

1. Computer—Hardware Components

Let's Catch Up



(Page 16)

- | | | | |
|--------------|--------------|------------|--------------|
| 1. Scanner | 2. Mouse | 3. Printer | 4. Projector |
| 5. Pen Drive | 6. Hard Disk | | |

Exercise

Section A (Objective)

- | | | | | | |
|-----------|---------|----------|---------------|------------|---------------|
| A. | 1. b | 2. b | 3. d | 4. d | 5. a |
| | 6. a | 7. a | | | |
| B. | 1. Zink | 2. CD-RW | 3. LaCie SAFE | 4. Monitor | 5. Microphone |
| C. | 1. F | 2. T | 3. T | 4. F | 5. T |

Section B (Subjective)

- A.**
1. ALU stands for Arithmetic Logic Unit.
 2. Audio Port
 3. QWERTY Keyboard
 4. Drum Plotter and Flatbed Plotter
 5. Hard disk
- B.**
1. The three main components of the CPU are:
 - ALU (Arithmetic Logic Unit): Performs mathematical and logical operations.
 - CU (Control Unit): Directs all the operations of a processor.
 - Memory Unit: Stores data and instructions

2. Impact printers print the contents by striking the printer head or needles, on an ink ribbon which rolls through the cartridge to make mark on the paper. e.g., Dot Matrix printer. Non-impact printers create an image on paper by spraying ink on the paper. e.g., Laser printer.
3. Modem stands for Modulator-Demodulator. A modem is a peripheral device which modulates (converts digital signals to analog signals) from the transmitting workstation and demodulates (converts analog signals to digital signals) at the recipient's workstation.
4. Three hybrid devices are:
 - a. Smartphone – It is a gadget that allows you to type messages, take pictures and use apps.
 - b. Headphone – Headphones are used to listen to music or sounds without disturbing others.
 - c. Smartwatch – It can show you time, track your fitness, and display notifications from your phone.
5. The keyboard normally contains 101 to 108 keys, which can be classified as follows:
 - Alphanumeric keys (A-Z, a-z, 0-9)
 - Control keys (Ctrl, Alt, Esc, etc.)
 - Function keys (F1-F12)
 - Special keys (Caps Lock, Backspace, Spacebar, Arrow keys, Home, End, etc.)
 - Punctuation keys (" , ' ; : . ? etc.)

- C.**
1. Tanish can scan his testimonials using a scanner.
 2. Anu can use a Projector to display her business idea at the meeting.

Higher Order Thinking Skills (HOTS)

1. Memory Card
2. Monitor



Crack The Code

Do it yourself.

2. Number System

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1. Divide 26 by 2: $26 \div 2 = 13$ with a remainder of 0.
2. Write down the remainder (0) as the rightmost digit of your binary number.
3. Now, divide the quotient (13) by 2: $13 \div 2 = 6$ with a remainder of 1.



4. Write down the remainder (1) to the left of the previous remainder.
5. Continue this process by dividing the new quotient (6) by 2: $6 \div 2 = 3$ with a remainder of 0.
6. Write down the remainder (0) to the left of the previous remainders.
7. Again, divide the new quotient (3) by 2: $3 \div 2 = 1$ with a remainder of 1.
8. Write down the remainder (1) to the left of the previous remainders.
9. Continue one more time by dividing the last quotient (1) by 2: $1 \div 2 = 0$ with a remainder of 1.
10. Write down the remainder (1) to the left of the previous remainders.

You should have the binary representation of 26 as 11010.

So, in binary, 26 is represented as 11010.

Exercise

Section A (Objective)

- | | | | | | |
|-----------|---------|----------|-------|-------------------------|------|
| A. | 1. d | 2. b | 3. d | 4. b | 5. d |
| B. | 1. 1010 | 2. Octal | 3. 14 | 4. binary number system | |
| | 5. 8 | | | | |
| C. | 1. F | 2. T | 3. F | 4. F | 5. F |

Section B (Subjective)

- A.**
1. Hexadecimal numbers have made the representation of large values easy. Also, they are used to represent colours on a web page. Hence programmers now prefer hexadecimal numbers.
 2. Any raw facts or figures are called data. Processed data is called information.
 3. A number system is a way to express quantities used for counting, comparing amounts, performing calculations and representing values.
- B.**
1. A number system made up of sixteen symbols, 0 to 9, and A to F is known as the hexadecimal number system. Every number is formed using the digits 0 to 9 and letters A to F, where A = 10, B = 11, C = 12, D = 13, E = 14, and F = 15. The base of the hexadecimal number system is 16. Each position represents a power of base 16.

For Example: $(3AE)_{16}$

$$= (3 \times 16^2) + (A \times 16^1) + (E \times 16^0)$$

$$= (2 \times 256) + (10 \times 16) + (14 \times 1)$$

$$= 768 + 160 + 14$$

$$= (942)_{10}$$

2. To convert a binary number into a decimal number, follow the given steps:
 - a. Multiply each digit of the binary number by 2 to the power of n, where n is the position of the digit starting from 0 on the right.
 - b. Add the result.

