devices

***Answer***

| **Input Devices** | **Output Devices** |
| --- | --- |
| Input devices are used to accept data and instructions by the computer. | Output devices are used to get the results of any processed data. |
| For example — Mouse, Keyboard. | For example — Speaker, Printer. |

**Question 3**

Keyboard and Mouse

***Answer***

| **Keyboard** | **Mouse** |
| --- | --- |
| It is similar to a typewriter that enables the user to enter data into the computer. | It is a pointing device which is used to move the cursor all over the screen. |
| It has more than 104 keys on it. | It has two or more buttons on it. |
| It is used for typing. | It is used for selecting objects, playing games, making drawings etc. |

**Long Answer Questions**

**Question 1**

What is a printer? What are its types?

***Answer***

Printers are common output devices used to get the results on paper. They provide information in a permanent and readable form. The data/information is transferred from the main memory of the computer to the printer and then printed on the paper.

Printers are of two types:

1. Impact printers
2. Non-impact printers

**Question 2**

Explain the three functions of a scanner.

***Answer***

The three functions of a scanner are-

1. **Scan** — It captures the images that can be saved as a file or sent to an image editing application.
2. **Copy** — It scans the images and sends it to the printer to get a hard copy at the same time.
3. **E-Mail** — It scans the images and delivers it directly to the e-mail editor.

**Question 3**

How is a web camera useful to us?

***Answer***

Web cameras are the most common video capturing devices connected to computers. They can be used for video chatting over the internet. Webcams allow real-time communication from anywhere in the world. They can also be used for security purposes and to reach millions of mainstream PC users worldwide.

**Question 4**

Explain the working principle of a Laser printer.

***Answer***

In a Laser printer, a low power laser beam is used to create an image of the page to be printed on the photo-conducting surface of a rotating drum. A special ink (toner) is used which is attracted to the laser-exposed surface of the drum. When the paper comes in contact with the drum, the image is fixed on to the paper.

**Question 5**

What is meant by a flash drive? Why is it so popular?

***Answer***

A flash drive is a portable data storage device. It is re-writable and holds the data in memory without power supply. It fits into any USB port of a computer. The drive is small, of the size of a human thumb and is a very stable memory storage device.

We can save text, music, documents and photos in this drive. The storage capacity of a flash drive is 32 GB or more. It is an ideal data storage device because at a low price, it offers long-term storage.

**Question 6**

What are the points to be considered while selecting a printer?

***Answer***

The selection of a printer depends on the following features:

1. **Quality of printing** — It means whether the impression of characters on paper is in the form of dots or letter quality.
2. **Speed of printing** — It refers to the speed with which the printing of characters takes place on the paper. This specification is decided by CPS (Character Per Second) or RPM (Revolution Per Minute) marked on a printer.
3. **Type of printer** — It means whether it is an impact printer or a non-impact printer.
4. **Cost of printer** — Of course, the cost matters while selecting a printer. But, we always look for the cheap and best quality to fulfil our requirements.

**Chapter 2**

**Number System - An Introduction**

**Choose the correct option**

**Question 1**

In a decimal number system, the base of a number is represented by

1. 2
2. 10
3. 16
4. All of them

***Answer***

10

**Question 2**

The base of an octal number is represented by:

1. 2
2. 8
3. 7
4. None

***Answer***

8

**Question 3**

To convert an octal number to its binary equivalent, each octal digit is expressed as

1. 3 bits form
2. 4 bits form
3. 8 bits form
4. All of them

***Answer***

3 bits form

**Question 4**

Sixteen raised to the power zero (16⁰) is equivalent to

1. 0
2. 1
3. 0 and 1
4. None

***Answer***

1

**Question 5**

An octal number system uses the digits from

1. 0 to 8
2. 1 to 8
3. 0 to 7
4. All of them

***Answer***

0 to 7

**Question 6**

The base of a hexa-decimal number is represented by

1. H16
2. 16
3. 15
4. None

***Answer***

16

**Question 7**

In a hexa-decimal number system, 'B' represents the digit

1. 11
2. 12
3. 14
4. 13

***Answer***

11

**Question 8**

To express a hexa-decimal number to its binary equivalent, each hexa-decimal digit is expressed as

1. 2 bits form
2. 3 bits form
3. 4 bits form
4. None

***Answer***

4 bits form

**Question 9**

The binary equivalent of a hexa-decimal digit 12(C) is represented by

1. 1010
2. 1011
3. 1101
4. 1100

***Answer***

1100

**Question 10**

The hexa-decimal equivalent digit of 1011 (4 bits form) is

1. 14
2. 15
3. 11
4. 12

***Answer***

11

**Fill in the blanks**

**Question 1**

The binary system consists of two digits ***0*** and ***1***.

**Question 2**

A decimal number system uses the digits from ***0*** to ***9***.

**Question 3**

The base in the decimal number system is written as ***10***.

**Question 4**

A binary number system is written with ***2*** as the base.

**Question 5**

In a decimal to binary conversion, the first remainder is known as ***Least Significant Bit (LSB)*** and the last remainder is ***Most Significant Bit (MSB)***.

**Question 6**

20 = ***1***

**Complete the following tables**

| **OctalDigit** | **BinaryEquivalent** |
| --- | --- |
| 5 |  |
| 7 |  |
| 1 |  |
| 6 |  |
| 3 |  |
|  |  |

| **HexadecimalDigit** | **BinaryEquivlent** |
| --- | --- |
| 8 |  |
| 11 |  |
| 4 |  |
| 15 |  |
| 9 |  |

***Answer***

| **OctalDigit** | **BinaryEquivalent** |
| --- | --- |
| 5 | **101** |
| 7 | **111** |
| 1 | **001** |
| 6 | **110** |
| 3 | **011** |

| **HexadecimalDigit** | **BinaryEquivalent** |
| --- | --- |
| 8 | **1000** |
| 11 | **1011** |
| 4 | **0100** |
| 15 | **1111** |
| 9 | **1001** |

**Case-Study Based Questions**

**Question 1**

Your teacher has assigned you a task to give a presentation on conversion of octal numbers into binary numbers and vice-versa. You are asked to create some aids to support your presentation. You have created two tables, Table 1 and Table 2, to demonstrate some examples.

| **Octal Number** | **Binary Equivalent** |
| --- | --- |
| 1 | 001 |
| 5 | ....... |
| 3 | 010 |
| 6 | 110 |

| **Binary Number** | **Octal Equivalent** |
| --- | --- |
| 100 | ....... |
| 111 | 7 |
| 011 | 2 |
| 001110 | 16 |

In the above tables, some enteries have either been missed or incorrect. Answer the following questions based on the above case:

(a) What will be filled in the blank space of Table 1?

(b) Find and rectify the incorrect binary equivalent in Table 1.

(c) Fill the appropriate octal equivalent in the blank space of Table 2.

(d) Find and rectify the incorrect octal equivalent in Table 2.

***Answer***

(a) 101

(b) In Table 1, the binary equivalent of octal number 3 is incorrect. The correct value is **011**.

(c) 4

(d) In Table 2, the octal equivalent of binary number 011 is incorrect. The correct value is **3**.

**Convert the following to their binary equivalents**

**Question 1**

(78)10

***Answer***

| **2** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 2 | 78 | 0 (LSB) |
| 2 | 39 | 1 |
| 2 | 19 | 1 |
| 2 | 9 | 1 |
| 2 | 4 | 0 |
| 2 | 2 | 0 |
| 2 | 1 | 1 (MSB) |
|   | 0 |   |

**Therefore, (78)10 = (1001110)2**

**Question 2**

(99)10

***Answer***

| **2** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 2 | 99 | 1 (LSB) |
| 2 | 49 | 1 |
| 2 | 24 | 0 |
| 2 | 12 | 0 |
| 2 | 6 | 0 |
| 2 | 3 | 1 |
| 2 | 1 | 1 (MSB) |
|   | 0 |   |

**Therefore, (99)10 = (1100011)2**

**Question 3**

(141)10

***Answer***

| **2** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 2 | 141 | 1 (LSB) |
| 2 | 70 | 0 |
| 2 | 35 | 1 |
| 2 | 17 | 1 |
| 2 | 8 | 0 |
| 2 | 4 | 0 |
| 2 | 2 | 0 |
| 2 | 1 | 1 (MSB) |
|   | 0 |   |

**Therefore, (141)10 = (10001101)2**

**Question 4**

(123)10

***Answer***

| **2** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 2 | 123 | 1 (LSB) |
| 2 | 61 | 1 |
| 2 | 30 | 0 |
| 2 | 15 | 1 |
| 2 | 7 | 1 |
| 2 | 3 | 1 |
| 2 | 1 | 1 (MSB) |
|   | 0 |   |

**Therefore, (123)10 = (1111011)2**

**Convert the following to their decimal equivalents**

**Question 1**

(10101)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 1 **(LSB)** | 20 | 1 | 1x1=1 |
| 0 | 21 | 2 | 0x2=0 |
| 1 | 22 | 4 | 1x4=4 |
| 0 | 23 | 8 | 0x8=0 |
| 1 **(MSB)** | 24 | 16 | 1x16=16 |

**Equivalent decimal number = 1 + 4 + 16 = 21**

**Therefore, (10101)2 = (21)10**

**Question 2**

(10000)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 0 **(LSB)** | 20 | 1 | 0x1=0 |
| 0 | 21 | 2 | 0x2=0 |
| 0 | 22 | 4 | 1x4=4 |
| 0 | 23 | 8 | 0x8=0 |
| 1 **(MSB)** | 24 | 16 | 1x16=16 |

**Equivalent decimal number = 16**

**Therefore, (10000)2 = (16)10**

**Question 3**

(11001)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 1 **(LSB)** | 20 | 1 | 1x1=1 |
| 0 | 21 | 2 | 0x2=0 |
| 0 | 22 | 4 | 0x4=0 |
| 1 | 23 | 8 | 1x8=8 |
| 1 **(MSB)** | 24 | 16 | 1x16=16 |

**Equivalent decimal number = 1 + 8 + 16 = 25**

**Therefore, (11001)2 = (25)10**

**Question 4**

(101010)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 0 **(LSB)** | 20 | 1 | 0x1=0 |
| 1 | 21 | 2 | 1x2=2 |
| 0 | 22 | 4 | 0x4=0 |
| 1 | 23 | 8 | 1x8=8 |
| 0 | 24 | 16 | 0x16=0 |
| 1 **(MSB)** | 25 | 32 | 1x32=32 |

**Equivalent decimal number = 2 + 8 + 32 = 42**

**Therefore, (101010)2 = (42)10**

**Convert the following to Decimal numbers**

**Question 1**

(510)8

***Answer***

| **OctalNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 0 **(LSB)** | 80 | 1 | 0x1=0 |
| 1 | 81 | 8 | 1x8=8 |
| 5 **(MSB)** | 82 | 64 | 5x64=320 |

