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ANSWER KEY

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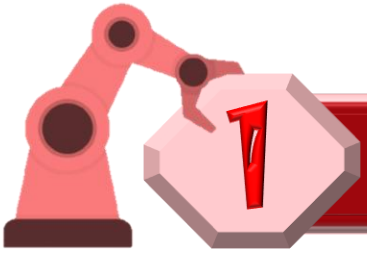


1 Computer Memory

EXERCISE:

A. Tick [☰] the correct answer.

1. b 2. b 3. a 4. a 5. c

B. Write 'T' for True and 'F' for False statements.

1. F 2. T 3. T 4. F 5. F

C. Fill in the blanks.

1. Bits, Bytes 2. Nibble 3. Saving 4. MRAM
5. Pins

D. Differentiate between the following.

1. **Primary memory**, is the working memory or the main memory of a computer system. RAM and ROM are two major types of primary memory.

   Secondary memory, is used to store data for a long time. It operates at a slower rate than primary memory.

2. **RAM,** also called main memory, consists of memory chips that can be read from and written to by the processor and other devices.

   ROM, refers to memory chips used for storing data that can be read only. The data on ROM chips cannot be modified.

E. Answer in 1-2 sentence.

1. Memory unit is the computer memory measured in bits or bytes. A bit is the smallest unit of information that a computer can process and store. A group of 4 bits is known as nibble and a group of 8 bits is called byte.

2. A memory module is a circuit board that holds memory chips. SIMMs and DIMMs are two types of memory modules.

3. Variations of the ROM chips are: Programmable Read-Only Memory (PROM), Erasable Programmable ROM (EPROM), and Electrically EPROM (EEPROM).

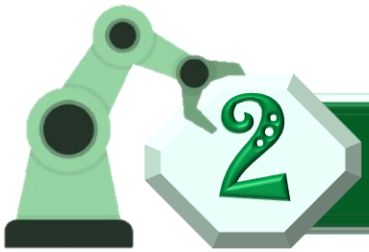
F. Answer briefly.

1. The computer memory is divided into two types—Primary Memory and Secondary Memory.
   a. Primary Memory is often known as the working memory or the main memory of a computer system. RAM and ROM are two major types of primary memory.
   b. Secondary Memory is used to store data for a long time. It operates at a slower rate than primary memory. This memory is permanent in nature.

2. There are three types of RAM:
   a. **Dynamic RAM (DRAM):** It is inexpensive and the most popular type of main memory used in computers.
   b. **Static RAM (SRAM):** It is efficient and fast, but is very expensive.
   c. **Magneto resistive RAM (MRAM):** It is a newer type of RAM which stores data using magnetic charges instead of electrical charges.

G. Application-based Question.

The computer that has greater RAM will be suitable for his official work as greater RAM has higher accessing speed.



2 Computer Virus

EXERCISE:

A. Tick [☰] the correct answer.

1. c 2. a 3. c 4. a 5. a

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. T 4. T 5. F

C. Fill in the blanks.

1. virus author 2. E-mail 3. Trojan Horse
4. virus definition 5. Rogue

D. Differentiate between the following.

Adware: Adware is a program that displays an unwanted advertisement in a banner, pop-up window on web pages, email messages, or on other Internet services.

Spyware: Spyware is a program placed on a computer or mobile device without the user's knowledge that secretly collects information about the user and then communicates the outside source while the user is online.

E. Answer in 1-2 sentences.

1. Computer virus is a program which is created deliberately to damage critical information and data.

2. An antivirus program protects a computer against virus, identifying and removing any computer virus found in the memory, storage media, or incoming files.

3. Antivirus programs use virus signatures as one of their techniques for detecting viruses. A virus signature, also called a virus definition.

F. Answer briefly.

1. This virus attaches itself to the boot sector of the disk. Boot sector is the part of the disk where start-up instructions and the file-allocation tables are kept. This sector is read and loaded into the memory every time the disk is booted. Evidently, this virus is very dangerous.

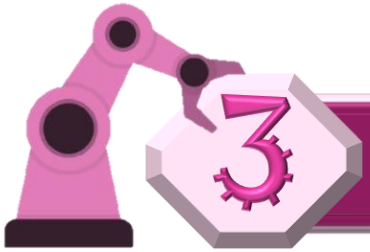
2. E-mail viruses are spread by the files attached to e-mail messages. When we open an e-mail attachment that contains a virus, the virus spreads to our computer. If we forward the attachment to other people, their computers will also be affected when they open the attachment.