The place value of the digits according to position and weight is as follows:

Position	3	2	1	0
Weight	2^3	2^2	2^1	2^0

Example:

Convert $(1001)_2$ to decimal number.

$$= (1 \times 2^3) + (0 \times 2^2) + (0 \times 2^1) + (1 \times 2^0)$$

$$\text{Sum of the products} = 8 + 0 + 0 + 1 = 9$$

$$\text{Therefore, } (1001)_2 = (9)_{10}$$

3. The rules for subtract two binary numbers are:

X	Y	X + Y
0	0	$0 - 0 = 0$
0	1	$0 - 1 = 1$ (borrow 1, so that $10 - 1 = 1$)
1	0	$1 - 0 = 1$
1	1	$1 - 1 = 0$

- C.**
1. The decimal conversion of $(1010101)_2$ is odd. Since the last digit of a binary number is 1, the decimal conversion is odd.
 2. $(15)_8 = (1 \times 8^1) + (5 \times 8^0)$
 $= (1 \times 8) + (5 \times 1) = 8 + 5 = 13$
 $15_8 = 13_{10}$ (decimal)
 So, Amaan's number in decimal is 13.



D. 1.

2	41
2	20 - 1
2	10 - 0
2	5 - 0
2	2 - 1
	1 - 0

Hence, $(41)_{10} = (101001)_2$

2	165
2	82 - 1
2	41 - 0
2	20 - 1
2	10 - 0
2	5 - 0
2	2 - 1
	1 - 0

$(165)_{10} = (1010010)_2$

2	74
2	37 - 0
2	18 - 1
2	9 - 0
2	4 - 1
2	2 - 0
	1 - 0

$(74)_{10} = (1001010)_2$

2. a. $(1001)_2$

$$\begin{aligned}
 &= 1 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 1 \times 2^0 \\
 &= 1 \times 8 + 0 + 0 + 1 \times 1 \\
 &= 8 + 1 = 9
 \end{aligned}$$

b. $(110)_2$

$$\begin{aligned}
 &= 1 \times 2^2 + 1 \times 2^1 + 0 \times 2^0 \\
 &= 1 \times 4 + 1 \times 2 + 0 \\
 &= 4 + 2 = 6
 \end{aligned}$$

c. $(1111)_2$

$$\begin{aligned}
 &= 1 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 \\
 &= 1 \times 8 + 1 \times 4 + 1 \times 2 + 1 \times 1 \\
 &= 8 + 4 + 2 + 1 = 15
 \end{aligned}$$

Higher Order Thinking Skills (HOTS)

1. 9th month, is September

Converting 10111_2 to decimal:

$$\begin{aligned}
 &1 \times 2^4 + 0 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 \\
 &= 1 \times 16 + 0 \times 8 + 1 \times 4 + 1 \times 2 + 1 \times 1 \\
 &= 16 + 4 + 2 + 1 = 23
 \end{aligned}$$

So, the day is 23.

Converting 3675_8 to decimal:



$$\begin{aligned}
 &3 \times 8^3 + 6 \times 8^2 + 7 \times 8^1 + 5 \times 8^0 \\
 &= 3 \times 512 + 6 \times 64 + 7 \times 8 + 5 \times 1 \\
 &= 1536 + 384 + 56 + 5 = 1981
 \end{aligned}$$

So, the year is 1981.

Your birthdate is September 23, 1981

2. Do it yourself.



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1. $(1101)_2$
2. $(100)_2$
3. $(10100)_2$
4. $(11011)_2$

3. Computer Virus

LET'S CATCH UP



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- a. Worms are computer programs or algorithms that are foreign to the host computer and are designed to deliberately slow down the functioning of a computer.
- b. Trojan horse is a dangerous virus. It represents itself as helpful software program. Once the user clicks to run it, it gains access to sensitive data and then modifies, blocks, or deletes the data.
- c. Spywares programs infect computers and collect information without the owner's knowledge or consent.

Exercise

Section A (Objective)

- | | | | | | |
|-----------|------------|----------|------------|--------|----------|
| A. | 1. a | 2. b | 3. b | 4. c | 5. d |
| | 6. b | 7. b | 8. d | | |
| B. | 1. Booting | 2. Macro | 3. Spyware | 4. Avg | 5. Greek |
| C. | 1. F | 2. T | 3. F | 4. F | 5. T |



Section B (Subjective)

- A.** 1. Worms are computer programs or algorithms that are foreign to the host computer and are designed to deliberately slow down the functioning of a computer.

2. There are several signs that a computer may be infected with malware or a virus:

Slowdown: A noticeable decrease in the computer's processing speed.

Pop-ups: Unexpected or excessive pop-ups appearing on the system.

3. Trojan Horse

4. Norton and AVG

5. Malware is a broad term for various types of malicious software designed to damage, disrupt, or gain unauthorized access to a computer system.

- B.** 1. Firewall acts as a gatekeeper and prevents unauthorised access to a computer network. It inspects every data packet that arrives on the network and decides whether to allow or block it based on these rules. Essentially, a firewall creates a barrier between a trusted and secure internal network and an external network (such as the Internet) that is considered untrusted and potentially insecure.

2. A boot sector virus is a type of malware that infects the boot sector or the Master Boot Record (MBR) of a storage device. The MBR is the first sector of a hard drive that contains information about how to load the operating system into memory.

A boot sector virus can replace or alter the MBR or boot sector code, preventing the operating system from loading correctly and causing errors during the boot process.

3. Computer viruses-spread in several ways. Some of them are:

- Using virus-infected CDs, USB drives, or other external storage devices.
- Opening an infected e-mail attachment.
- Downloading an infected program from the Internet, Pen Drives, CDs or DVDs.
- Executing infected programs, which can include games, screen savers, or other applications.
- Spreading through local computer networks, where a virus can move from one computer to another via shared resources or network connections.