**Equivalent decimal number = 8 + 320 = 328**

**Therefore, (510)8 = (328)10**

**Question 2**

(ABC)16

***Answer***

| **HexadecimalNumber** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| C (12) | 160 | 1 | 12x1=12 |
| B (11) | 161 | 16 | 11x16=176 |
| A (10) | 162 | 256 | 10x256=2560 |

**Equivalent decimal number = 12 + 176 + 2560 = 2748**

**Therefore, (ABC)16 = (2748)10**

**Question 3**

(1001011)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 1 **(LSB)** | 20 | 1 | 1x1=1 |
| 1 | 21 | 2 | 1x2=2 |
| 0 | 22 | 4 | 0x4=0 |
| 1 | 23 | 8 | 1x8=8 |
| 0 | 24 | 16 | 0x16=0 |
| 0 | 25 | 32 | 0x32=0 |
| 1 **(MSB)** | 26 | 64 | 1x64=64 |

**Equivalent decimal number = 1 + 2 + 8 + 64 = 75**

**Therefore, (1001011)2 = (75)10**

**Question 4**

(CD7)16

***Answer***

| **HexadecimalNumber** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 7 | 160 | 1 | 7x1=7 |
| D (13) | 161 | 16 | 13x16=208 |
| C (12) | 162 | 256 | 12x256=3072 |

**Equivalent decimal number = 7 + 208 + 3072 = 3287**

**Therefore, (CD7)16 = (3287)10**

**Question 5**

(101001)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 1 **(LSB)** | 20 | 1 | 1x1=1 |
| 0 | 21 | 2 | 0x2=0 |
| 0 | 22 | 4 | 0x4=0 |
| 1 | 23 | 8 | 1x8=8 |
| 0 | 24 | 16 | 0x16=0 |
| 1 **(MSB)** | 25 | 32 | 1x32=32 |

**Equivalent decimal number = 1 + 8 + 32 = 41**

**Therefore, (101001)2 = (41)10**

**Question 6**

(1100111)2

***Answer***

| **BinaryNo** | **Power** | **Value** | **Result** |
| --- | --- | --- | --- |
| 1 **(LSB)** | 20 | 1 | 1x1=1 |
| 1 | 21 | 2 | 1x2=2 |
| 1 | 22 | 4 | 1x4=4 |
| 0 | 23 | 8 | 0x8=0 |
| 0 | 24 | 16 | 0x16=0 |
| 1 | 25 | 32 | 1x32=32 |
| 1 **(MSB)** | 26 | 64 | 1x64=64 |

**Equivalent decimal number = 1 + 2 + 4 + 32 + 64 = 103**

**Therefore, (1100111)2 = (103)10**

**Convert the following to binary numbers**

**Question 1**

(342)8

***Answer***

| **OctalNumber** | **BinaryEquivalent** |
| --- | --- |
| 2 | 010 |
| 4 | 100 |
| 3 | 011 |

**Therefore, (342)8 =** (**011**​**100**​**010**​**)2**

**Question 2**

(203)8

***Answer***

| **OctalNumber** | **BinaryEquivalent** |
| --- | --- |
| 3 | 011 |
| 0 | 000 |
| 2 | 010 |

**Therefore, (203)8 =** (**010**​**000**​**011**​**)2**

**Question 3**

(9AD)16

***Answer***

| **HexadecimalNumber** | **BinaryEquivalent** |
| --- | --- |
| D (13) | 1101 |
| A (10) | 1010 |
| 9 | 1001 |

**Therefore, (9AD)16 =** (**1001**​**1010**​**1101**​**)2**

**Question 4**

(157)8

***Answer***

| **OctalNumber** | **BinaryEquivalent** |
| --- | --- |
| 7 | 111 |
| 5 | 101 |
| 1 | 001 |

**Therefore, (157)8 =** (**001**​**101**​**111**​**)2**

**Question 5**

(ABC)16

***Answer***

| **HexadecimalNumber** | **BinaryEquivalent** |
| --- | --- |
| C (12) | 1100 |
| B (11) | 1011 |
| A (10) | 1010 |

**Therefore, (ABC)16 = (1010**​**1011**​**1100**​**)2**

**Question 6**

(DE)16

***Answer***

| **HexadecimalNumber** | **BinaryEquivalent** |
| --- | --- |
| E (14) | 1110 |
| D (13) | 1101 |

**Therefore, (DE)16 = (1101**​**1110**​**)2**

**Convert the following to their hexa-decimal equivalent**

**Question 1**

(110011101111)2

***Answer***

Grouping in bits of 4:

1100​1110​1111​

| **BinaryNumber** | **EquivalentHexadecimal** |
| --- | --- |
| 1111 | F (15) |
| 1110 | E (14) |
| 1100 | C (12) |

**Therefore, (110011101111)2 = (CEF)16**

**Question 2**

(11010111100)2

***Answer***

Grouping in bits of 4:

110​1011​1100​

| **BinaryNumber** | **EquivalentHexadecimal** |
| --- | --- |
| 1100 | C (12) |
| 1011 | B (11) |
| 0110 | 6 |

**Therefore, (11010111100)2 = (6BC)16**

**Question 3**

(89392)10

***Answer***

| **16** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 16 | 89392 | 0 |
| 16 | 5587 | 3 |
| 16 | 349 | D (13) |
| 16 | 21 | 5 |
| 16 | 1 | 1 |
|   | 0 |   |

**Therefore, (89392)10 = (15D30)16**

**Question 4**

(100101101110)2

***Answer***

Grouping in bits of 4:

1001​0110​1110​

| **BinaryNumber** | **EquivalentHexadecimal** |
| --- | --- |
| 1110 | E (14) |
| 0110 | 6 |
| 1001 | 9 |

**Therefore, (100101101110)2 = (96E)16**

**Question 5**

(9894)10

***Answer***

| **16** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 16 | 9894 | 6 |
| 16 | 618 | A (10) |
| 16 | 38 | 6 |
| 16 | 2 | 2 |
|   | 0 |   |

**Therefore, (9894)10 = (26A6)16**

**Question 6**

(4966)10

***Answer***

| **16** | **Quotient** | **Remainder** |
| --- | --- | --- |
| 16 | 4966 | 6 |
| 16 | 310 | 6 |
| 16 | 19 | 3 |
| 16 | 1 | 1 |
|   | 0 |   |

**Therefore, (4966)10 = (1366)16**

**Short Answer Questions**

**Question 1**

What are the different types of number systems that a computer deals with?

***Answer***

The different types of number systems are:

1. Binary Number System
2. Octal Number System
3. Decimal Number System
4. Hexadecimal Number System

**Question 2**

What is meant by the following terms? Give an example of each.

(a) An octal number
(b) A hexa-decimal number

***Answer***

(a) An Octal number — An octal number uses 8 types of digits — 0, 1, 2, 3, 4, 5, 6, 7. It is represented with base 8.

(b) A hexa-decimal number — A Hexa-decimal number uses 16 types of digits (0 to 15). To represent digits from 10 to 15 it uses letters from A to F respectively. It is represented with base 16.

**Question 3a**

Give two differences between Binary number and Decimal number

***Answer***

| **Binary number** | **Decimal number** |
| --- | --- |
| It uses 2 digits — 0 and 1. | It uses 10 digits — 0 to 9. |
| It uses base 2. | It uses base 10. |

**Question 3b**

Give two differences between Octal number and Binary number

***Answer***

| **Octal number** | **Binary number** |
| --- | --- |
| It uses 8 digits — 0 to 7. | It uses 2 digits — 0 and 1. |
| It uses base 8. | It uses base 2. |

**Chapter 3**

**Computer Virus**

**Choose the correct option**

**Question 1**

What does the letter V signify in the word VIRUS?

1. Vigilance
2. Vibrant
3. Vital
4. Variety

***Answer***

Vital

**Question 2**

Which of the following can be infected by a computer virus?

1. Keyboard
2. CPU
3. Operating system
4. Printers

***Answer***

Operating system

**Question 3**

Which of the following has the ability to replicate itself?

1. Worm
2. Trojan
3. Macro
4. Stealth

***Answer***

Trojan

**Question 4**

Through which of the following a computer can be infected with viruses?

1. Pen drive
2. E-mail
3. Accessing internet
4. All of the above

***Answer***

All of the above

**Question 5**

Which of the following is not an antivirus?

1. Norton
2. AVG
3. McAfee
4. Quick Heal

***Answer***

All the four options are Antivirus.

**State whether the following statements are True/False**

**Question 1**

A computer shows unusual behaviour due to a virus attack.
***True***

**Question 2**

A computer virus is intentionally made to disturb the proper functioning of the computer system.
***True***

**Question 3**

A computer virus is destructive in nature.
***True***

**Question 4**

Unwanted mails in the spam folder can be a source of virus.
***True***

**Question 5**

A system restarting on its own is a symptom of a virus attack.
***True***

**Question 6**

A system gets affected by the virus automatically.
***False***

**Question 7**

A computer virus replicates itself within the amount of available memory.
***True***

**Question 8**

Antivirus software is specially designed to protect the entry of viruses into the system.
***False***

**Question 9**

The system gives an alarm, when a virus affected storage media is connected.
***False***

**Question 10**

Once an antivirus is loaded, your computer will never be affected by viruses.
***False***

**Give two examples of each**

**Question 1**

Boot Sector Virus

***Answer***

1. Danish boot
2. Quox

**Question 2**

Worm

***Answer***

1. Swen
2. Scalper

**Question 3**

Trojan

***Answer***

1. Backdoor
2. Nuker

**Question 4**

Macro

***Answer***

1. Bloodhound
2. Melissa

**Question 5**

Bomb

***Answer***

1. Saturday the 14th
2. Happy Birthday 30

**Question 6**

Stealth

***Answer***

1. Frodo
2. Brain

**Case-Study Based Questions**

**Question 1**

Antivirus software are the utility programs that detect and prevent your computer system from attack of viruses. The main task of an antivirus software is to check all the programs/data files available in the computer. If a virus is detected, the antivirus clears it from the system. A pirated antivirus software should not be used because it will not be able to remove all the viruses, rather it may spread the virus itself. So, you are advised to install original antivirus software and keep it updating periodically. The updated antivirus software also takes care of newly created viruses.

With reference to the above case, answer the following questions:

(a) Which of the following statements is not true about antivirus software?

1. It locates infected files.
2. It searches for the viruses.
3. Once installed, it needs not be updated.
4. It removes viruses.

(b) Which of the following is not an antivirus software?

1. McAfee
2. AVG
3. GDATA
4. Google Chrome

(c) What is meant by pirated antivirus software?

1. Copied from original software
2. Reinstalled software
3. Loaded from original CD
4. None of the above

(d) What will happen if antivirus software is not updated periodically?

