ENTER THE WORLD OF IT - CLASS : 1 TO 8 - PORTIONS

MID TERM PORTIONS FOR CLASS 1 TO 8			
	MID TERM - I	**MID TERM - II**	**MID TERM - III**
Class - 1	Ch-1 The World of Machines	Ch-4 Keyboard and its Keys	Ch-6 Let's Start Painting
	Ch-2 Parts of the Computer		Ch-7 Input, Process and Output Units
Class - 2	Ch-1 Parts of A Computer	Ch-4 Creating a Document Using Wordpad	Ch-6 More on Paint
	Ch-2 Computers and Your Health		Ch-7 Internet
Class - 3	Ch-1 History of Computers	Ch-4 Introduction to MS-Excel	Ch-6 Introduction to Scratch
	Ch-2 Introduction to MS-Word		Ch-7 Programming Using Scratch
Class - 4	Ch-1 Generation of Computers	Ch-4 More on MS-Excel	Ch-6 Conditional Statements in Scratch
	Ch-2 More on MS-Word		Ch-7 Broadcast and Receive in Scratch
Class - 5	Ch-1 Types of Computers	Ch-4 Introduction to Network	Ch-6 Basics of Robotics
	Ch-2 Introduction to MS-Access		Ch-7 Introduction to Multimedia
Class - 6	Ch-1 Computer Fundamentals	Ch-4 MS-Access Data Entry	Ch-7 Introduction to 'C' Programming
	Ch-2 Understanding Windows		Ch-8 Introduction to Robotics
Class - 7	Ch-1 Working Principles of a Computer	Ch-4 Data Types in C	Ch-7 Sensors in Micro: BIT
	Ch-2 Logical Functions in MS-Excel	Ch-5 Robotics with Lego Mindstorms	Ch-8 More on the Internet
Class - 8	Ch-1 Number System	Ch-4 Control Statements and Loops in C	Ch-7 HTML-Level II
	Ch-2 Functions in C	Ch-5 Arrays in C	Ch-8 More on EV3

ALL TERM PORTIONS FOR CLASS 1 TO 8			
	TERM - I	**TERM - II**	**TERM - III**
Class - 1	Ch-1 The World of Machines	Ch-4 Keyboard and its Keys	Ch-6 Let's Start Painting
	Ch-2 Parts of the Computer	Ch-5 Page Notepad	Ch-7 Input, Process and Output Units
	Ch-3 Mouse My Friend		Ch-8 Introduction to Categories
Class - 2	Ch-1 Parts of a Computer	Ch-4 Creating a Document Using Wordpad	Ch-6 More on Paint
	Ch-2 Computers and Your Health	Ch-5 Working with Windows Applications	Ch-7 Internet
	Ch-3 Introduction to Windows		Ch-8 Interesting Mobile Facts & Apps
Class - 3	Ch-1 History of Computers	Ch-4 Introduction to MS-Excel	Ch-6 Introduction to Scratch
	Ch-2 Introduction to MS-Word	Ch-5 More on Operating System	Ch-7 Programming Using Scratch
	Ch-3 Introduction to MS-Powerpoint		Ch-8 Search Engines and Keywords
Class - 4	Ch-1 Generation of Computers	Ch-4 More on MS-Excel	Ch-6 Conditional Statements in Scratch
	Ch-2 More on MS-Word	Ch-5 Introduction to Memory Unit	Ch-7 Broadcast and Receive in Scratch
	Chapter 3 More On Ms-Powerpoint		Ch-8 The World of Email
Class - 5	Ch-1 Types of Computers	Ch-4 Introduction to Network	Ch-6 Basics of Robotics
	Ch-2 Introduction to MS-Access	Ch-5 Introduction to Internet	Ch-7 Introduction to Multimedia
	Ch-3 Creating Tables in MS-Access Database		Ch-8 Advanced Excel
Class - 6	Ch-1 Computer Fundamentals	Ch-4 MS-Access Data Entry	Ch-7 Introduction to 'C' Programming
	Ch-2 Understanding Windows	Ch-5 Introduction to Programming	Ch-8 Introduction to Robotics
	Ch-3 MS-Excel Charts	Ch-6 Algorithm and Flowchart	Ch-9 Intro. to Circuitry Using Microcontrollers
Class - 7	Ch-1 Working Principles of a Computer	Ch-4 Data Types in C	Ch-7 Sensors in Micro: Bit
	Ch-2 Logical Functions In MS-Excel	Ch-5 Robotics with Lego Mindstorms	Ch-8 More in the Internet
	Ch-3 Forms in MS-Access	Ch-6 Sensors in EV3	Ch-9 Computer Virus
Class - 8	Ch-1 Number System	Ch-4 Control Statements and Loops in C	Ch-7 HTML-Level II
	Ch-2 Functions in C	Ch-5 Arrays in C	Ch-8 More on EV3
	Ch-3 Variables and Constants in C	Ch-6 An Intro to HTML and Formatting Tags Existing	Ch-9 Iot On Micro: Bit