4. A computer virus is a type of unwanted computer program which is developed by individuals with an intention to infect the files of a computer, to corrupt a database or to hamper the functioning of a computer system.

5. There are several methods of eradication for malware. Some of them include:

- Removing the code from an infected file that corresponds to a virus
- Removing the infected file
- Quarantining the infected file, which involves moving it to a location where it cannot be executed
- Informing the user about the presence of the malware and the action that has been taken



- C. 1. Nitin's computer may be infected with malware or a virus.
2. She/he should disconnect from the internet and run a full antivirus scan.

They must enable the firewall, update security software, and avoid entering personal information until the system is safe.

Higher Order Thinking Skills (HOTS)

1. Sajal's computer may be infected by a boot sector virus or program file virus, causing slow startup and errors by damaging system files.
2. Ajit's system likely has spyware. He should run an antivirus scan, enable the firewall, clear browser data, and avoid unsafe websites.



Crack The Code



4. Ethics and Safety Measures in Computing

LET'S CATCH UP



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- a. Spamming refers to the sending of bulk mail by an identified or unidentified source.
- b. Cyberbullying refers to the use of Internet, e-mail, instant messaging, chat rooms or social networks, such as Facebook, Twitter, etc. to harass, demean, embarrass or intimidate someone else.
- c. Phishing is a cybercrime in which an e-mail that Fly claims to be from a trusted organisation is sent to a user. This type of e-mail generally contains a link to a website.
- d. Hacking is another common method used by cybercriminals to trouble victims. Hacking is the process of using malware or other tricks to obtain your e-mail ID and password, cybercriminals can gain access to your critical information like social media accounts, bank accounts, etc.



Exercise

Section A (Objective)

- A.** 1. c 2. b 3. d 4. b 5. a 6. c
- B.** 1. Digital Dossier 2. Encryption 3. Right to Privacy
4. InPrivate 5. Green
- C.** 1. F 2. T 3. F 4. F 5. T

Section B (Subjective)

- A.** 1. Some hackers use the technique of hacking for national security, creating safer systems, etc. This is known as ethical hacking.
2. Spamming refers to the sending of bulk mail by an identified or unidentified source.
3. A Digital Footprint is used to describe the mark, traces or "footprints" that a person leaves when he uses the internet.
4. There are three ways to protect your intellectual property rights.
- Don't share your business ideas with others.
 - Have detailed drawings, descriptions, plans, and records that can prove it is your creation.
 - As soon as you have a business name and a logo for your idea, you should register those Trademarks right away.
- B.** 1. Steps to Protect Privacy are as follows:
- Don't fill in your personal information on every site.
 - Turn on Private Browsing.
 - Use two-factor authentication as an extra layer of security that not only requires a username and password but also a PIN or some other information that only the user has. All e-mail service providers these days provide such authentication.
 - Prefer to use cash on delivery option rather than card payment in online shopping.
2. Types of Online Transaction Frauds are as follows:
- Identify Theft: Sometimes, cybercriminals deliberately use someone else's identity to gain a financial advantage over someone else. Cybercriminals may also pose as someone else to obtain credit and other benefits in the other person's name.
 - Job Frauds: Cybercriminals portray incorrect details as an employer.
 - Banking Frauds: Some cybercriminals fraudulently obtain money from users for investment by posing as a bank or other financial institution.
3. Some tips to protect yourself from Cyberbullying:
- Never share personal details such as age, address, date of birth, etc. with unknown people on social media.

- Never install unwanted software and apps like dating app, online games, etc. from unknown sources.
 - Always be considerate and mindful of others' feelings on sensitive topics such as politics or religion.
 - Try avoiding friend requests from unknown people on social media.
4. Some parental assistance while using the Internet or computer:
- Instruct your child not to open e-mails or accept friend requests from people they do not know.
 - Instruct your child to view only the sites that are appropriate for their age. Keep a check on their online activities.
 - Keep strong passwords for e-mail accounts or social networking websites.
 - Ask your children not to share their personal details and passwords with others.

- C. 1. Identity theft
2. Software Piracy

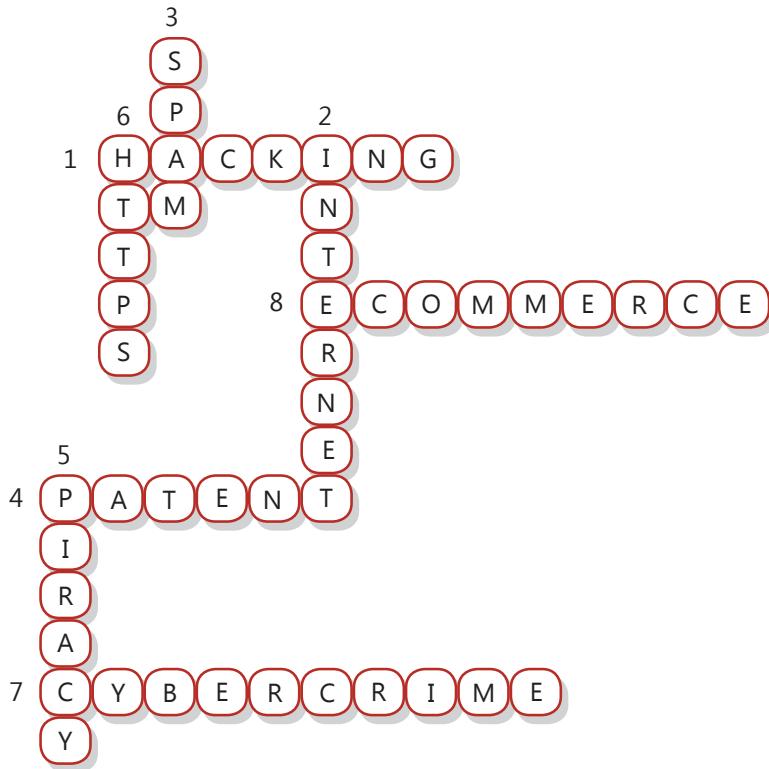
Higher Order Thinking Skills (HOTS)

1. No, she should not share such personal details. They can be misused for identity theft or hacking.
2. It shows her digital activity is being tracked, raising privacy concerns about smart devices and online ads.