1. It will be erased after some time.
2. It will not be able to trace new viruses.
3. It will force operating system to stop functioning.

***Answer***

(a) Once installed, it needs not be updated.

(b) Google Chrome

(c) Copied from original software

(d) It will not be able to trace new viruses.

**Define the following**

**Question 1**

Define Worm

***Answer***

**Worm** — These viruses are programs which don't affect the functioning of a system. Once these viruses enter, they attack the security zone of a computer system. As a result, they just keep on replicating themselves in the disks.

They also spread through e-mail while using Internet. They use the address book of the system to send themselves through e-mails. These viruses drastically decrease the available memory of the system. For example- Swen, Scalper etc.

**Question 2**

Define Trojan

***Answer***

**Trojan** — These computer programs move around the valid programs and get executed with a flashy opening screen. They usually get into the system through e-mail attachments with fascinating names.

Once you open the e-mail, they become active in the background and slowly start deleting/corrupting the files inside the system. They can only spread through user interaction such as opening an e-mail attachment or downloading and running a file from the Internet. For example- Backdoor, Nuker ,etc.

**Question 3**

Define Bomb

***Answer***

**Bomb** — These viruses remain inactive for a long time and wait for a specific data or specific event for the disaster. The explosion takes place in the form of a sudden disaster inside the system.

For example, the virus 'Friday 13' waits for the day and date Friday the 13th to delete all the files of the system.

**Question 4**

Define Program Virus

***Answer***

**Program Virus** — These viruses directly attack the program files of the system with extensions like .EXE, .SYS, .COM, .DLL, etc. Once these programs files are infected with the virus, they start showing unusual behaviour. Since these viruses don't affect the boot sector, the system stays unaffected. When a relevant task related to a program file is performed, it becomes active and starts showing its destructive behaviour. For example, Sunday, Cascade, etc.

**Short Answer Questions**

**Question 1**

What is a computer virus?

***Answer***

Computer virus is a computer program which runs on any computer system without the user's knowledge. It is a malicious code that has the ability to duplicate and sends copies of itself to other computers through the Internet. Viruses can alter, corrupt and delete files, freeze your computer and interfere with the computer operation.

**Question 2**

Mention two ways of classifying a computer virus.

***Answer***

A computer virus can be classified into two categories based on their behaviour:

1. **General infectors:** These viruses infect the data files and application softwares of the computer system. They often make copies of themselves and try to reach other systems through e-mail. For example- worm, trojan and bomb.
2. **System infectors:** These viruses infect the files and system softwares of a computer system. As a result, the entire system crashes and the user is unable to work on the system. For example- boot sector virus, program virus, macro virus, stealth virus.

**Question 3**

Name the different sources of virus from which it may enter to a computer system.

***Answer***

The different sources of virus are:

1. A virus infected storage media viz. Compact Disc (CD), Digital Versatile Disc (DVD), pen drive, etc.
2. Pirated software (application/system)
3. Hired computer games or audio or video CD's.
4. Browsing or downloading unwanted sites through the internet.
5. Unwanted email attachments in the spam folder.

**Question 4**

Why is it necessary to update antivirus software installed in your computer system?

***Answer***

Everyday new types of viruses are being developed and an antivirus software might not be able to detect or eliminate them. So, it becomes necessary to keep the antivirus software updated against the new viruses.

**Distinguish between the following**

**Question 1**

Program Virus and Macro Virus

***Answer***

| **Program Virus** | **Macro Virus** |
| --- | --- |
| This virus directly attacks the program files of the system with the extension as .EXE, .SYS, .COM, .DLL, etc. | This virus attacks the data files of the system. |
| When a relevant task related to a program file is performed, it starts showing its destructive behaviour and the system fails to perform any task directly. | Whenever a user wants to work on any application package related to data files, he finds that either the file is destroyed or it contains some absurd data. Thus, the user is unable to perform any task on those data files. |
| For example- Sunday, Cascade etc. | For example- Bloodhound, Melissa |

**Question 2**

Virus and Antivirus

***Answer***

| **Virus** | **Antivirus** |
| --- | --- |
| Computer virus is a malicious program, which has the ability to replicate and execute itself. | An antivirus software is a computer program used to scan files. It detects, prevents, identifies and eliminates computer viruses and other malicious softwares. |
| It is destructive in nature. | It is preventive in nature. |
| It harms the computer system in different ways. | It protects the computer system from viruses and other malicious softwares. |

**Question 3**

Worms and Viruses

***Answer***

| **Worms** | **Viruses** |
| --- | --- |
| A worm is a computer program that copies and multiplies itself by using computer networks and security flaws. | A virus is a malicious program which has the ability to execute and replicate itself. |
| A worm is self-sufficient i.e., it has the ability to spread itself without the use of another program or a user. | A virus attaches itself to other programs and spreads across the computer system. |
| Worms do not affect functioning of the system but interrupts services and drastically decrease the available memory of the system. | Once loaded, viruses start damaging the system by modifying information. |

**Long Answer Questions**

**Question 1**

What are the various ways to get virus attack to a computer system?

***Answer***

The various ways to get virus attack to a computer system are:

1. A virus infected floppy disk or other storage media like CD, DVD, pen drive can easily infect a system.
2. Pirated softwares
3. Hired computer games or audio or video CDs.
4. Browsing unwanted websites through Internet.
5. Unwanted mails in the spam folder.

**Question 2**

How will you detect that a computer system is infected by viruses?

***Answer***

We can detect that a computer system is infected by viruses if we notice one or more of these symptoms-

1. The speed of the processor becomes comparatively slow.
2. You may get unusual messages on the screen.
3. The disk drive light may constantly flash.
4. The opening or closing of programs/data files takes more time.
5. The programs may not run. Even if they run, they don't function properly.
6. The size of the infected file increases. Thus, the available memory decreases.
7. The system may frequently restart without the knowledge of the user.
8. The system may not be able to read the contents of CD/DVD/Pen drive.
9. The data files may corrupt or show unusual symbols/characters in place of the actual data.

**Question 3**

State the various ways to protect your system from viruses.

***Answer***

We can protect our system against viruses by following these measures:

1. Avoid using pirated CD/DVD to install any software in your system.
2. If you are using a Pen drive to transfer data to your system, make sure that the drive is free from virus.
3. If your system is connected to a LAN, keep a check on the users to avoid the misuse of the system.
4. Don't browse unwanted websites.
5. Install Antivirus software in your system.
6. Keep your antivirus software updated.
7. If you are using any external storage media to transfer data, scan the disc properly with Antivirus software.
8. Avoid reading unwanted e-mails while working with the e-mail account.
9. Always keep a backup copy of your program/data files.

**Question 4**

Why do people spread viruses? Explain.

***Answer***

One cannot understand the logic behind people's addiction to create and spread viruses. There are some reasons that might explain why people spread viruses:

1. They don't think about the consequences, others have to face.
2. They draw a false distinction between creating/publishing viruses and distributing them.
3. They consider it to be the responsibility of someone else to protect systems from their creations.
4. This is a way they fight with the authorities.
5. They think it is a way of getting attention/recognition from their peers.
6. They want to engage the antivirus vendors in a job.

**Question 5**

What is meant by an antivirus? Name different types of antivirus softwares.

***Answer***

An antivirus software is a computer program used to scan files. It detects, prevents, identifies and eliminates computer viruses and other malicious softwares. It also takes action to disarm or remove malicious software, such as viruses and worms, from a computer.

An antivirus software uses two different techniques to accomplish its job. They are:

1. Examining files to look for known viruses by means of a virus dictionary.
2. Identifying suspicious behaviour from any computer program which might indicate infection.

Examples of antivirus softwares are Kaspersky Antivirus, Quick Heal, Net Protector, AVG Antivirus, MCAfee etc.

**Question 6**

You have loaded 'Norton Antivirus' software in your computer system. Does it make your computer system free from virus attack for a lifetime? Justify.

***Answer***

No, loading of Norton antivirus software in your computer system doesn't make your computer system free from virus attack for a lifetime because everyday new types of viruses are being developed and an antivirus software might not be able to detect or eliminate them.

So, it is very important to keep your antivirus software updated against the new viruses. It can be done by using the Internet and checking for updates on a regular basis.

**Question 7**

What actions can an antivirus take, if a threat is detected in your computer system?

***Answer***

If a threat is detected in our computer system, our antivirus can take one or more of these actions in a specific order:

1. **Repair** — The antivirus tries to clean the infected file and remove the threat safely. This is important when it's our personal file and we would like to retain the data.
2. **Quarantine** — If repairing fails, the antivirus could choose to quarantine or isolate the infected file into a safe location. The quarantined file cannot be accessed but we will have a copy of the file. When a method of removing the threat is discovered, we can retrieve the data safely.
3. **Delete** — If the infected file can't be repaired and we do not want to retain the data, we can delete the files from our computer.

**Chapter 4**

**Ethics and Safety Measures in Computing**

**Choose the correct option**

**Question 1**

Which of the following stops unwanted traffic on internet?

1. Reinforce
2. Firewall
3. Phishing
4. Protector

***Answer***

Firewall

**Question 2**

Which of the following is an unethical practice?

1. Protecting Password
2. Using original software
3. Hacking
4. Passing encrypted message

***Answer***

Hacking

**Question 3**

Which of the following is a safeguard against Intellectual Property Rights?

1. Hacking
2. Malicious code
3. Spamming
4. Copyright

***Answer***

Copyright

**Question 4**

Which of the following does not represent unauthorised access to computer or network resources?

1. Sharing
2. Phishing
3. Hacking
4. Bullying

***Answer***

Sharing

**Question 5**

Which of the following is not concerned with Digital Footprint?

1. Information related to visited websites
2. Information related to watching videos on the internet
3. Listening to songs stored in your computer system
4. Any information submitted online.

***Answer***

Listening to songs stored in your computer system

**State whether the following statements are True/False**

**Question 1**

It is advised to view age appropriate web sites.
***True***

**Question 2**

The people who are involved in the cyber crime are called 'Hackers'.
***True***

**Question 3**

Always share your password among your friends.
***False***

**Question 4**

It is advised to comment on any social networking site.
***False***

**Question 5**

You can always open mail from unknown source.
***False***

**Question 6**

Don't try to download unknown software and e-mail attachments that may contain viruses.
***True***

**Question 7**

You should always use strong antivirus software in your computer system.
***True***

**Question 8**

Firewall is defined as a network security device that allows or rejects network access between the Internet and a private network.
***True***

**Question 9**

Whatever activity we perform online becomes our digital footprint.
***True***

**Question 10**

It is advised to make and distribute copies of a software.
***False***

**Fill in the blanks**

**Question 1**

***Computer ethics*** is a set of moral values, which regulates the use of computers.

**Question 2**

The process of making duplicate copy of the original software illegally is known as ***software piracy***.

**Question 3**

Unwanted emails are called ***spam***.