3. Ransomware is a virus that restricts access to our computer system and demands a ransom (money) to be paid in order to remove the restriction.

4. Precautions to prevent computer virus are:
   a. Scan all downloaded programs for viruses and other malware.
   b. Stay informed about new virus alerts and virus hoaxes.

G. Application-based Questions.

The e-mail attachment may contain a virus that made the computer slow and created trouble in running apps.



3 Excel – Creating Worksheet

EXERCISE:

A. Tick [☑] the correct answer.

1. b 2. a 3. c 4. b 5. c 6. b

B. Write 'T' for True and 'F' for False statements.

1. F 2. F 3. T 4. T 5. T 6. T

C. Fill in the blanks.

1. 1048576, 16384 2. letter, number 3. undo 4. Merge and Center
5. Border

D. Differentiate between the following.

1. **Workbook:** A spreadsheet file is called workbook which is like a notebook having many individual worksheets.

   Worksheet: Excel allows us to organize data in rows and columns. These rows and columns are collectively called a worksheet.

2. **Moving Data:** It allows us to re-organize data in our worksheet. When we move data, the data disappears from its original location.

   Copying Data: It allows us to copy data in our worksheet without retyping. When we copy data, the data remains in its original location and at the same time appears in the new location.

E. Answer in 1-2 sentence.

1. Microsoft Excel is used for manipulating numbers, organize data, store data as workbook and share the data with others.

2. The default column width of a cell is 8.43 (measured in characters) and the default row height is 15.00 (measured in points).

3. We need to select cells in Excel to perform task like editing, calculating and formatting.

4. Formatting displays the worksheets in an attractive and more legible outlook. We can make our worksheets more presentable by applying one or several of Excel formatting features.

5. Borders are used in worksheet cells to separate the data from surrounding cells.

F. Answer briefly.

1. There are various features of Excel such as:
   a. Editing and formatting data
   b. Using formulas and functions
   c. Printing worksheets
   d. Creating charts and objects

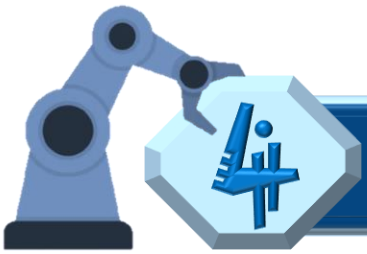
2. Alignment means the way in which the data is settled within the boundary of a cell. The different alignment buttons are: Align Left, Center, Align Right, Top Align, Middle Align, and Bottom Align. By default, Excel automatically aligns text data to the left and number data to the right.

3. Conditional Formatting feature of Excel allows us to apply certain formatting options such as background color, borders, or font formatting to data that meets certain conditions.

   Steps to remove conditional formatting: Click on **Home -> Conditional Formatting -> Clear Rules -> Clear Rules from Selected Cells**

G. Application-based Question.

To add a row in the table without disturbing the whole table, we can use the Insert Sheet Rows option.



Excel – Functions and Charts

EXERCISE:

A. Tick [☰] the correct answer.

1. b 2. b 3. a 4. b 5. b 6. b

B. Write 'T' for True and 'F' for False statements.

1. T 2. T 3. T 4. F 5. T 6. T

C. Fill in the blanks.

1. Constants, formulas 2. formula 3. Parentheses 4. absolute
5. objects 6. Sparklines

D. Differentiate between the following.

1. **Formula:** A formula is a sequence of values, cell references, names of functions or operators that produces a new value from existing values.

   Function: A function is a built-in formula that we can use to perform a calculation on the data in our worksheet. It can perform a series of operations on a specified range of values.

2. **Absolute Referencing:** A formula using the absolute cell reference instructs Excel to keep the cell reference constant in the formula as it copies it to the destination area.

   Relative Referencing: A formula using the relative cell reference instructs Excel to adjust the cell reference as it copies it to the destination area.