Crack The Code



5. Spreadsheets—An Introduction

LET'S CATCH UP



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1. c

2. d

3. e

4. a

5. b

Exercise

Section A (Objective)

- | | | | | | |
|-------------------|-----------|-------------|--------------|--------|------|
| A. 1. b | 2. b | 3. b | 4. d | 5. a | 6. c |
| B. 1. Rows | 2. Charts | 3. Name Box | 4. Worksheet | 5. XFD | |
| C. 1. F | 2. F | 3. T | 4. T | | |

Section B (Subjective)

- A.**
1. The row heading is the grey-coloured number (1, 2, 3, etc.) located in front of each row in the worksheet.
 2. Input line displays the contents of the selected cell (data, formula, or function). It allows editing of the the cell contents.
 3. A worksheet (spreadsheet) is the main working area in an Excel window where we can enter data. It consists of rows and columns.
 4. The currently selected cell that appears highlighted with a dark black border is an active cell. The data is entered in an active cell.
- B.**
1. While working in Excel, the following types of data can be entered:

Numbers

Numbers include the digits (0–9) and their various combinations. All types of calculations can be done on numbers. By default, Excel aligns numbers to the right.

Text

Text includes the collection of letters, numbers, and special characters. No mathematical calculation can be performed on text. By default, Excel aligns text to the left.

Date and Time

Date type is used to enter the date in different formats. The default format of date in Excel is mm/dd/yy. Time type is used to enter time in either hh:mm or hh:mm:ss format. By default, Excel aligns dates and times to the right.

2. To save a workbook:

Step 1: Click on the File tab.

Step 2: Click on Save or Save As option.

Step 3: Click on Browse option.

Step 4: Select the location where you want to save your workbook.

Step 5: Type a name for your file in the File name box.

Step 6: Click on the Save button.

3. Formula bar consists of:

- Name box: It is a box located on the left side of the Excel window, just below the Ribbon. The address of the active cell is displayed in this box. For example, A1 cell.
- Function: It lets you click on the Function icon and inserts an equals (=) sign into the selected cell.
- Input line: It displays the contents of the selected cell (data, formula, or function). It allows editing of the the cell contents. Click in the area, then type the changes. To edit within the current cell, just double-click in the cell.



4. To create a new workbook in Excel 2019, follow these steps:

Step 1: Click on File tab.

Step 2: Click on the New option.

Step 3: Click on Blank workbook.

A new workbook will be created.

- C.** 1. E5
2. (a)

Higher Order Thinking Skills (HOTS)

1. He should search for .xlsx files in his system.
2. The Save option is used to save changes to an existing file, whereas the Save As option is used to save the file with a different name or location.



Crack The Code

1. A1
2. 45
3. D3
4. D3
5. A1, A2, A3, A4
B1, B2, B3, B4
C1, C2, C3, C4
D1, D2, D3, D4

6. More on Spreadsheets

LET'S CATCH UP



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Step 2: Click the arrow next to the Number Format box.

Step 4: Select the Number category.

Step 5: Click on the OK button.

Step 3: Click on the More Number Formats option to see more details of number formats.

Step 1: Click on the cell(s) that contains the numbers that you want to format.



Exercise

Section A (Objective)

- | | | | | | | |
|-----------|-------------|----------|-------------|--------------|------|------|
| A. | 1. b | 2. d | 3. c | 4. b | 5. c | 6. a |
| B. | 1. Argument | 2. Equal | 3. Autofill | 4. Constants | | |
| C. | 1. F | 2. T | 3. T | 4. F | 5. F | |

Section B (Subjective)

- A.**
- Click on the first cell and then press and hold down the Shift key, and while holding the Shift key, click on the cell where you want your selection to end.
 - Excel offers two ways to modify or change the content of a cell. One is editing the content in Edit mode and the other is overwriting or replacing the entire content of the cell directly.
 - The default row height is 15 points.
- B.**
- The two ways to enhance the spreadsheet are:
 - Wrap Text - Multiple lines of text can be displayed inside a cell using the Wrap Text feature.
 - Format Numbers - In Excel, the format of a cell is separate from the data that is stored in the cell. This display difference can have a significant effect when the data is numeric. Excel provides 10 different number formats which can be applied to the numeric values. It also allows us to create a custom formats.
 - When we use split option, the cells will split, and the contents of the merged cell will appear in the upper-left cell of the range of split cells.
When we merge cells, the cells will be merged in a row or column, and the cell content will be centered in the merged cell.
 - The elements of a formula are:
 - References: A cell or a range of cells that you want to use in your calculation.
 - Operators: Symbols (+, -, *, /, ^, \$, %, etc.) that specify the calculations to be performed.
 - Constants: Numbers or text values that do not change.
 - When performing calculations using a formula, Excel follows certain rules of precedence:
 - Excel calculates expressions within parentheses '(' , ')' first.
 - Excel calculates multiplication and division before addition and subtraction.
 - Excel calculates consecutive operators with the same level of precedence from left to right.
 - Undo command is used to reverse the most recent action performed. The shortcut to Undo is Ctrl+Z.
On the other hand, the Redo command is used to reverse the last action that was Undone. The shortcut to redo is Ctrl+Y.