**Question 4**

A program which may corrupt the files/documents in your computer is known as ***virus***.

**Question 5**

Intellectual property means ***'Ownership of Ideas'***, created by using skills and mental ability of the person.

**Question 6**

In ***Cyber bullying*** an aggressive behaviour is shown through text messages, chatting or video communication.

**Question 7**

It is advised to have ***antivirus*** software to protect system from viruses.

**Question 8**

***Phishing*** is a new kind of cybercrime and method of committing online financial fraud.

**Question 9**

***Firewall*** is defined as a network security device that allows or rejects network access between an untrusted zone and a trusted zone.

**Question 10**

***Password*** can be used to protect any document on the Internet.

**Case-Study Based Questions**

**Question 1**

Intellectual Property Rights defines the ownership rights given to the people concerned such as artists, scholars, inventors, etc. who use their skill and mental ability in their creations. Trademark, patent and copyright are some tools for protecting intellectual property rights.

Based on the above case, answer the following questions:

(a) Which tool provides the protection to ownership?

1. Trademark
2. Ownership
3. Copyright
4. Patent

(b) Which protective tool does not allow to make, use, distribute, import or sale a creation commercially?

1. Copyright
2. Patent
3. Plagiarism
4. Trademark

(c) Which protective tool is the symbol used on the product of a company that can't be used by another company?

1. Trademark
2. Patent
3. Copyright
4. Firewall

(d) What is the term given to the ownership of original creation?

1. Private Creation
2. Intellectual property
3. Ethical ownership
4. Public creation

***Answer***

(a) Patent

(b) Copyright

(c) Trademark

(d) Intellectual property

**Write short notes on**

**Question 1**

Software Piracy

***Answer***

When we purchase a software, we become a licensed user and have a right to use the software on a single computer. But we cannot put copies on other machines or pass the software among our colleagues.

Piracy refers to illegal distribution. The process of making copies of software without buying the appropriate license or copyright is known as software piracy.

**Question 2**

Spam

***Answer***

When we open our mailbox, we find a number of unwanted mails have come into our inbox from different parts of the world organizations. Sometimes, the titles of these messages are very fascinating and compel us to read the mails. These unwanted messages of mailbox are called spam.

Spam is an attempt to force the message on people who would not otherwise choose to receive it. Spams not only waste the time of the user but also occupy memory space of the system. Spams may also contain viruses.

**Question 3**

Phishing

***Answer***

In the cyber-world, phishing is a form of illegal act where fraudulently, sensitive information is acquired like passwords, debit or credit card details by a person posing as a trustworthy or a business communication.

**Question 4**

Hacking

***Answer***

Hacking can be defined as unauthorized use of computer and network resources. Unfortunately these skills are applied in illegal activities.

Hacking is a technique by which some computer experts can access the data from confidential areas of the system.

**Question 5**

Cyber bullying

***Answer***

Cyberbullying is a form of bully using digital technology such as internet, emails, social networking sites, mobile phones, personal computers, etc. With the digitisation and easy access to technology, it has become increasingly common, especially among teenagers. Some of the common ways through which cyber bullying takes place are:

1. Threatening messages by email, text or through comments on a social networking page.
2. Trapping someone and then sharing personal information widely with others.
3. Hacking email account to get into their social networking accounts and posting embarrassing or offensive contents.
4. Spreading embarrassing rumours, secrets or gossip about another person through social networking sites, email or texts.
5. Posting an embarrassing picture or video of someone to others without their knowledge or permission.

**Question 6**

Plagiarism

***Answer***

If we create or develop something on the Internet, then we are the absolute owner of our creation. It comes under intellectual property right. In case, someone uses our creation and produces as his own creation then it is the violation of copyright act.

An act of copying other's creation and producing as own creation in same form or other is known as plagiarism.

**Question 7**

Firewall

***Answer***

Firewall is defined as a network security device that allows or rejects network access between an untrusted zone and a trusted zone. It acts as a two way traffic system and protects the computer system as well.

Whenever a message is received, it is passed through Firewall for authentication. If it is from an authorised source then allowed entering your computer system otherwise, blocked.

**Question 8**

Digital Footprint

***Answer***

Internet is a very useful tool for getting information and sharing messages. Sometimes, it may happen that we leave information while accessing a site or passing messages through e-mail. We may also leave our account logged-in unknowingly. Leaving used site or mail ID online is said to be digital footprint.

Digital footprint is trailing information online about accessing a site or mail ID left unclosed or undeleted.

**Long Answer Questions**

**Question 1**

What do you understand by Ethics? Mention at least five ethical values related to computers.

***Answer***

Ethics is a set of moral principles that govern the behaviour of a group or individual. Computer ethics regulate the use of computers.

Five ethical values related to computers are as follows:

1. While accessing Internet, always work in a healthy environment so that the objective is fulfilled.
2. Do not copy or use proprietary software for which you have not paid.
3. Do not try to steal the secret information of any other computer.
4. You must protect your document by using password and note it in a diary in case you forget it.
5. If you are working on Internet, you should not browse any unwanted website or open any type of mails of others by any means.

**Question 2**

What are the advantages of using Internet? Explain.

***Answer***

The advantages of using Internet are as follows:

1. Internet can be used for searching any information through various search engines.
2. The messages can be sent and received through e-mail on internet.
3. It plays a significant role in research and development work.
4. It also allows video conversation with the relatives or friends through Skype or Facebook.
5. It promotes 24 X 7 online shopping.
6. It keeps a track of share and stock marketing.
7. Online banking can be used to purchase railway, flight or movie tickets.

**Question 3**

What is cyberbullying? Explain how some internet users carry it out.

***Answer***

Cyberbullying is a form of bullying using digital technology such as internet, emails, social networking sites, mobile phones, personal computers, etc. Some of the common ways through which cyber bullying takes place are:

1. Threatening messages by email, text or through comments on a social networking page.
2. Trapping someone and then sharing personal information widely with others.
3. Hacking email account to get into their social networking accounts and posting embarrassing or offensive contents.
4. Spreading embarrassing rumours, secrets or gossip about another person through social networking sites, email or texts.
5. Posting an embarrassing picture or video of someone to others without their knowledge or permission.

**Question 4**

What do you understand by Intellectual Property Rights? Explain.

***Answer***

Intellectual property means 'Ownership of Ideas' which is created by using skills and mental ability of the person. The softwares originally developed by the persons become the intellectual property of the developers.

Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time. These rights can be exercised in the form of software patents, software copyright or trademark.

**Question 5**

Enlist some parental assistance for minors while accessing Internet.

***Answer***

Some parental assistance for minors while accessing Internet are as follows:

1. By viewing age appropriate web sites.
2. By using strong password that cannot be cracked so easily.
3. By not sharing password with any person.
4. On frequent changing password.
5. Responding to known email messages or attachments only.
6. By protecting computer with antivirus software. The antivirus must be latest such as 'Quick Heal' or 'Firewall' that recognizes most of the viruses.

**Question 6**

What are the different ways to stop Spam?

***Answer***

The different ways to stop Spam are as follows:

1. Installing good antivirus software in our computer system.
2. Avoid reading unwanted email messages and delete them to keep inbox empty

**Question 7**

What are the disadvantages of using the Internet? Explain.

***Answer***

The disadvantages of using the Internet are:

1. Internet is a place to offer so much to its users and hence becomes the biggest factor in distracting one from his/her task.
2. People actively using internet can face cases of internet bullying and crimes.
3. Hacking of personal profile and account has become another cause of concern.
4. Safety of personal data and information also worries the users.
5. Attack of viruses is also a threat of using internet.
6. Over-reliance on internet activities can make the user lethargic and irresponsible.

**Question 8**

How will you avoid Software Piracy? Explain.

***Answer***

Some guidelines to avoid software piracy are as follows:

1. Always buy your software from a reputed organization.
2. Make sure that your software comes with a license agreement, original disk and authentic packaging with copyright.
3. Avoid buying of multiple software titles from different publishers on a single disk.
4. If the seller provides the direction to obtain a serial number, it indicates that the software is not authentic.

**Question 9**

What are the different steps must be taken to avoid hacking?

***Answer***

The following measures must be taken to avoid hacking:

1. Don't share your personal information with unknown or suspicious sources.
2. Don't create a password based on your personal information like last name, telephone number, etc.
3. Don't share your password with anyone even although he/she is your close friend.
4. Don't access and download material from illegitimate sites.
5. Don't try to open and download unknown software and email attachments that may contain viruses.
6. Use strong antivirus software for your computer.
7. Don't get tempted towards unknown advertisement.
8. Don't share sensitive information such as card details, OTP, CVV number, etc. with anyone.

**Question 10**

Explain how firewall protects a computer system.

***Answer***

Firewall is defined as a network security device that allows or rejects network access between an untrusted zone (such as the internet) and a trusted zone (a private network). It is designed to filter incoming traffic and to protect unauthorised access from an unknown network.

**Chapter 5 - Unit 1**

**Spreadsheet - An Introduction: Fundamentals of Spreadsheet**

**Choose the correct option**

**Question 1**

Which of the following is formed due to the intersection of a row and a column?

1. Worksheet
2. Sheet 1
3. Range
4. Cell

***Answer***

Cell

**Question 2**

Which is the default worksheet in a workbook?

1. Sheet 1
2. Sheet 3
3. Sheet 1 to Sheet 3
4. Active worksheet

***Answer***

Sheet 1

**Question 3**

Which is the next column followed by column Z?

1. A
2. AA
3. AB
4. ZA

***Answer***

AA

**Question 4**

In which cell, the value entered from the keyboard will appear in a worksheet?

1. In all the columns of selected row
2. In all the rows of the selected column
3. In the active cell
4. In corner cell

***Answer***

In the active cell

**Question 5**

Which of the following options is used to reverse the last action performed by the user in a worksheet?

1. ctrl+A
2. ctrl+X
3. ctrl+Y
4. ctrl+Z

***Answer***

ctrl+Z

**Fill in the blanks**

**Question 1**

The extension of a workbook in MS Excel is ***.xlsx*** by default.

**Question 2**

A file, which contains a number of worksheets is called ***workbook***.

**Question 3**

The smallest unit of a worksheet is called ***cell***.

**Question 4**

A cell is referred as ***column*** letter followed by a ***row*** number.

**Question 5**

When you click on ***Print*** option (in MS Excel 2016) it displays the Print Preview of a worksheet.

**State True or False**

**Question 1**

You can't close an active worksheet without saving the cell contents.
***False***

**Question 2**

You may or may not write the extension of a workbook while saving it.
***True***

**Question 3**

Columns are the horizontal lines in a worksheet.
***False***

**Question 4**

A cell E10 means column E and 10th row.
***True***

**Question 5**

Save As option doesn't ask the file name from the user while saving.
***False***

**Name the following components of spreadsheet**

**Question 1**

It stores few shortcut buttons that are frequently used.