E. Answer in 1-2 sentences.

1. Operators are symbols which are used to indicate a type of calculation. A formula can contain one or more operators.

2. Commonly used functions in Excel are AVERAGE, COUNT, MAX and SUM.

3. Every cell in a worksheet has a unique address, called cell reference, which is identified by a specific column letter and row number of that cell.

4. In Excel, Sparklines are tiny, word-sized charts that can appear in a cell.

F. Answer briefly.

1. The order in which Excel performs operations in formulas is called order of calculation. We can use parentheses () to change the order in which Excel performs calculations. Excel performs the calculation inside the parentheses first.

2. Follow these steps to edit a formula:
   a. Double-click on the cell containing the formula to be changed.
   b. Press the Arrow key to move the insertion point to where characters need to be removed or added.
   c. To add data where the insertion point flashes on the screen, type the data. To delete the data where insertion point flashes, use Backspace or Delete key.
   d. After finishing making changes to the formula, press the Enter key.

3. Four types of charts are:
   a. **Column chart:** This chart displays the data in the form of vertical bars.
   b. **Bar chart:** Bar chart can be represented in a tabular format is well as in the pattern of columns.
   c. **Line chart:** Line chart displays continuous data over the time, set against a common scale and is, therefore, ideal for showing trends in data at equal intervals.
   d. **Area chart:** It displays the magnitude of change over time.

4. Charts are graphical representations of the data. Excel offers a wide selection of charts, which help us to display the data in a pictorial way.

   Advantages of Excel are:
   a. They display a lot of information in an easy-to-understand format.
   b. Data and information can be presented in an attractive manner with the help of a chart.
   c. A chart is more impressive and informative as compared to a simple data statement.

G. Application-based Question.

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5 Adobe Animate - Introduction

EXERCISE:

A. Tick [☰] the correct answer.

1. b 2. a 3. a 4. a 5. a

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. T 4. T 5. T 6. F

C. Fill in the blanks.

1. Animation 2. work area 3. test 4. Shift
5. Paint Bucket 6. Label text, Block text

D. Answer in 1-2 sentences.

1. Adobe Animate is a multimedia authoring and computer animation program. It is specifically designed for creating vector graphics, animations, games, and web page components.

2. The big white rectangle in the middle of animate screen is called the Stage. It is the area where you place text, images, and video while creating Animate document.

3. After converting text into graphics, we can use this graphic in animation.

E. Answer briefly.

1. The main features of Adobe Animate are:
   a. **Symbols and Instances:** Symbols are objects in Animate that you can re-use.
   b. **Layers:** Layers are the keys to work with graphic objects and animation.

2. The main components of Adobe Animate window are: Menu bar, File Name tab, Tools Panel, Current Scene, Stage, Work Area, Properties tab, Library tab, Workspace Menu and Timeline.

3. We can test our Animated movies at any time during design and development. We can also press Ctrl + Enter key to play our animated movie in test window.

F. Application-based Question.

Polystar

EXERCISE:

A. Tick [☰] the correct answer.

1. b 2. c 3. b 4. c 5. a 6. a

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. T 4. T 5. F 6. F

C. Fill in the blanks.

1. Larry Page, Sergey Brin
2. Gmail
3. Google Calendar
4. Google Classroom
5. Google Drive
6. Google Nest

D. Differentiate between the following.

1. **Traditional computing:** When you want to start a new application software, you need to install it in your computer before using it.

   Cloud computing: It means storing and accessing data and programs over the Internet, rather than in the hard drive of your computer.

2. **Google Chrome:** It is a full-featured web browser software designed by Google.

   Google Chrome OS: It is introduced by Google, is a Linux-based operating system designed to work primarily with web apps.

3. **Google Photos:** It is a photo-sharing and storage app from Google. When we click photos or shoot videos from a smartphone or device, those photos and videos get backed up and organized automatically.

   Google Duo: It is a high-quality video-calling app. It is simple, reliable and works on both iOS and Android phones.

E. Answer in 1-2 sentences.

1. Google apps are web-based applications developed by Google such as Google Search, Gmail, Google Docs, etc.

2. While going somewhere, Google Maps provide directions when a user enters a starting and destination point.

3. Google Classroom is a free educational tool developed by Google for teachers and students. Teachers can create an online classroom, invite students to the class, create and distribute assignments and finally track their progress.