- C.
1. Bhavik might have used the gridlines provided by Excel instead of applying actual cell borders.
 2. The cell B4 is formatted to display only one decimal place, so Excel is rounding the value for display.

Higher Order Thinking Skills (HOTS)

1. 5
2. 45



Crack The Code

1. 30
2. 100
3. 11
4. 12



WORKSHEET 1

(Based on chapter 1 to 6)

- A.
1. The total number of digits used in a number system is called its base or radix.
 2. Hexadecimal number system consists of 16 digits, 0 to 9 and A to F.
 3. Numbers or text values that do not change are called constants.
- B.
1. A macro virus is a type of computer virus that is primarily designed to infect a specific type of document, such as Word or Excel files.
 2. Pop-ups are small windows or messages that appear suddenly on a computer or mobile screen while browsing websites or using software.
 3. Rootkit is a malware that gains administrator access to the host system.
 4. A forum is an online discussion site where people with similar interests can post messages, share their views, and get others' ideas on a certain topic of their choice.
 5. Patent is the right that gives an inventor the complete right to make, use, and sell his or her work for a specific time period.
 6. Job frauds are deceptive schemes where cybercriminals pretend to be employers or recruiters to trick people into sharing personal information, paying money, or performing fake tasks in the name of a job opportunity.
- C.
1. Click on the cell to select it.
 2. Click on the first cell from where you want to start the selection and drag the mouse diagonally up to the cell where you want to make the selection.



3. Click on the row heading to select the entire row, or click on the column heading to select the entire column.
4. Click on the Select All button located below the Name box to select the entire worksheet.

- D.**
1. Wrap Text
 2. AutoFill
 3. Reference

Test Sheet 1

(Based on chapter 1 to 6)

Section A

- | | | | | | |
|-----------|-------------------|----------------|--------------|----------------|------|
| A. | 1. a | 2. a | 3. c | 4. b | 5. a |
| | 6. d | 7. b | 8. a | | |
| B. | 1. output devices | 2. 0 | 3. antivirus | 4. Cybercrimes | |
| | 5. Formula | 6. Cell Styles | | | |
| C. | 1. F | 2. T | 3. T | 4. F | 5. F |
| | | | | | 6. F |

Section B

- A.**
1. A number system is a way to express quantities used for counting, comparing amounts, performing calculations and representing values. A computer represents all kinds of data and information like text, numbers, audio and video in binary form.
 2. Modem stands for Modulator-Demodulator.
 3. A macro virus is a type of computer virus that is primarily designed to infect a specific type of document, such as Word or Excel files.
 4. Two ways to stop cyberbullying are:
 - Never share personal details such as age, address, date of birth, etc. with unknown people on social media.
 - Never install unwanted software and apps like dating app, online games, etc. from unknown sources.
 5. Name box is a box located on the left side of the Excel window, just below the Ribbon. The address of the active cell is displayed in this box.
 6. Wrap text feature of MS Excel allows user to display multiple lines of text inside a cell.
- B.**
1. The differences between Input and Output Devices are as follows:
 Input Devices
 - Input devices are devices through which a computer accepts data and instructions.
 - Example of the input devices are:
 Mouse, Keyboard



Output Devices

- Output devices are devices through which a computer displays the information and result of computation to the user.
- Example of the output devices are:
Monitor, Printer

2. To convert a binary number into a decimal number, follow the given steps:

Step 1: Multiply each digit of the binary number by 2 to the power of n, where n is the position of the digit starting from 0 on the right.

Step 2: Add the result.

Example:

Convert $(101001)_2$ to decimal number.

$$= (1 \times 2^5) + (0 \times 2^4) + (1 \times 2^3) + (0 \times 2^2) + (0 \times 2^1) + (1 \times 2^0)$$

$$\text{Sum of the products} = 32 + 0 + 8 + 0 + 0 + 1 = 41$$

$$\text{Therefore, } (101001)_2 = (41)_{10}$$

3. Two symptoms of an infected computer are:

- Start displaying unusual messages on the screen.
- Load the programs late.

4. Indian laws and government initiatives that enforce cybersecurity are:

- Information and Technology Act, 2000

This act is also known as the Indian Cyber Act. It provides legal recognition to all e-transactions and aims to protect online privacy and curb online crimes.

- Information Technology Amendment Act, 2008

This law aims to protect data privacy and information security. It validates digital signatures and contracts. According to this act, the owner of a given IP address will be held responsible for the content accessed or distributed through it.

- National Cybersecurity Policy, 2013

It is a policy in India that aims to protect public and private infrastructure from cyber-attacks and safeguards personal, financial, and banking information.

5. A worksheet is a main working area in excel window where we can enter data. A workbook is a collection of different worksheets.

6. When performing calculations using a formula, Excel follows certain rules of precedence:

- Excel calculates expressions within parentheses '(' , ')' first.
- Excel calculates multiplication and division before addition and subtraction.
- Excel calculates consecutive operators with the same level of precedence from left to right.