***Answer***

Quick Access Toolbar

**Question 2**

This button displays all the frequently used tasks related to the application.

***Answer***

File button

**Question 3**

It is used to write formulae to perform different operations.

***Answer***

Formula Bar

**Question 4**

It allows inserting more worksheet in a workbook.

***Answer***

New Sheet

**Question 5**

It is used to write formula to perform different mathematical and logical tasks.

***Answer***

Formula Bar

**Case-Study Based Questions**

**Question 1**

Formula is an expression consisting of numeric values and operators. You can perform arithmetical operations on a set of values using formulae. It is important to know that all MS Excel formulae must begin with an equal sign (=) followed by an expression. The formulae used to perform different tasks are shown below:

(a) Task (1)



(b) Task (2)



(c) Task (3)



(d) Task (4)



The space is provided alongside to write the result of the formulae for each of the above tasks.

***Answer***

(a) 33
**Working** — A2 = 30, B2 = 12, C2 = 4
Formula = A2 + B2 / C2
= 30 + 12 / 4
= 30 + 3 = 33

(b) 1.5
**Working** — A6 = 12, B6 = 8
Formula = A6/B6
= 12 / 8 = 1.5

(c) 10
**Working** — A4 = 45, B4 = 9, C4 = 2
Formula = A4 / B4 \* C4
= 45 / 9 \* 2
= 5 \* 2 = 10

(d) 15
**Working** — A8 = 15, B8 = 3, C8 = 10
Formula = A8 / B8 + C8
= 15 / 3 + 10
= 5 + 10 = 15

**Short Answer Questions**

**Question 1**

What is a spreadsheet?

***Answer***

Spreadsheet is a large sheet which contains data and information. It is a grid of rows and columns and is also called a worksheet. A computer spreadsheet is also known as Electronic spreadsheet. It is used for analyzing and evaluating data represented in tabular form.

**Question 2**

What is the significance of Undo and Redo buttons?

***Answer***

The Undo feature can quickly correct mistakes that we make in a worksheet. When we want to reverse our last action in a worksheet, we click on 'Undo' button.

The Redo button lets us perform the previous task by using 'Undo'. It changes in response to whatever action we just took. The 'Redo' button becomes active whenever we use 'Undo' button.

**Question 3**

Define the following terms

1. Worksheet
2. Workbook
3. Cell
4. Active cell
5. Formula bar

***Answer***

**Worksheet** — Each page of a workbook is called worksheet. The active worksheet is displayed in the window. The default worksheets are sheet 1, sheet 2, sheet 3.

**Workbook** — Workbook is a file, which contains a number of worksheets. By default, three worksheets are present in a workbook. You can add or remove worksheets from a workbook as per the requirement.

**Cell** — A cell is the smallest unit of the worksheet, which is formed at the intersection of a row and a column. Each cell has its own cell address for reference. The address of the cell consists of the column letter followed by the row number.

For example, Cell F4 means column F and row 4.

**Active cell** — The cell in which cell pointer is located in a worksheet is the active cell. It has a dark boundary around it. It is also known as the cell. We can move cell pointer to make any other cell active either with the help of arrow keys of the keyboard or by using mouse.

**Formula bar** — It is used to write formulae to perform different mathematical and logical tasks.

**Perform arithmetical tasks on a Spreadsheet**

**Question 1**

To find the product of first five odd numbers

***Answer***

=(1 \* 3 \* 5 \* 7 \* 9)

**Question 2**

To find the sum of 87, 89, 91, 66

***Answer***

=(87 + 89 + 91 + 66)

**Question 3**

Subtract 999 from 1000

***Answer***

=(1000 - 999)

**Question 4**

To show the result of dividing 612 by 6

***Answer***

=(612 / 6)

**Question 5**

To display the sum of first three prime numbers

***Answer***

=2+3+5

**Write formulae to perform these arithmetical tasks on a Spreadsheet**

**Question 1**

To find the sum of cell values A2 to A5

***Answer***

=A2+A3+A4+A5

**Question 2**

To subtract the cell value D5 from the sum of cell values D3 and D4

***Answer***

=D5-(D4+D3)

**Question 3**

To add cell value B5 with the product of cell values B2 to B4

***Answer***

=B5+(B2\*B3\*B4)

**Question 4**

To divide the sum of cell values of E1 and E2 by E4

***Answer***

=(E1+E2)/E4

**Long Answer Questions**

**Question 1**

What are the advantages of an electronic spreadsheet?

***Answer***

The advantages of an electronic spreadsheet are as follows:

1. By default, it creates the arrangement of data into columns and rows called cells.
2. The data that is input into the spreadsheet can be either in the form of numbers, strings or formulae.
3. The inbuilt programs allow you to change the appearance of the spreadsheet, including the column width, row height, font color and color of the spreadsheet very easily.
4. You can choose to work with or print a whole spreadsheet or specify a particular area, called a range.
5. MS Excel spreadsheet enhances to analyze large amounts of data with the help of powerful tools.

**Question 2**

Enlist the features of an electronic spreadsheet.

***Answer***

The features of an electronic spreadsheet are as follows:

1. MS Excel is easy to learn and thus, it does not require any specialised training programme.
2. MS Excel basically provides an electronic spreadsheet where all the calculations can be done automatically through built-in programs.
3. Spreadsheets are required mainly for tabulation of data. It minimizes manual work and provides high degree of accuracy in results.
4. It also provides multiple copies of the spreadsheets.
5. To perfrom the basic Mathematical operations such as addition, subtraction, multiplication or division to produce numeric results, we use arithmetic operators like +,-,\*,/.
6. It presents the information in the form of charts and graphics.
7. MS Excel is able to sort the data in either ascending or descending order very easily.
8. MS Excel also allows you to add password to a workbook. It avoids any kind of unauthorised access to the data.

**Question 3**

Write down the main steps to perform the following tasks with reference to MS Excel:

(a) To create a new workbook

(b) To save a workbook

(c) To print a workbook

***Answer***

**(a) To create a new workbook**

To create a new workbook, follow these steps:

**Step 1:** Click 'File' tab from the menu bar.

**Step 2:** Select 'New' from the drop-down list.

**Step 3:** Select 'Blank Workbook' followed by 'Create' that is located on the right side of the window.

The new workbook will be created and opened.

**(b) To save a workbook**

To save a workbook, follow these steps:

**Step 1:** Click 'File' button and a sub menu displays on the screen.

**Step 2:** Click 'Save As' option from the drop down list. Save As dialog box appears on the screen.

**Step 3:** Choose the location where you want to save your file.

**Step 4:** Enter the filename in the box provided.

**Step 5:** Click 'Save' button.

Thus, the workbook will be saved.

**(c) To print a workbook**

To print a workbook, follow these steps:

**Step 1:** Select the file and open it in MS Excel.

**Step 2:** Click 'File' and then 'Print' from the drop-down menu. The right side of the window area shows the print preview and left adjacent part shows the printing parameters. The different parameters are:

1. Printer — Select the printer that is connected to your system.
2. Settings —
a) Select the option 'Print entire workbook'
b) Specify the page orientation i.e., Portrait or Landscape. Default setting is Portrait.
c) Specify the number of copies required.

**Step 3:** Finally, click 'Print' button.

The workbook will be printed.

**Question 4**

What are the different types of data used in MS Excel? Explain.

***Answer***

Three frequently used data types in MS Excel are:

1. **Number** — This data represents numeric values including both integers and real numbers. They take part in all arithmetical operations such as addition, subtraction, multiplication, division, etc. By default, the numbers are right aligned.
For example, 1500, -345, 645.67, -76.50, etc.
2. **String** — The String type data are also known as text data in MS Excel. They contain alphanumeric characters (i.e. uppercase letters/lowercase letters, digits and special symbols). They don't take part in arithmetical operations. By default, the strings are left aligned.
For example, Name, Marks, Total, Product\_Name, Pay2021, etc.
3. **Formula** — It is an expression consisting of numeric values and operators. You can perform all arithmetical operations on a set of values using formulae. All Excel formulae must begin with an equal sign (=) followed by an expression. Some examples are as illustrated below:
	1. To find the sum of two values say, 10 and 20
	Formula: =10 + 20
	2. To add the cell values from A1 to A3
	Formula: =A1 + A2 + A3
	3. To add the cell value A3 with the product of cell values A1 and A2
	Formula: =A1 \* A2 + A3

**Question 5**

How will you perform simple addition and multiplication of numbers in a cell of a worksheet? Explain.

***Answer***

Steps to perform simple addition in a cell of a worksheet:

Step 1: Select the cell (say, B2) where you want to perform the addition.

Step 2: Type the required expression, for example =45 + 32

Step 3: Press Enter key. The result is shown in the selected cell. (For our example, B2 will show the result as 77).

Steps to perform multiplication in a cell of a worksheet:

Step 1: Select the cell (say, C2) where you want to perform the multiplication.

Step 2: Type the required expression, for example =12\*10\*5

Step 3: Press Enter key. The result is shown in the selected cell. (For our example, C2 will show the result as 600).

**Question 6**

Using the concept of formula in MS Excel, write down all the steps:

(a) to calculate the product of values available in the cells A2, B2, C2 and D2

(b) to find the result when sum of cells A4 and A5 are divided by A6

***Answer***

(a) Steps to calculate the product of values available in the cells A2, B2, C2 and D2:

Step 1: Select the cell (say, E2), where you want to get the resulting value.

Step 2: Type equal sign (=) in the cell (cell E2 as per our example) and write the formula *=A2\*B2\*C2\*D2*. Cells A2 to D2 will get highlighted.

Step 3: Press Enter key. The result is displayed in the selected cell.

(b) Steps to find the result when sum of cells A4 and A5 are divided by A6:

Step 1: Select the cell (say, A7), where you want to get the resulting value.

Step 2: Type equal sign (=) in the cell (cell A7 as per our example) and write the formula *=SUM(A4,A5)/A6*. Cells A4 to A6 will get highlighted.

Step 3: Press Enter key. The result is displayed in the selected cell.

**Chapter 5 - Unit 2**

**Spreadsheet - An Introduction: More on Spreadsheet**

**Choose the correct option**

**Question 1**

A group of multiple cells that are selected to perform different operations is known as ............... .

1. group
2. cell group
3. range
4. range of cells

***Answer***

range of cells

**Question 2**

Which of the following rows are selected to unhide row number 5?

1. Rows 3 and 4
2. Rows 6 and 7
3. Rows 4 and 6
4. Select entire row and click unhide.

***Answer***

Rows 4 and 6

**Question 3**

Which of the following features generates a particular series of numbers without entering them manually in a spreadsheet?

1. FillAuto
2. AutoSeries
3. AutoFill
4. Fill

***Answer***

AutoFill

**Question 4**

Which of the following options allows you to move a set of data marked under range from one sheet to other?