4. Android is an operating system for mobile computing devices. It is widely used on smartphones and tablet computers.

5. Google Glass is a wearable, voice-controlled Android device which looks like a pair of eyeglasses and enables the user to view information.

F. Answer briefly.

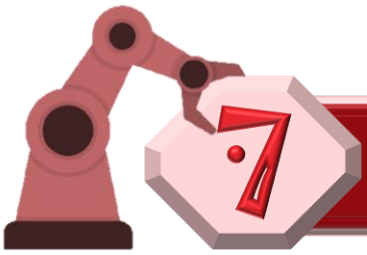
1. Google is an American public corporation, specializing in Internet- related services and products. Google began as a research project by Larry Page and Sergey Brin, two Ph.D. students at Stanford University, California in January 1996.

2. Google Translate is a free online language translation service which instantly translates text in to other languages. The Google Translate app for mobile instantly translates printed text visually.

3. Google Drive is an online storage that provides 15 GB of free Google online storage to keep files, folders, backups and everything that is important. This allows us to access our files and folders from anywhere.

G. Application-based Question.

The name of device is Google Nest. It is a voice activated smart speaker.



7 Internet Services and Technologies

EXERCISE:

A. Tick [☰] the correct answer.

1. a 2. c 3. b 4. c

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. T 4.T 5. T

C. Fill in the blanks.

1. avatars 2. Microsoft 3. Wi-fi 4. Amazon
5. E-commerce

D. Differentiate between the following.

Dial-up connection is a slow-speed technology. It provides an easy and inexpensive way for users to connect to the Internet.

Broadband connection is a high-speed technology which allows our computer to remain connected to the Internet the entire time it is powered on.

E. Answer in 1 -2 sentences.

1. Blogging is an exciting and dynamic medium by which we can publish our ideas, opinions, and stories online.

2. A blockchain is a secure ledger database shared by all parties participating in a network of computers.

3. Cortana is our personal digital assistant developed by Microsoft. It works for windows 10, windows 10 mobile, Microsoft band, iOS, Android etc.

4. A video conference is a meeting between two or more geographically separated people, who use a network or the Internet to transmit audio and video data.

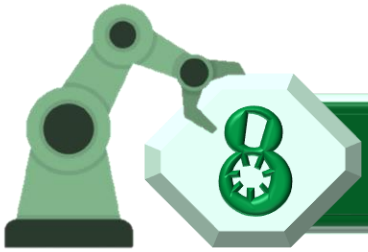
F. Answer briefly.

1. Wireless Internet access means transfer of information over a distance without the use of wires. We can use a wireless modem to access information on the Internet without using a phone line or other physical connection.

2. Internet of things (IoT) is the network of things that are connected together and pass useful information to each other with the help of internet. It connects dumb devices such as refrigerators and ACs to the internet, sensors, and uses software to connect them to our daily lives.

G. Application-based Question.

Personal hotspot feature of smartphone can be used to send an email urgently from laptop.



8 Cloud Computing

EXERCISE:

A. Tick [☰] the correct answer.

1. a 2. b 3. c 4. c

B. Write 'T' for True and 'F' for False statements.

1. T 2. T 3. T 4. F 5. F

C. Fill in the blanks.

1. Hybrid 2. pay as you go 3. Google Drive
4. Trash 5. sign out

D. Define the following.

1. **Iaas:** IaaS provides IT infrastructure like servers, storage, network operating systems over the Internet on 'pay as you go' basis. It is the most flexible cloud computing model and allows companies to scale storage, processing power, or bandwidth, up or down as needed.

2. **Saas:** SaaS is a method for delivering software applications over the Internet, on demand and typically, on a subscription basis.

3. **Paas:** PaaS provides a cloud platform and allows developers to create, test, and run their program, website, web app, etc. without having to purchase the hardware and software.

E. Differentiate between the following.

A **public cloud** is not proprietary of any organization. The services provided in these clouds can be accessed by any organization or individual.

A **private cloud** is a proprietary architecture subscribed to by an organization. It provides hosted services to the users within the organization.

F. Answer in 1 -2 sentences.

1. Cloud computing is a technology that provides resources and services over the Internet. Instead of accessing these resources and services locally on a computer, we can access them on the cloud.