7. Database and DBMS—An Introduction

LET'S CATCH UP



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- Step 1:** Click on the **Create** tab.
- Step 2:** Click on the **Table** command.
- Step 3:** Click on the **Fields** tab.
- Step 4:** Click on the **View** command.
- Step 5:** Select the **Design View** option.
- Step 6:** Enter the name for your table in the **Table Name** text box.
- Step 7:** Click on the **OK** button.

Exercise

Section A (Objective)

- A.** 1. c 2. b 3. b 4. d 5. a
- B.** 1. Datasheet 2. Yes/No 3. Record
4. Database1 5. Design
- C.** 1. F 2. T 3. F 4. T 5. T

Section B (Subjective)

- A.** 1. Report
2. ID
3. We can switch between two views in Access by clicking on the arrow of the View command in the Views group under the Home tab.
- B.** 1. The steps to sort data in a table are:
- Step 1:** Select the field that you want to sort.
- Step 2:** Click on the drop-down next to the field name.
- Step 3:** Select the desired option to sort the data A-Z (Ascending Order) or Z-A (Descending order) from the context menu.
2. The steps to create table in design view are:
- Step 1:** Click on the Create tab.
- Step 2:** Click on the Table command on the Tables group.
- Step 3:** Click on the Fields tab.
- Step 4:** Click on the View command on the Views group.



Step 5: Select the Design View option.

Step 6: Enter the name for your table in the Table Name text box.

Step 7: Click on the OK button.

3. The steps to add a record in a table are:

Step 1: Double-click to open table in Datasheet view.

Step 2: Click on the field to add the new record.

- C.
1. Sonal should choose a field that is unique, not empty, and can identify each student clearly — like Student ID.
 2. Maria should use a Query to extract specific data based on conditions like marks above 90.

Higher Order Thinking Skills (HOTS)

1. MS Access
2. Valid – Student_Name, phone#, First Name
Invalid – grade.7, Last "Name"



Crack The Code

1.

Field Name	Data Type
Rollno	AutoNumber
Admno	Number
Name	Short Text
Dateofbirth	Date/Time
Gender	Short Text
Photograph	Attachment

2. Admno
3. Form

8. More on Access

LET'S CATCH UP



(Page 105)

1. Field is the first row of the design grid that displays the selected field names from the table.
2. Sort displays the data in either descending or ascending order during the run time.



3. Table displays the names of the existing tables in the relationship window.
4. Or is used to set multiple conditions in a query.

Exercise

Section A (Objective)

- | | | | |
|--------------|----------------|-------------|----------------|
| A. 1. c | 2. a | 3. c | 4. d |
| B. 1. Action | 2. Primary Key | 3. Criteria | 4. Layout |
| C. 1. F | 2. T | 3. F | 4. T 5. T |
| D. 1. c | 2. a | 3. d | 4. b |

Section B (Subjective)

- A.**
1. Form view, Design View and Layout View.
 2. The four new tabs that appear on the ribbon of the Report window are Design, Arrange, Format, and Page Setup.
 3. A report in Access is a feature which allows you to organise and present your data in a user-friendly format so that it can be printed.
- B.**
1. The different types of queries in Access are:

Select Query: It retrieves data from one or more tables. It displays the record in a datasheet, allowing users to group data and calculate sum, count, average, etc.

Parameter Query: It is a type of select query that prompts you for the input before it runs. It uses the input as the criteria that controls the result.

Action Query: It creates a new table or alters your data by adding, deleting, updating, and appending data from it.

Crosstab Query: It is a query that uses a row heading and a column heading so that you can see your data in terms of two categories at once.

2. To set up relationship between two tables follow these steps:

Step 1: Click on the Database Tools tab.

Step 2: Click on the Relationships command on the Relationships group.

Step 3: Click on the Add button.

Step 4: After adding the desired tables, click on the Close button.

Step 5: Drag and drop the Primary Key field of one table to the common field in the another table.

Step 6: Click on the Create button.

3. The different types of basic forms in Access are:

Multiple Items: In this form, you will see multiple records at the same time.




```
<style>
table
{
    border-spacing: length;
}
</style>
```

2. <style>

```
table, th, td
{
    border:3px;
    border-style:solid;
    border-color:red;
    border-spacing:10px;
    padding:15px
}
</style>
```

3. The ROWSPAN attribute applies when a cell is extended for more than one row, that is, the cell spans for 2 or more rows instead of 1.

Here, the cell "Sports" is taking a span of 3 rows and "Martial Arts" is taking a span of 2 rows. Example for using ROWSPAN attribute is:

<TD ROWSPAN="3">

Category	Types
Sports	Badminton
	Football
	Basketball
Martial Arts	Judo
	Karate

- C. 1. Manish can use <TABLE> tag to create table. To divide the table into rows and columns, <TR> and <TD> tag can be used respectively. Also for defining table headings, <TH> tag can be used.
2. To display the list of services, Sujatha can create ordered list. The tag to create an ordered list is which is a container tag. tag is used to define an item in the list.



Higher Order Thinking Skills (HOTS)

1. Corrected HTML Code:

```
<!DOCTYPE html>
<html>
<head>
  <title>Key Features of HTML</title>
</head>
<body>
  <B>Key Features of HTML</B> <BR>
  Some of the important features of HTML are:
  <UL>
    <LI>It is a platform-independent language.</LI>
    <LI>It allows us to build tables.</LI>
    <LI>It allows us to add a link to the web page.</LI>
    <LI>It is not a case-sensitive language.</LI>
    <LI>It is a very easy and simple language.</LI>
    <LI>It provides a flexible way to design web pages along with the text.</LI>
  </UL>
</body>
</html>
```

Here are the mistakes in the code:

- Used multiple tags after each — should be only one closing at the end.
- tags not properly closed — should use for each list item.
- opened again and again — only one needed for the whole list.
- Missing <!DOCTYPE html> — recommended for defining HTML5 document type.