1. Copy
2. Copy-paste
3. Paste
4. Paste-copy

***Answer***

Copy-paste

**Question 5**

Which of the following options will you select under Home tab to change Row Height in a worksheet?

1. Insert
2. Format
3. File
4. View

***Answer***

Format

**State True or False**

**Question 1**

When you click on 'Insert' button, a row is inserted in a spreadsheet.
***False***

**Question 2**

Row height changes automatically when the size of the text increases.
***True***

**Question 3**

By default, the row height or column width is measured in points.
***True***

**Question 4**

You can delete rows but not the column in a spreadsheet.
***False***

**Question 5**

Copy and Paste allow making duplicate copy of the cell/range of cell.
***True***

**Question 6**

Once column width is set, it can't be changed in a spreadsheet.
***False***

**Fill in the blanks**

**Question 1**

***Editing*** means modification/rectification in a spreadsheet.

**Question 2**

When two or more cells are selected, it is called ***range of cells***.

**Question 3**

When you click on 'Delete Sheet Rows' under 'Delete' option, the selected ***records*** gets deleted.

**Question 4**

Row Height option is available under ***Format*** option in the Ribbon.

**Question 5**

When you click on ***Insert Sheet Columns*** under 'Insert', a new column is inserted.

**Question 6**

***Delete*** key can be used to remove the cell content.

**Question 7**

In a cell, every Mathematical formula/task must begin with an ***equal to (=)*** sign.

**Name the following**

**Question 1**

Three tasks under editing a worksheet

***Answer***

1. Insert Rows/Columns
2. Format Row Height
3. Format Column Width

**Question 2**

The shortcut keys for:

a) Cut: ............

    Paste: ............

b) Copy : ............

    Paste: ............

***Answer***

a) Cut: **Ctrl + X**

    Paste: **Ctrl + V**

b) Copy : **Ctrl + C**

    Paste: **Ctrl + V**

**Case-Study Based Questions**

**Question 1**

Rajat has purchased some stationery items from ABC shop. He created the worksheet containing Product Name, Unit Price and Quantity. He calculated the Amount of different items using formulae in Excel. The worksheet created by him is as shown alongside:



Based on the above case, answer the following questions:

(a) What formula would he have used in the cell D2 to find the amount of pens?

(b) Fill in the blank to hide the particulars of the Product Name in the following statement:
Select row number 4 and click: Home → Format → ...............

(c) Fill in the blank to delete the amount from column D in the following statement:
Select column name D and click: Home → Delete → ...............

(d) What is the value of default row height in a worksheet?

***Answer***

(a) =B2\*C2

(b) Home → Format → ***Hide & Unhide → Hide Rows***

(c) Home → Delete → ***Delete Sheet Columns***

(d) By default, Excel adjusts the row height as per the largest font size in a row.

**Write short answers**

**Question 1**

Cut-Paste

***Answer***

It is a feature of MS Excel where a part of the worksheet is removed from the original location and pasted at the desired location. The 'cut' part of the worksheet may be present within the same worksheet or another worksheet.

In this option, we can shift the content of the cell/range of cell from one place to the desired place.

**Question 2**

AutoFill

***Answer***

MS Excel provides AutoFill feature to fill the series of values automatically in the cells without entering them manually one by one. The user has to enter the first two values in the adjacent cells to get the series of the required numbers.

**Question 3**

Copy-Paste

***Answer***

In this feature of MS Excel, we can copy a certain part of worksheet to the desired location. The 'copy' part of the worksheet may be present within the same worksheet or in another worksheet.

We can make a duplicate copy of the cell/range of cells at different locations.

**Question 4**

Editing

***Answer***

Editing is important as it can modify/rectify our workbook. MS Excel provides a variety of tasks that can be performed on a workbook to present it in a more organised way.

Editing includes inserting rows/columns, formatting row height, formatting column width, deleting rows/columns, hiding rows and columns, cut/copy and paste etc.

**Long Answer Questions**

**Question 1**

Give two differences between Cut-Paste and Copy-Paste.

***Answer***

Two differences between Cut-Paste and Copy-Paste are as follows:

| **Cut-Paste** | **Copy-Paste** |
| --- | --- |
| It is the process of moving a block from one place to another. | It is the process of making duplicate copies of the block of a worksheet. |
| Shortcut keys used are Ctrl + X for cutting and Ctrl + V for pasting. | Shortcut keys used are Ctrl + C for copying and Ctrl + V for pasting. |

**Question 2**

Write down all the steps:

(a) To select a row in a worksheet

(b) To insert a column in a worksheet

(c) To delete a row in a worksheet

(d) To set a row height in a worksheet

(e) To hide rows in a workbook

***Answer***

**(a) To select a row in a worksheet**

To select a row in a worksheet, follow these steps:

**Step 1:** Take the cell pointer on the left hand side of the worksheet where the row numbers are mentioned. The cell pointer will change into a black horizontal arrow.

**Step 2:** Left click on any row number to select that row.

**(b) To insert a column in a worksheet**

To insert a column in a worksheet, follow these steps:

**Step 1:** Set the cell pointer at adjacent cell to which you want to insert a new column.

**Step 2:** Click 'Insert' button that is present in the Ribbon under 'Home' menu.

**Step 3:** Click 'Insert Sheet Columns'.

A new column will be inserted on the left of the active cell.

**(c) To delete a row in a worksheet**

To delete a row in a worksheet, follow these steps:

**Step 1:** Select the row which you want to delete from the worksheet.

**Step 2:** Click 'Delete' option which is available in Ribbon under 'Home' menu.

**Step 3:** Select 'Delete Sheet Rows' from the drop-down list.

The selected row will be deleted.

**(d) To set a row height in a worksheet**

To set a row height in a worksheet, follow these steps:

**Step 1:** Select the range of rows of which you want to change the height.

**Step 2:** Click 'Format' available in Ribbon under 'Home' menu. Select 'Row Height'. It shows the default row height.

**Step 3:** Set the row height as per your requirement and click 'OK'.

The new row height of the worksheet is set.

**(e) To hide rows in a workbook**

To hide rows in a workbook, follow these steps:

**Step 1:** Select the rows of the active worksheet that need to be hidden.

**Step 2:** Click 'Format' available in Ribbon under the 'Home' menu.

**Step 3:** Under Visibility, select 'Hide and Unhide' from the drop-down list.

**Step 4:** Click 'Hide Rows'.

The selected rows will be hidden.

**Chapter 6**

**Database and DBMS - An Introduction**

**Fill in the blanks**

**Question 1**

MS Access is a ***Database*** Management System.

**Question 2**

The collection of related records is called ***table***.

**Question 3**

Rows in a table represent ***records***.

**Question 4**

The process of retrieving relevant information from a database is called ***query***.

**Question 5**

A field in MS Access that identifies each record uniquely is called ***primary key***.

**Question 6**

The number of primary key in a table in MS Access can be ***one***.

**Question 7**

A Database Management System is an ***application*** software.

**Question 8**

The columns in a table represent ***fields***.

**Question 9**

You can't delete the column of ***ID*** in a table.

**Question 10**

The ***special*** characters are not allowed as a field name in a table.

**Identify the valid and invalid field names giving reasons**

**Question 1**

Name

***Answer***

Invalid because 'name' is a keyword in MS Access.

**Question 2**

Father's name

***Answer***

Valid because it has no special character in it.

**Question 3**

Date of birth

***Answer***

Valid because it has no special character in it.

**Question 4**

Admission No.

***Answer***

Invalid because it has a special character (.) in it.

**Question 5**

Blood Group

***Answer***

Valid because it has no special character in it.

**Question 6**

Postal Address

***Answer***

Valid because it has no special character in it.

**Question 7**

Contact No.

***Answer***

Invalid because it has a special character (.) in it.

**Question 8**

E-mail ID

***Answer***

Invalid because it has a special character (-) in it.

**Mention the data type (text or number) of the fields and also indicate the primary key**

| **Field** | **Data Type** |
| --- | --- |
| Index No |  |
| Name |  |
| English |  |
| Science |  |
| Hindi |  |
| HCG |  |
| Maths |  |
| Computer |  |
| Total |  |
| SUPW |  |

***Answer***

| **Field** | **Data Type** |
| --- | --- |
| Index No | Number |
| Name | Text |
| English | Number |
| Science | Number |
| Hindi | Number |
| HCG | Number |
| Maths | Number |
| Computer | Number |
| Total | Number |
| SUPW | Text |

Index No will be the Primary Key.

**Write short notes on**

**Question 1**

Primary Key

***Answer***

Primary key is a unique field by which records are identified in a table. For example, In a table of student's record, the 'Registration Number' can be called as the primary key.

**Question 2**

Field

***Answer***

The columns in a table contain a number of headings such as first name, last name, address etc. These headings are known as fields.

**Question 3**

Report

***Answer***

The end product of data manipulation in DBMS as per the user's choice is known as 'Report'. Report can be obtained as a hard copy or a soft copy. Reports are usually created after making the queries on the database.

**Question 4**

Record

***Answer***

A set of fields comprises a record and a set of similar records make a table.

**Short Answer Questions**

**Question 1**

What is Database Management System?

***Answer***

A collection of programs required to store and retrieve data from a database is called Database Management System. It is an application package which arranges all records in an orderly manner so that the information can be accessed easily. For example, MS Access.

**Question 2**

What are the advantages of Database Management System?

***Answer***

The advantages of Database Management System are as follows:

1. It minimizes duplication of data by integrating and sharing data files.
2. It saves storage space.
3. The user can rely on the results, as they are generated by the computer.
4. It also allows the user to make different types of queries depending upon the situation.
5. The file can be easily updated if changes are made.

**Question 3**

Distinguish between 'Datasheet view' and 'Design view' in a table.

***Answer***

| **Datasheet view** | **Design view** |
| --- | --- |
| It is the default view of the table. It shows all the fields and the records as entered by the user. | In this view, the records are not visible. Only the field names and their data types are visible. |

**Question 4**

Can you delete multiple records from a table? Justify.

***Answer***

Yes, we can delete multiple records from a table.

To delete multiple records, we can select multiple records by using the Shift key and mouse pointer. Once the desired records are selected, we can use the Delete key to delete the records.

**Question 5**

Can you create more than one table in the same Database? Explain.

***Answer***

Yes, we can create more than one table in the same database.

We can close one table and create another table in the same database. To create another table, we can select 'Table' from the 'Tables' group from the 'Create' tab on the menu bar. The new table will open.

**How will you perform these tasks in MS Access?**

**Question 1**

To view a table of a database

***Answer***

To view a table of a database, follow these steps:

**Step 1:** Click 'File' and select 'Open' option from the drop-down menu. Open window will appear.

**Step 2:** Browse and select your database. Click Open button. The database will open.

**Step 3:** All the tables of the database are shown in the left pane. Double click on the desired table.

The table will open on the right pane.