2. Service providers provide various types of cloud computing services for free or charge a fee from the computer user. Amazon Web Services (AWS), Google Cloud platform and Microsoft Azure are the main service provider of cloud.

3. Google Drive is cloud storage developed by Google. We can store our files online in Google Drive and can access them from anywhere in the whole world.

G. Answer briefly.

1. People are choosing cloud computing for a variety of reasons:

   Accessibility: Data and applications are available worldwide from any computer or device with an Internet connection.

   Cost Savings: The expense of software and high-end hardware shifts away from the user.

   Space Saving: Floor space required for servers and other hardware shifts away from the user.

   Scalability: Provides the flexibility to increase or decrease computing requirements as per need.

2. The characteristics of cloud computing are:

   a. **ON DEMAND SELF SERVICE:** Users are able to get the cloud computing resources for almost any type of workload on demand and without requiring human interaction, mostly done though a web-based self-service portal.

   b. **ELASTICITY:** With cloud computing, companies can scale up the resources as computing need increase s and scale down the resources as computing need decreases.

   c. **PAY PER USE:** In the cloud computing, our computer resources are measured, and we only pay for the resources and workloads we use.

   d. **RESOURCE POOLING:** Resource pooling allows cloud providers to pool large-scale IT resources to serve cloud consumers.

H. Application-based Question.

She should use Google Drive to share the project online with her teacher.

EXERCISE:

A. Tick [☑] the correct answer.

1. a 2. b 3. b 4. c

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. T 4. T 5. T

C. Fill in the blanks.

1. F5 2. Keywords 3.Literals 4. Indentation

5. statement

D. Define The following.

1. **Token:** A token is a smallest element of a program that is meaningful to the interpreter. Tokens supported in Python include identifiers, delimiter, keywords, literals and operators among others.

2. **Operator:** Operator is a special symbol that carries out arithmetic and logical computations. There are many types of operators in Python like Arithmetic, Relational, Logical, Assignments, etc.

3. **Comments:** They are used to explain Python code and make it more readable. Python interpreter ignores the text written in the comment.

E. Differentiate between the following.

Keywords are the reserved words in Python and cannot be used as constant, variable or any other identifier names. There are 33 keywords in Python 3.

Literals are the data items that never change their value throughout the program run are called literals. Theoretically, literal means any number, text or other any information that represents a value.

F. Answer in 1-2 sentences.

1. Python was created by Guido Van Rossum on February 20, 1991.

2. A random name made out of letters, digits and/or underscore (_) to identify a function name, a program name or a memory location (variable or constant) is known as identifier.

3. Variables are used to store data in the memory. The data can be numbers, text and/or objects.

4. A Python program is made up of one or more physical lines. Each physical line may end with a comment.

   An indentation is an empty space at the beginning of block of code. Python uses indentation to express the block structure of a program.

G. Answer briefly.

1. Data type is used to define the type of value a variable can contain. The data types in Python are:
   a. **Integer:** Integers are the whole numbers consisting of + or – sign without decimal point such as 1000, -88, etc.
   b. **Float:** Float data type represents floating point numbers which contain decimal point. For example, 0.5, -4.567, 0.001, etc.
   c. **String:** It is a sequence of characters (alphabets, numbers, operators and punctuation) used to store and represent text- based information. Single quotes (‘ ’) and double quotes (“ ”) are used to represent strings in Python.

2. **Input()** and print() are used for standard input and output operations in Python. Input() is used to get input from user. This function helps user to input the values and text for the operation. Input() function always returns string value.

   Print() is used to print the value of given input value or string. It helps to show output on screen.

H. Application based-Question.

She can do so by using int() function.

EXERCISE:

A. Tick [☰] the correct answer.

1. b 2. c 3. a 4. a 5. a

B. Write 'T' for True and 'F' for False statements.

1. F 2. T 3. F 4. T 5. F

C. Fill in the blanks.

1. ANI 2. limitless 3. Strategic 4. obstacles
5. Machine learning 6. Deep learning

D. Differentiate between the following.

Machine learning is a subset of AI that enables systems to learn automatically from experience or past information. It focuses on the development of computer programs that can access data and use them to learn by themselves.

Deep learning is the subset of machine learning which itself is a subset of AI. It is a function of Artificial Intelligence that imitates the workings of the human brain in processing data and creating patterns for making decisions.