Crack The Code

1. Ordered list
2. <DL>
3. <TR>
4. Width
5. Padding



10. More on HTML

Exercise

Section A (Objective)

- A.** 1. c 2. b 3. b 4. a 5. b 6. b
- B.** 1. F 2. T 3. F 4. F 5. F
- C.** 1. Password 2. Method 3. Type 4. Reset 5. Option, Select

Section B (Subjective)

- A.** 1. Alt attribute specifies the alternate text to be displayed in the web browser, if the provided image is not found.
2. `<AUDIO SRC="TalkNext.mp3" CONTROLS AUTOPLAY>`
3. Both radio button and check box are used to make a selection among multiple choices or options. Both are the predefined value of TYPE attribute of `<INPUT>` tag.
- A radio button control is used to select only one option from a set of options. Whereas a check box control allows to select multiple options from a set of options.
4. Text, Radio, Checkbox, Button, Submit.
- B.** 1. The "control" attribute allows users to gain control over how the video is played. The controls attribute in the `<video>` tag is used to display built-in video controls in the browser. It allows users to interact with the video without any custom scripting.
2. To open a link in a new browser window/ tab, the TARGET attribute of `<A>` tag is set to `_blank`. The code is as follows:
- ` Link Text `
3. HTML provides a feature to display more than one web page on a single screen of the web browser. These web pages are actually displayed using frames. Frames are the different sections or parts of a web page. The `<IFRAME>` tag in HTML allows you to embed another HTML document within your current web page.
4. To add the check box in the form, follow the syntax as given below:
- `<INPUT TYPE="CHECKBOX" NAME="Name of check box" VALUE="value of check box">`
- For example:
- `<INPUT TYPE="CHECKBOX" NAME="Hobbies" VALUE="Reading" CHECKED>`
- `TYPE="CHECKBOX"` indicates that the form element is check box.
- `NAME="Hobbies"` is the name of the check box.



VALUE="Reading" is the default value of check box.

CHECKED attribute selects the specific check box by default.

Creating a web page to display the check box.

```
<!DOCTYPE html>

<HTML>

<BODY>

<FORM>

Hobbies: <BR>

<INPUT TYPE="CHECKBOX" NAME="Hobbies" VALUE="Reading"> Reading <BR>

<INPUT TYPE="CHECKBOX" NAME="Hobbies" VALUE="Reading"> Travelling
<BR>

<INPUT TYPE="CHECKBOX" NAME="Hobbies" VALUE="Reading"> playing games
<BR>

<INPUT TYPE="CHECKBOX" NAME="Hobbies" VALUE="Reading"> singing &
dancing <BR>

</FORM>

</BODY>

</HTML>
```

- C. 1. Neha can use <AUDIO> tag to embed sound content in an HTML document. <VIDEO> tag can be used to embed video in an HTML document.
2. Meera can use tag.

Higher Order Thinking Skills (HOTS)

1. You can use internal links () to navigate within a course, and external links () to connect to outside resources.
2. Use the <iframe> tag to display two web pages side by side. One page can include a list and radio buttons, while the other can show checkboxes. This allows users to view and interact with both pages on a single screen.

Web Page 1 – Using a List with Radio Buttons:

```
<!DOCTYPE html>

<html>

<head>

    <title>Course Options - Radio Buttons</title>

</head>

<body>
```



```

<h1>Select Your Preferred Course Type</h1>
<ol>
  <li>
    <input type="radio" name="course" value="online" id="online">
    <label for="online">Online Course</label>
  </li>
  <li>
    <input type="radio" name="course" value="offline" id="offline">
    <label for="offline">Offline Course</label>
  </li>
  <li>
    <input type="radio" name="course" value="hybrid" id="hybrid">
    <label for="hybrid">Hybrid Course</label>
  </li>
</ol>
</body>
</html>

```

Web Page 2 – Using a List with Checkboxes:

```

<!DOCTYPE html>
<html>
<head>
  <title>Resources - Checkboxes</title>
</head>
<body>
  <h1>Select the Resources You Need</h1>
  <ul>
    <li>
      <input type="checkbox" name="resources" value="ebooks"
      id="ebooks">
      <label for="ebooks">E-books</label>
    </li>
    <li>

```



```

        <input type="checkbox" name="resources" value="tutorials"
        id="tutorials">
        <label for="tutorials">Tutorials</label>
    </li>
    <li>
        <input type="checkbox" name="resources" value="webinars"
        id="webinars">
        <label for="webinars">Webinars</label>
    </li>
</ul>
</body>
</html>

```



Crack The Code

1. Do it yourself.
2. Anuradha wants users to select multiple harmful effects of plastics from the list. But she used radio buttons, which only allow one selection per group.

The errors in the code are:

- Used radio buttons (type="radio") – Only one option can be selected.
- Multiple radio buttons have the same name (effect3) – causes unexpected behaviour.
- The requirement is to allow multiple selections – should use checkboxes instead.

```

<!DOCTYPE html>
<html>
<head>
    <title>Harmful Effects of Plastics</title>
</head>
<body>
    <h2>Select Harmful Effects of Plastics:</h2>
    <form>

        <input type="checkbox" name="effect" value="Pollution">
        Pollution<br>

        <input type="checkbox" name="effect" value="Pleasant
        Weather"> Pleasant Weather<br>

        <input type="checkbox" name="effect" value="Endangering

```



```

Wildlife"> Endangering Wildlife<br>
<input type="checkbox" name="effect" value="Toxicity">
Toxicity<br>
<input type="checkbox" name="effect" value="Greenery">
Greenery<br>
</form>
</body>
</html>

```

3. Yes, the code will execute — the HTML file will open in the browser without any errors, even though the image file is missing.