**Question 2**

To add a field name in a table

***Answer***

To add a field name in a table, follow these steps:

**Step 1:** Open the table in Datasheet view.

**Step 2:** Double click 'Click to Add' heading and rename the field with an appropriate data type.

A new field is added to the table. Data can be entered in the field.

**Question 3**

To delete a record in a table

***Answer***

To delete a record in a table, follow these steps:

**Step 1:** Open the required table in Datasheet view.

**Step 2:** Place the pointer and select the record which is to be deleted. The record will be highlighted.

**Step 3:** Right click the selected record nd click 'Delete Record'. The system asks for confirmation from the user before deleting it permanently from the table.

**Step 4:** Click 'Yes' to confirm, otherwise 'No'.

On clicking 'Yes', the selected record gets deleted from the table permanently.

**Question 4**

To create a table with field names

***Answer***

To create a table with field names, follow these steps:

**Step 1:** Click on 'Create' tab on the ribbon. Under the 'Tables' group, select 'Table'. A new table will be created and opened in Datasheet view.

**Step 2:** By default, the field name ID is already added in the table. Other fields can be added by clicking 'Click to Add'.

**Step 3:** Double click 'Click to Add' heading and rename the field with an appropriate data type.

**Step 4:** Continue Step 3 till the table has all the required fields.

Now you can enter records in the table.

**Chapter 7 - Unit 1**

**HTML - Advanced Features: More Features on HTML**

**State whether the following statements are True/False**

**Question 1**

You can display an HTML document in bulleted form by using bullet styles taking bulleted list from MS Word.
***False***

**Question 2**

A browser interprets the HTML codes on web page.
***True***

**Question 3**

In an ordered list, the contents are displayed in bulleted form.
***False***

**Question 4**

You can add a visual appeal by inserting images in an HTML document.
***True***

**Question 5**

By default, border is added to a picture in an HTML document.
***False***

**Question 6**

You can also insert pictures in HTML documents from an external source.
***True***

**Name the following**

**Question 1**

Two ways to display HTML list

***Answer***

**1. Unordered list**
**2. Ordered list**

**Question 2**

Two attributes of the Marquee tag

***Answer***

**1. Direction**
**2. Behaviour**

**Question 3**

Two ways to customize the pictures in HTML documents

***Answer***

**1. Adding border**
**2. Adding text**

**Write down the syntax of the following with reference to HTML**

**Question 1**

Ordered List

***Answer***

<ol>

<li> Line 1 </li>

<li> Line 2 </li>

<li> Line 3 </li>

<li> Line 4 </li>

</ol>

**Question 2**

Unordered List

***Answer***

<ul>

<li> Line 1 </li>

<li> Line 2 </li>

<li> Line 3 </li>

<li> Line 4 </li>

</ul>

**Question 3**

Marquee Tag in left direction

***Answer***

<marquee direction = "left"> Content </marquee>

**Question 4**

Marquee Tag in downward direction

***Answer***

<marquee direction = "down"> Content </marquee>

**Question 5**

Inserting a picture

***Answer***

<img src="URL/Path">

**Define the following HTML tags**

**Question 1**

Marquee Tag

***Answer***

This is a special tag used in an HTML document to give an extra effect to a string or a block of text. Generally, it is used to scroll a block of text within the web page. It has two attributes- direction and behaviour.

Syntax:

<marque>string of text</marque>

Example:

<marque>Hello</marque>

**Question 2**

Ordered List

***Answer***

In an ordered list, each item is displayed along with the numbers or letters instead of bullets. The entire content of the list is enclosed in <ol> and </ol> tags and each item is enclosed in <li> and </li> tags.

For example:

<ol>

<li> English </li>

<li> Hindi</li>

<li> Maths </li>

<li> Science </li>

</ol>

**Question 3**

Behaviour in Marquee Tag

***Answer***

Behaviour is a part of marquee which states about the types of movements of the string of text. It includes three attributes:

1. **Alternate** — The string keeps on scrolling between the ends of the web page.
2. **Scroll** — The string of text keeps on scrolling across the screen and scrolls back on the web page.
3. **Slide** — The string of text starts scrolling from the right side of the screen and stops as soon as it reaches the left side of the web page.

For example:

<marquee behavior = "alternate">Hello Students</marquee>

**Question 4**

Adding border to a picture

***Answer***

We can enhance the images on the web page by adding border to the images. This task can be done by using the Border tag.

Syntax:

<img src="URL/Path" Border = "thickness in pixels">

Example:

<img src="d:/images/computer.jpg" Border = "5">

**Question 5**

Adding text along with a picture

***Answer***

We can also add captions for the pictures in HTML. By default, the text adjacent to the picture is aligned bottom. Align tag can be used to align the caption on top, middle or bottom of the image.

For Example:

<p><img src="d:/images/computer.jpg" align = "top">Computer - A Machine</p>

**Short Answer Questions**

**Question 1**

What are the different attributes of Marquee tags? Name them.

***Answer***

The different attributes of marquee tag are as follows:

1. **Direction** — It has four attributes- left, right, up and down.
2. **Behaviour** — It has three attributes - alternate, scroll and slide.

**Question 2**

Distinguish between Unordered list and Ordered list.

***Answer***

| **Unordered list** | **Ordered list** |
| --- | --- |
| In an unordered list, each item is displayed with a bullet. | In an ordered list, each item is displayed along with the numbers or letters instead of bullets. |
| <ul> and </ul> tags are used. | <ol> and </ol> tags are used. |

**Question 3**

How will you perform the following tasks in an HTML document?
(a) Adding border to a picture
(b) Resizing a picture
(c) Right direction of Marquee tag

***Answer***

**(a) Adding border to a picture**

We can add border to a picture by using the border tag.

Syntax:

<img src = "URL/Path" border = "thickness in pixels">

Example:

<img src = "d:/images/computer.jpg" border = "5">

**(b) Resizing a picture**

We can resize a picture by using the attributes Height and Width with <img> tag. Height specifies the height of the picture and width specifies the width of the picture.

Syntax:

<img src = "URL/Path" Height = "height in pixels" Width = "width in pixels">

Example:

<img src = "d:/images/computer.jpg" Height = "400" Width = "300">

**(c) Right direction of Marquee tag**

Right direction of the marquee tag can be set by using the attribute direction.

Syntax:

<marquee direction = "right">string of text</marquee>

Example:

<marquee direction = "right">Hello students</marquee>

**Write all the steps**

**Question 1**

To insert pictures in an HTML document

***Answer***

To insert pictures in an HTML document, we can use <img> tag, which is an empty tag. To add an image to the web page, we need to specify the complete path of the source.

Syntax:

<img src = "URL/Path"> where 'src' stands for source

Example:

<img src = "d:/images/computer.jpg">

**Question 2**

To add borders to pictures in an HTML document

***Answer***

To add borders to pictures in an HTML document, we can use the border tag.

Syntax:

<img src = "URL/Path" Border = "thickness in pixels">

Example:

<img src = "d:/images/computer.jpg" Border = "5">

**Question 3**

To add space around pictures/images in an HTML document

***Answer***

To add space around pictures/images in an HTML document, we can use the tags 'Hspace' and 'Vspace'. Hspace adds white space to the left and right of the pictures and Vspace adds white space above and below the pictures.

Syntax:

<img src = "URL/Path" Hspace = "space in pixels" Vspace = "space in pixels">

Example:

<img src = "d:/images/computer.jpg" Hspace = "100" Vspace = "30">

**Question 4**

To resize the pictures/images in an HTML document

***Answer***

To resize the pictures/images in an HTML document, we can use the attributes 'Height' and 'Width' with <img> tag.

Syntax:

<img src = "URL/Path" Height = "height in pixels" Width = "width in pixels">

Example:

<img src = "d:/images/computer.jpg" Height = "300" Width = "400">

**Chapter 7 - Unit 2**

**HTML - Advanced Features: Table and Hyperlink**

**Fill in the blanks with an appropriate word/words**

**Question 1**

A table is created by the intersection of ***rows*** and ***columns***.

**Question 2**

In a table, the horizontal lines are called ***rows*** whereas the vertical lines are called ***columns***.

**Question 3**

Every row in an HTML table starts with row tag ***<TR>*** and ends with row tag ***</TR>***.

**Question 4**

An HTML table begins with a table tag ***<TABLE>*** and ends with table tag ***</TABLE>***.

**Question 5**

The table heading is defined with ***<TH>*** tag in an HTML.

**Question 6**

In an HTML table, each cell in a row is created with ***<TD>*** tag to store data.

**Question 7**

The attribute ***href*** is used to create a hyperlink between two or more HTML codes.

**Question 8**

An HTML table sets the height and width in terms of ***pixels*** or ***percentage***.

**Execute the given HTML code in the Web Browser**

**Question 1**

<html>

<head>

<Title>Prize Winners</Title>

</head>

<body>

<Table Border="4" Bordercolor="Red" >

<Caption><Marquee><font color="Blue" >Prize Winners</Marquee></Caption>

<tr>

<th>Name</th>

<th>Marks</th>

<th>Rank</th>

</tr>

<tr>

<td>Piyali Mittal</td>

<td>994</td>

<td>First</td>

</tr>

<tr>

<td>Kaushik Gupta</td>

<td>991</td>

<td>Second</td>

</tr>

<tr>

<td>Mayank Sinha</td>

<td>984</td>

<td>Third</td>

</tr>

</Table>

</body>

</html>

***Answer***



**Write short notes on**

**Question 1**

Table Heading

***Answer***

The table heading can be defined using <TH> tag. It is used to replace <TD> tag that represents actual data cell. Normally, the top row is the table heading. We can use <TH> element in any row.

**Question 2**

Table Border

***Answer***

Table border sets the width of border around the table. It can be set by using the attribute border with the table tag.

Syntax:

<TABLE BORDER = "Width of the border">

Example:

<TABLE BORDER = "2">

**Question 3**

Table Background

***Answer***

We can also set a background color of the table. By default, the table background color is white. We can use the attribute bgcolor. It sets the background color of the table or just one cell.

Syntax:

<TABLE BGCOLOR = "COLOR">

Example:

<TABLE BGCOLOR = "PINK">

**Question 4**

Table Caption

***Answer***

The caption tag serves as a title or explanation for the table. It is a container element. This tag is placed just after the <TABLE> tag and is optional to use it in a table. It is used only once in a table.

Syntax:

<CAPTION> string of text </CAPTION>

**Question 5**

Hyperlink

***Answer***

Hyperlink is a reference to data/a piece of text/an image that is linked to another webpage. It can be accessed by clicking on the link. It points to a whole document or to a specific element within a document.

The hyperlink appears underlined on a webpage. When the mouse pointer is brought to a hyperlink, the link changes to a different color indicating hyperlink.