E. Write the full form of the following.

1. **AGI:** Artificial General Intelligence
2. **ANI:** Artificial Narrow Intelligence

F. Answer in 1-2 sentences.

1. ASI (Artificial Super Intelligence) refers to the ability of an AI system that could perform any task better than humans with cognitive behaviour.

2. **Alien:** Isolation and Tic-Tac-Toe are two games that use AI technology.

3. The term AI ethics refers to a set of rules which employ widely accepted standards of right and wrong to guide moral conduct in the development of Artificial Intelligence technologies.

4. AI system has raised serious ethical concerns, such as privacy safeguard, threat to employment and problem of biased decision-making.

G. Answer briefly.

1. Gaming industry uses AI technology to improve the strategic aspects of games. The main objective of AI in games is to generate responsive, adaptive or intelligent behaviour primarily in non-player characters (NPCs) similar to human-like intelligence.

2. With ASI, a system would become so self-aware that it would surpass the level of cognitive performance and decision-making skills found in humans.
   ASI is currently a hypothetical situation as depicted in movies and series, where machines have taken over the world.

H. Application-based Questions.

Artificial Super Intelligence has been depicted in the movie.

Worksheet - I

Chapters 1 - 5

A. Tick [✓] the correct answer.

1. a 2. a 3. b 4. b 5. c 6. b

7. a 8. a

B. Write 'T' for True and 'F' for False statements.

1. T 2. F 3. F 4. T 5. T 6. F

7. T 8. F

C. Complete the following.

1. one 2. 1024 3. gigabytes 4. 1024

D. Fill in the blanks.

1. SDRAM 2. primary, secondary 3. worm
4. Constants, formulas 5. equal to 6. colon
7. Paint bucket 8. label text, block text

E. Define the following.

1. **Worm:** It is a harmless virus that simply replicates itself.
2. **Cell range:** A group of related cells in a worksheet is called a cell range.
3. **Dynamic RAM:** It is inexpensive and the most popular type of main memory used in computers. Many variants of DRAM chips exist.
4. **Cache Memory:** Cache is a temporary storage area for instructions and data that enhances the CPU speed. Most of today's computers improve their processing time with cache memory.
5. **Workbook:** A spreadsheet file is called a workbook, which is like a notebook having many individual worksheets.
6. **Range:** A group of related cells in a worksheet is called a range.

7. **Layers:** Layers are the keys to work with graphic objects and animation. You can draw, erase, add, or remove instances on one layer without affecting another layer.

8. **Frames:** Frames are the little rectangles on the timeline. Length of time in an animation is divided into frames.

F. Differentiate between the following.

1. **DRAM:** Dynamic RAM (DRAM) is inexpensive and the most popular type of main memory used in computers. Many variants of DRAM chips exist; most of which are faster than the basic DRAM.

   SRAM: Static RAM (SRAM) is efficient and fast, but is very expensive. SRAM is used in small amounts as cache memory in a computer.

2. **Virus:** Virus stands for Vital Information Resources Under Seize. A virus can badly affect or infect your computer without your knowledge and can alter its working.

   Antivirus: An antivirus program detects the changes that the virus causes in the computer. An antivirus program protects a computer against virus, identifying and removing any computer virus found in the memory, storage media, or incoming files.

3. **Absolute Referencing:** While copying formulas, if Excel does not change cell references and makes it constant, at that time, Excel uses absolute cell referencing. To specify an absolute cell reference in a formula, enter a dollar sign ($) before any column letter and row number that you want to keep constant in formulas you plan to copy.

   Relative Referencing: While copying the formulas, Excel modifies the cell references. Excel uses a technique called relative cell referencing. The formula using the relative cell reference adjusts the cell reference as it copies to the destination area.

4. **Scatter Chart:** A scatter chart uses dots to represent individual pieces of data and is ideal for showing trends in data in equal intervals.

   Line Chart: A line chart displays information as a series of data points connected by straight line segments.

5. **Brush Tool:** Brush tool is used to draw with brush strokes, much like a paintbrush.

Pen Tool: Pen tool uses Bezier curves to create its paths, which we can scale to any size or shape without losing detail.