Output:

Description of the image (as plain text where the image was supposed to appear).



WORKSHEET 2

(Based on chapter 7 to 10)

- A.**
1. A collection of programs required to store and retrieve data from a database is called Database Management System (DBMS).
 2. A form is a collection of different types of fields to take the input from the user on a web page.
 3. The process of linking a web page to another web page of the same website or another website is called interlinking.
- B.**
1. c
 2. a
 3. d
 4. b
- C.**
1. Field Row
 2. Sort
 3. Layout view
 4. Select query
 5. Or



D.

```
<html>
<body bgcolor = "red">
<h1> Venus </h1>
<hr>
<p> Venus is the second planet from the Sun. It
is named after the Roman goddess of love and
beauty. As the second-brightest natural object
in the night sky after the Moon, Venus can cast
shadows and can be, on rare occasion, visible
to the naked eye in broad daylight. Venus does
not have any moons, a distinction it shares only
with Mercury among planets in the Solar System.
System.
</p>
<hr>
</body>
</html>
```

Test Sheet 2

(Based on chapter 7 to 10)

Section A

- A.** 1. c 2. d 3. b 4. c 5. a
6. d 7. c 8. c
- B.** 1. Form 2. Select query 3. ordered list 4. list item 5. <FRAMESET>
6. <SELECT>
- C.** 1. F 2. T 3. F 4. F 5. F 6. F

Section B

- A.** 1. Steps to add record in Database are:
Step 1: Double-click to open table in Datasheet view.
Step 2: Click on the field to add the new record.
Steps to delete a record are:
Step 1: Select the record that you want to delete.
Step 2: Right-click and select the Delete Record option.



2. The three main views in which a form can be displayed are: Form view, Design view and Layout view.
3. Description list is a type of list in which description of each term is defined.
4. Frames is a feature which is used to display more than one web page on a single screen of the web browser.
5. Border attribute specifies the thickness of the border surrounding the image.
6.
 - a. Primary Key is a unique field by which the records are uniquely identified in a table.
 - b. The final result of the manipulated data that comes from tables or queries in DBMS is known as a report.
 - c. A query is the most powerful object of database. It helps us to retrieve information from a table based on some criteria or condition.
 - d. A form is a database object used to create a user interface to enter or update a record in a table that is connected to it.

- B.** 1. There are two types of views in Access: Datasheet view and Design view.

Datasheet View

Datasheet view is the default view of the table. It shows all the fields and the records as entered by the user. In this view, you can edit the content of the table.

Design View

In the Design view, the records are not visible. You can only see the field names along with their data types. You can add or delete a field name. The Design view window is divided into two parts:

- **Field Grid Pane:** It is used to define the field names and their data types.
 - **Field Properties Pane:** It is used to set the properties for the fields defined in the table.
2. Four parameters of the design grid in the bottom part of the Query window are:
 - a. **Field:** It is the first row of the design grid that displays the selected field names from the table.
 - b. **Table:** It displays the names of the existing tables in the relationship window.
 - c. **Sort:** It displays the data in either descending or ascending order during the run time.
 - d. **Show:** This means that the field with the checkmark will be displayed in the result, and the fields with an uncheck mark will not be displayed when the query runs.
 3. The ROWSPAN attribute applies when a single cell is extended for more than a single row; that is the cell spans for 2 or more rows instead of 1, whereas the COLSPAN attribute applies when a single cell is extended to more than a single column; that is the cell spans for 2 or more columns instead of 1.



4. The two attributes of <INPUT> tag are as follows:

- i. **TYPE:** This attribute is used to specify the type of field we want to create. It takes one of the predefined values.
- ii. **NAME:** This attribute is used to specify the identity of the field on the web page.

```
<INPUT TYPE="VALUE" NAME="VALUE" VALUE "ABC">
```

Let us create a web page containing a login form to accept the user name and password from the user. The code to create the Form.html is as follows:

```
<HTML>
<HEAD>
<TITLE> Login Form </TITLE>
</HEAD>
<BODY BGCOLOR="lightyellow">
<FORM>
```

```
User Name: <INPUT TYPE="TEXT" NAME="USERNAME"> <BR>
Password: <INPUT TYPE="PASSWORD" NAME="PASSWORD"><BR>
<INPUT TYPE="CHECKBOX"> Remember me next time <BR>
<INPUT TYPE="SUBMIT" VALUE="Log IN">
</FORM>
</BODY>
</HTML>
```

5. Display

6. The various attributes used with the <FRAME> tag are:

FRAMEBORDER: This attribute is used to define whether a border is to be created around the frame or not. The value taken by the attribute is 0 in case no border is to be shown and 1 in case a border is to be shown. For example,

```
<FRAME FRAMEBORDER="0">
```

NORESIZE: This attribute is used to restrict the user to resize the frame on the web page. For example,

```
<FRAME NORESIZE>
```

SRC: This attribute is used to define the URL or path of the web page which is to be linked to the frame. For example,

```
<FRAME SRC="frames.html">
```