Example:

<a href = "mywebpage.html"> Click here to open My Web Page </a>

**Question 6**

Anchor Tag

***Answer***

A hyperlink has an anchor that is located within the document. Through the anchor, the hyperlink can be followed.

We use <a> and </a> tags to produce hyperlinks. The <a> tag defines a hyperlink that is used to link one page to another and </a> indicates the end of link. The most important attribute of <a> element is the **href** attribute that indicates the destination of link.

Example:

<a href = "mywebpage.html"> Click here to open My Web Page </a>

**Question 7**

Forms in HTML

***Answer***

Form is a systematic collection of information provided by the user. To create forms in HTML, <form> tag is used. It is a container tag and includes various elements like text fields, radio buttons, check boxes etc. This information is provided to serve different purposes of the user.

Syntax:

<form>

 body of the form with form elements

</form>

**Define these tags with reference to HTML form**

**Question 8(i)**

Input tag

***Answer***

Input tag is an element of the <form> tag. It allows us to create a field to enter data of our choice. The data entry can be done under 'Type' attribute of the <input> tag. The different components under type are text, check box, radio, submit, password etc.

Example:

<input type = "text">

**Question 8(ii)**

Check box

***Answer***

The check box is used to select a number of options in a given list of options on the form.

Syntax:

<input type = "checkbox" name = "Physics">

**Question 8(iii)**

Radio buttons

***Answer***

The radio button is used to select one out of many options in the form.

Syntax:

<input type = "radio" name = "Gender">

**Question 8(iv)**

Password

***Answer***

The password field is similar to the text field except that the entered text is visualized in terms of symbol. This protects our password from being viewed by others.

Syntax:

<input type = "password" name = "computer>

**Question 8(v)**

Submit button

***Answer***

This is a special button created that allows our form to be submitted to the website. It is done just by clicking once on the submit button and confirms the task.

Syntax:

<input type = "submit">

**Distinguish between**

**Question 1**

Cell Padding and Cell Spacing

***Answer***

| **Cell Padding** | **Cell Spacing** |
| --- | --- |
| It represents the distance between cell borders. | It defines the width of the border within a cell. |

**Question 2**

Colspan and Rowspan

***Answer***

| **Colspan** | **Rowspan** |
| --- | --- |
| Colspan attribute merges two or more columns into a single column. | Rowspan attribute merges two or more rows into a single row. |

**Question 3**

<TR> and <TD> tags

***Answer***

| **<TR> tag** | **<TD> tag** |
| --- | --- |
| This tag is used to create rows in a table. | This tag is used to create cells and add data to that cell. |
| This tag is used once in a row. | This tag is used multiple times in a row to create cells. |

**Write down HTML codes**

**Question 3**

Write down HTML codes to create a table with table headings and other details as given below

| **Rank** | **Medal** |
| --- | --- |
| First | Gold |
| Second | Silver |
| Third | Bronze |

***Answer***

<HTML>

<HEAD>

<TITLE> Question 3 </TITLE>

</HEAD>

<BODY>

<TABLE BORDERCOLOR = "ORANGE" BGCOLOR = "BEIGE">

 <TR BGCOLOR = "ORANGE">

 <TH> Rank </TH>

 <TH> Medal </TH>

 </TR>

 <TR>

 <TD> First </TD> <TD> Gold </TD>

 </TR>

 <TR>

 <TD> Second </TD> <TD> Silver </TD>

 </TR>

 <TR>

 <TD> Third </TD> <TD> Bronze </TD>

 </TR>

</TABLE>

</BODY>

</HTML>

**Question 4**

Create a webpage to display your marks of First Terminal Examination by using table tags. Create 3 columns viz. Sl. No., Subject and Marks. Also make 5 rows to enter marks for 5 subjects viz. English, Hindi, Science, Social Science and Computer Science. Set the border size to 2 and border color to blue.

***Answer***

<HTML>

<HEAD>

<TITLE> Question 4 </TITLE>

</HEAD>

<BODY>

<TABLE BORDERCOLOR = "BLUE" BORDER = "2">

<CAPTION Align = "Center"> Marks of First Terminal Examination </CAPTION>

 <TR>

 <TH> Sl. No. </TH>

 <TH> Subject </TH>

 <TH> Marks </TH>

 </TR>

 <TR>

 <TD> 1 </TD> <TD> English </TD> <TD> 95 </TD>

 </TR>

 <TR>

 <TD> 2 </TD> <TD> Hindi </TD> <TD> 93 </TD>

 </TR>

 <TR>

 <TD> 3 </TD> <TD> Science </TD> <TD> 92 </TD>

 </TR>

 <TR>

 <TD> 4 </TD> <TD> Social Science </TD> <TD> 97 </TD>

 </TR>

 <TR>

 <TD> 5 </TD> <TD> Computer Science </TD> <TD> 99 </TD>

 </TR>

</TABLE>

</BODY>

</HTML>

**Question 5**

Design a table using HTML codes with the table headings viz. Landmark, City, and Country. Create 3 columns and 4 rows to enter all the details given below. Set the border size to 2, border color to red and table background color to yellow.

| **Landmark** | **City** | **Country** |
| --- | --- | --- |
| Taj Mahal | Agra | India |
| Leaning Tower | Pisa | Italy |
| Eiffel Tower | Paris | France |

***Answer***

<HTML>

<HEAD>

<TITLE> Question 5 </TITLE>

</HEAD>

<BODY>

<TABLE BORDERCOLOR = "RED" BORDER = "2" BGCOLOR = "YELLOW">

 <TR>

 <TH> Landmark </TH>

 <TH> City </TH>

 <TH> Country </TH>

 </TR>

 <TR>

 <TD> Taj Mahal </TD> <TD> Agra </TD> <TD> India </TD>

 </TR>

 <TR>

 <TD> Leaning Tower </TD> <TD> Pisa </TD> <TD> Italy </TD>

 </TR>

 <TR>

 <TD> Eiffel Tower </TD> <TD> Paris </TD> <TD> France </TD>

 </TR>

</TABLE>

</BODY>

</HTML>

**Question 6**

Create a Webpage by using HTML codes with the details given below

Caption: TV channels

|  |
| --- |
| **TV Channels** |
| ZEE | Zee News |
| Zee Cinema |
| STAR | Star Sports |
| Star Plus |

The other details are: Body Bgcolor="Pink", Table Border="2", Bordercolor="Red" Bgcolor="Green".

***Answer***

<HTML>

<HEAD>

<TITLE> Question 6 </TITLE>

</HEAD>

<BODY BGCOLOR = "PINK">

<TABLE BORDERCOLOR = "RED" BORDER = "2" BGCOLOR = "GREEN">

 <TR>

 <TH COLSPAN = "2"> TV Channels </TH>

 </TR>

 <TR>

 <TD ROWSPAN = "2"> ZEE </TD> <TD> Zee News </TD>

 </TR>

 <TR>

 <TD> Zee Cinema </TD>

 </TR>

 <TR >

 <TD ROWSPAN = "2"> STAR </TD> <TD> Star Sports </TD>

 </TR>

 <TR>

 <TD> Star Plus </TD>

 </TR>

</TABLE>

</BODY>

</HTML>

**Question 7**

Design a table using HTML codes with the table headings viz. Subject, Paper and Marks. Create 3 columns and 4 rows to enter marks obtained in different exams in English, Hindi and Science.

|  |  |  |
| --- | --- | --- |
| **Subject** | **Paper** | **Marks** |
| English | Language | 93 |
| Literature | 91 |
| Hindi | Language | 89 |
| Literature | 92 |
| Science | Physics | 93 |
| Chemistry | 90 |
| Biology | 88 |

Set the border size to 2, border color to green, table background color to yellow and body background color to pink.

***Answer***

<HTML>

<HEAD>

<TITLE> Question 7 </TITLE>

</HEAD>

<BODY BGCOLOR = "PINK">

<TABLE BORDERCOLOR = "GREEN" BORDER = "2" BGCOLOR = "YELLOW">

 <TR>

 <TH> Subject </TH>

 <TH> Paper </TH>

 <TH> Marks </TH>

 </TR>

 <TR>

 <TD ROWSPAN = "2"> English </TD> <TD> Language </TD> <TD> 93 </TD>

 </TR>

 <TR>

 <TD> Literature </TD> <TD> 91 </TD>

 </TR>

 <TR>

 <TD ROWSPAN = "2"> Hindi </TD> <TD> Language </TD> <TD> 89 </TD>

 </TR>

 <TR>

 <TD> Literature </TD> <TD> 92 </TD>

 </TR>

 <TR>

 <TD ROWSPAN = "3"> Science </TD> <TD> Physics </TD> <TD> 93 </TD>

 </TR>

 <TR>

 <TD> Chemistry </TD> <TD> 90 </TD>

 </TR>

 <TR>

 <TD> Biology </TD> <TD> 88 </TD>

 </TR>

</TABLE>

</BODY>

</HTML>

**Question 8**

United club of Jamshedpur wants to create a form for online registration for membership. The particulars are as mentioned below:



Write an HTML program to create form as shown above to help the club.

***Answer***

<HTML>

<HEAD>

<TITLE> Question 8 </TITLE>

</HEAD>

<BODY>

<TABLE ALIGN = "CENTER">

<FORM>

 <TR>

 <TD COLSPAN = "2" ALIGN = "CENTER"> Membership Form </TD>

 </TR>

 <TR>

 <TD> Name of the Candidate: </TD>

 <TD> <INPUT TYPE = "TEXT" NAME = "CANDIDATE NAME" SIZE = "30"> </TD>

 </TR>

 <TR>

 <TD> Address : </TD>

 <TD> <INPUT TYPE = "TEXT" NAME = "ADDRESS" SIZE = "30"> </TD>

 </TR>

 <TR>

 <TD> Contact No.: </TD>

 <TD> <INPUT TYPE = "TEXT" NAME = "ADDRESS" SIZE = "30"> </TD>

 </TR>

 <TR>

 <TD COLSPAN = "2"> Gender: </TD>

 </TR>

 <TR>

 <TD> <INPUT TYPE = "RADIO" NAME = "GENDER" VALUE = "MALE"> Male </TD>

 <TD> <INPUT TYPE = "RADIO" NAME = "GENDER" VALUE = "FEMALE"> Female </TD>

 </TR>

 <TR>

 <TD COLSPAN = "2"> Facilities Opted: </TD>

 </TR>

 <TR>

 <TD COLSPAN = "2">

 <INPUT TYPE = "CHECKBOX" NAME = "FACILITIES" VALUE = "Restaurant">Restaurant

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 <INPUT TYPE = "CHECKBOX" NAME = "FACILITIES" VALUE = "Library">Library

 <INPUT TYPE = "CHECKBOX" NAME = "FACILITIES" VALUE = "Sports">Sports

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 <TD COLSPAN = "2" ALIGN = "CENTER"> <INPUT TYPE = "SUBMIT" NAME = "ENTER"> </TD>

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