G. Answer the following questions.

1. The computer memory can be measured in bits or bytes. There are different units of memory used by computer memory. These are:

   1 Byte (B) = 1 Character
   1 Kilobyte (KB) = 1024 Bytes
   1 Megabyte (MB) = 1024 Kilobytes
   1 Gigabyte (GB) = 1024 Megabytes
   1 Terabyte (TB) = 1024 Gigabytes
   1 Petabyte (PB) = 1024 Terabytes
   1 Exabyte (EB) = 1024 Petabytes
   1 Zettabyte (ZB) = 1024 Exabytes
   1 Yottabyte (YB) = 1024 Zettabytes
   1 Brontobyte (BB) = 1024 Yottabytes

2. Magneto resistive RAM (MRAM) is a newer type of RAM which stores data using magnetic charges instead of electrical charges. It has greater storage capacity, consumes less power, and has faster access time than other RAMs. MRAM retains its contents after the computer is switched off, which could prevent loss of data for users.

3. a. A Programmable Read-Only Memory (PROM) chip is a blank ROM chip on which items can be placed permanently.

   b. An Erasable Programmable ROM (EPROM) is another type of ROM, the contents of which are erased by ultraviolet light and then reprogrammed by a PROM program.

   c. An Electrically EPROM (EEPROM) is another variation of the PROM chip, which allows a programmer to erase the microcode with an electric signal.

4. Malware (short for malicious software) is a term used for computer viruses, worms, trojan horses, and rootkits.

5. Two features of antivirus:
   a. Most antivirus programs contain an automatic update feature that regularly prompts the users to download updated virus signatures, at least once a week.
   b. Most antivirus programs automatically check for viruses when they are first installed.

6. We can reuse it or share it with others in future.

7. When a formula contains more than one operator, Excel performs the calculations in a specific order according to precedence. The order in which Excel performs operations in formulas is called order of calculation.
   For example, if we want to determine the average of values in A3, B3, and C3 and we enter the equation =A3+B3+C3/3, we will receive the wrong answer. This is because Excel divides the value in cell C3 by 3, and then adds that result to A3+B3. Following operator precedence, division takes precedence over addition. The correct way to type the average formula is =(A3+B3+C3)/3. Enclosing the values in parentheses, Excel adds the cell values first before dividing the sum by 3.

8. A formula using the absolute cell reference instructs Excel to keep the cell reference constant in the formula as it copies it to the destination area. $ sign is used to keep the cell reference constant. For example, if we apply absolute reference for cell C5, then we should write it in formula like C5.

9. Advantages of charts in Excel are:
   a. Charts can display a lot of information in an easy-to-understand format.
   b. Data and information can be presented in an attractive manner with the help of a chart.
   c. A chart is more impressive and informative as compared to a simple data statement.

10. Different components of a chart are:

1. X-axis	2. Y-axis	3. Data Series	4. Data Object
5. Chart Area	6. Plot Area	7. Chart Title	8. Axis Title
9. Gridlines	10. Legend	11. Data Label	

11. Main features of Adobe Animate are:
   a. **Illustrations and Other Artwork:** Animate has many drawing tools that allow you to create vector graphics. Vector graphics are composed of lines, curves, and polygons. Conversely, bitmaps are made up of pixels.

   b. **Animation:** There are many ways to animate in Adobe Animate. You can create animations by using frame-by-frame or motion tweening method.

   c. **Layers:** Layers are the keys to work with graphic objects and animation. You can draw, erase, add, or remove instances on one layer without affecting another layer. You can also hide layers (make them invisible) and lock layers (make them un- editable).

12. It has basic tools for creating and working with vector graphics.

Worksheet - II

Chapters 6 - 10

A. Tick [▤] the correct answer.

1. a	2. a	3. a	4. b	5. c	6. c
7. b	8. a				

B. Write 'T' for True and 'F' for False statements.

1. F	2. F	3. T	4. T	5. T	6. F
7. F	8. T	9. F			

C. Fill in the blanks.

1. Google Calendar	2. Microsoft	3. Meta and Universe
4. Google Drive	5. sign out	6. statement
7. limitless	8. obstacles	

D. Define the following.

1. **Google Pixel:** It is an Android smartphone designed and marketed by google.

2. **Google Play:** Google Play is a store of apps (applications), songs, books, movies, games and other content for Android-powered smartphones, tablets and other devices.