Class : 1 KEY ANSWERS

Chapter 1. THE WORLD OF MACHINES

Page No. 15-16

I. Fill in the missing letters:

1. Machine
2. Computer
3. Games
4. Books
5. Fast

II. Choose the correct word from the box:

1. Electricity
2. Fast
3. Machine
4. Information
5. Mistake

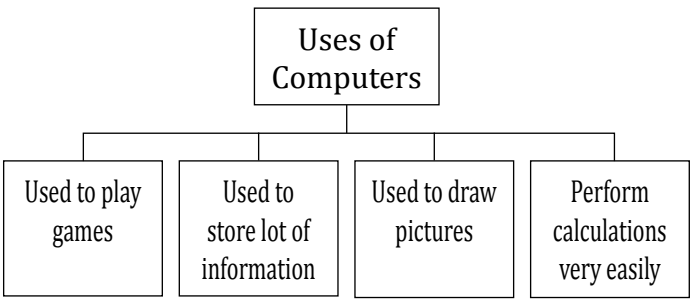
III. Match the following:

1. Railway station - reserve tickets
2. Hospitals - Maintain patient records
3. Banks - maintain savings
4. Super Market - generate bills
5. School - learn subjects

IV. Answer the following:

1. Machine makes our work easy. We use machines to finish our work faster and easier.
2. Fridge, Washing machine, Fan, TV, AC.
3. Calculator, Camera, Mobile phone, Pencil, Sharpener, Scissors.
4. A computer is an electronic machine.
5. School, Bank, Supermarkets, Hospitals, Railway station.

V. Draw a mind map on the uses of computers in your note book.



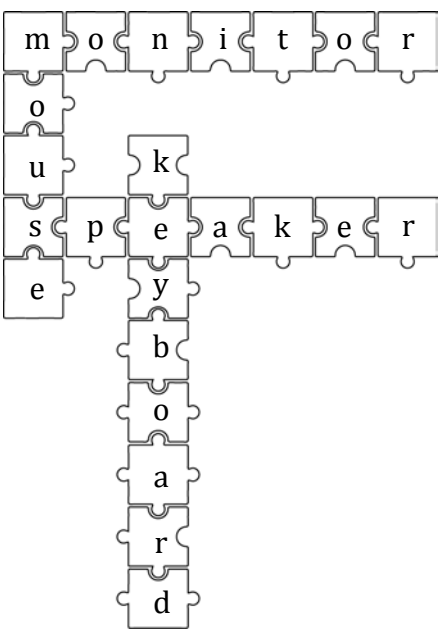
Chapter 2. PARTS OF THE COMPUTER

Page No. 25-26

I. Fill in the blanks using the clue box:

1. Charles Babbage.
2. CPU
3. Monitor
4. Speaker
5. Keys

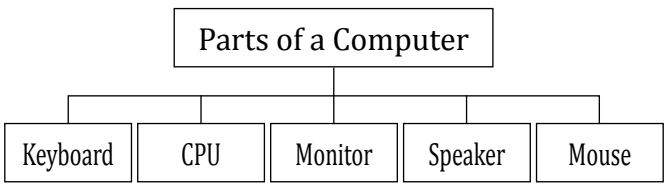
II. Solve the puzzle with the help of the pictures:



III. Answer the following questions:

1. Charles Babbage invented the computer.
2. The main parts of the computer are:
   1. Keyboard
   2. CPU
   3. Monitor
   4. Speaker
   5. Mouse
3. Monitor looks like a television.
4. CPU is the brain of the computer.
5. CPU - Centre Processing Unit.