3. **PaaS:** Platform as a Service provides a cloud platform and allows developers to create, test, and run their program, website, web app, etc. without having to purchase the hardware and software.

4. **SaaS:** Software as a Service is a method for delivering software applications over subscription basis.

5. **Blockchain:** The blockchain is a secure ledger database shared by all parties participating in a network of computers.

6. **Comments:** They are used to explain Python code and make it more readable. Python interpreter ignores the text written in the comment.

7. **Data Types:** Data type is used to define the type of value a data can contain. It represents what kind of operation can be done on a particular data.

8. **Token:** A token is a smallest element of a program that is meaningful to the interpreter. Tokens supported in Python include identifiers, delimiter, keywords, literals and operators among others.

9. **Neural Network:** Neural networks are a set of algorithm designs based on the structure of human brain to recognize patterns and classify different types of information.

E. Differentiate between the following.

1. **Google Chrome** is a full-featured web browser software designed by Google.

   Google Chrome OS, introduced by Google, is a Linux-based operating system that runs on desktop and mobile devices.

2. A **dial-up connection** is a slow-speed Internet connection. Dial-up access provides an easy and inexpensive way for users to connect to the Internet.

   A **broadband connection** is a high-speed technology. With broadband service, our computer is usually connected to the Internet the entire time it is powered on.

3. A **public cloud** is not proprietary of any organization. The services provided in these clouds can be accessed by any organization or individual.

   A **private cloud** is a proprietary architecture subscribed to by an organization. It provides hosted services to the users within the organization.

4. **Keywords** are the reserved words in Python and cannot be used as constant, variable or any other identifier names.

   The data items that never change their value throughout the program run are called **literals**. Theoretically, literal means any number, text or other any information that represents a value.

5. **ANI** is the ability of AI systems to perform a single assigned task effectively and efficiently. These systems are specialized in one area and solve one problem at a time.

   AGI can be defined as the ability of AI systems to learn, perceive, understand, and function completely like humans.

6. **Machine learning** is a subset of AI that enables systems to learn automatically from experience or past information. It focuses on the development of computer programs that can access data and use them to learn by themselves.

   Deep learning is the subset of machine learning which itself is a subset of AI. It is a function of Artificial Intelligence that imitates the workings of the human brain in processing data and creating patterns for making decisions.

F. Answer the following questions.

1. Google Drive is an online storage that provides us 15 GB of free Google online storage, in which we can keep files, folders, backups and everything important. Users can upgrade their free 15 GB account through a paid subscription plan to get additional storage.

2. Google Translate is a free online language translation service which instantly translates text into other languages.

3. Blogging is an exciting and dynamic medium by which we can publish our ideas, opinions, and stories online.

4. A hotspot is a wireless network that provides Internet connections to mobile computers and devices. Most of the public locations, such as shopping malls, coffee shops, restaurants, airports and hotels have Wi-Fi hotspots.

5. A video conference is a live meeting of two or more geographically separated people who use a network or the Internet to transmit audio and video data.

6. A search engine is a software program which helps in finding websites, web pages, and Internet files. Some popular search engines are: Google, Bing, Yahoo, Dogpile and Ask Jeeves.

7. Some of the characteristics of cloud computing are: on demand self-service, elasticity, pay per use and resource pooling.

8. Input() and print() are used for standard input and output operations in Python. Input() is used to get input from user. Print() is used to print the value of given input value or string.

9. A random name made out of letters, digits and/or underscore (_) to identify a function name, a program name or a memory location (variable or constant) is known as identifier.

10. Variables are used to store data in the memory. The data can be numbers, text and/or objects.
    The data is given a name, so that it can be re-called whenever it is needed.

11. Gaming industry uses AI technology to improve the strategic aspects of games. The main objective of AI in games is to generate responsive, adaptive or intelligent behaviour primarily in non-player characters (NPCs) similar to human-like intelligence.

12. Machine learning is a subset of AI that enables systems to learn automatically from experience or past information. It focuses on the development of computer programs that can access data and use them to learn by themselves.

    Deep learning is the subset of machine learning which itself is subset of AI. It is a function of Artificial Intelligence that imitates the workings of the human brain in processing data and creating patterns for making decisions.