IV. Draw a mind map on the parts of a computer in a note book.



Activity Zone:

I. Identify the parts of a computer

1. Monitor
2. CPU
3. Speaker
4. Mouse
5. Keyboard

II. Who am I?

1. Monitor
2. Mouse
3. Speaker
4. Keyboard
5. CPU

Chapter 3. MOUSE – MY FRIEND

Page No. 35-37

I. Fill in the missing letters:

1. Mouse
2. Click
3. Pointer
4. Select
5. Drag

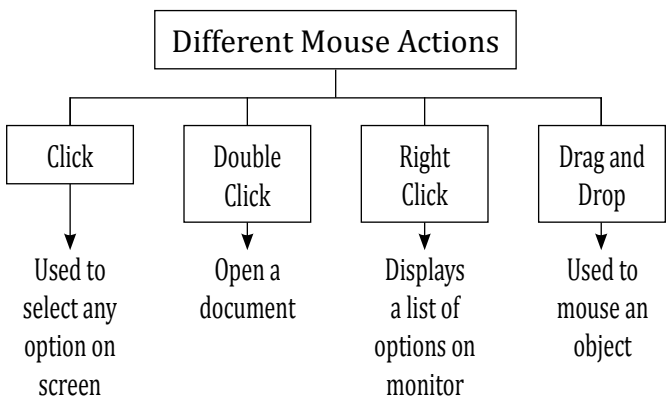
II. Choose the right word from the help box:

1. Input
2. Flat
3. Two or Three
4. Doug Engelbart
5. Double Click

III. Answer the following:

1. The mouse is an input devices used for a variety of purposes.
2. It used to draw pictures, move and select things on the monitor, play games.
3. It is a pointing and drawing device shaped like a pen.
4. Click Action is used to select any option on the screen.
5. There are two types of mouse.
   1. Mechanical mouse
   2. Optical mouse

IV. Draw a mind map on the different mouse actions in a note book.



Chapter 4. KEYBOARD AND ITS KEYS

Page No. 43-45

I. Choose the correct answer from the box:

1. Keyboard
2. Numbers
3. Four
4. Spacebar
5. Two

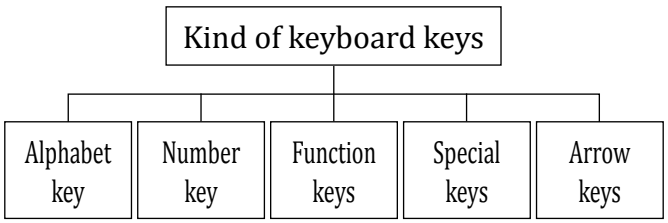
II. Choose T for True and F for False:

1. False
2. True
3. True
4. False
5. True

III. Answer the following questions:

1. The keyboard is used for typing character number and other symbols on the monitor.
2. F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
3. home ← end → ↑ pg up ↓ pg down
4. Arrow keys are used to move the cursor in the right, left, up, down directions.
5. Backspace key is used to erase a character, number or words.

IV. Draw a mind map on the different kinds of keyboard keys in a notebook.



Activity Zone:

I. Colour the keys according to the colour code

1. Enter key
2. Arrow keys
3. Number keys
4. Spacebar key
5. Shift keys

Chapter 5. NOTEPAD

Page No. 51-52

I. Fill in the missing letters:

1. Notepad
2. Keyboard
3. Cursor
4. Desktop
5. Window

II. Fill in the blanks using the help box:

1. Notepad
2. Keyboard
3. Cursor
4. Windows Accessories
5. Typing

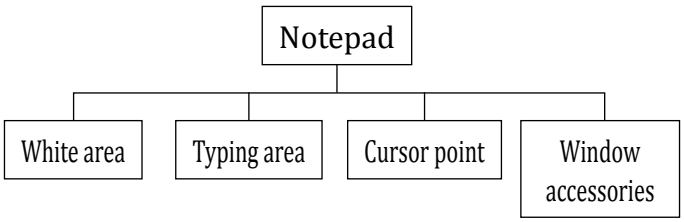
III. Match the following:

1.	Notepad	-	Typing program
2.	Cursor	-	Blinking line
3.	Keyboard	-	Input device
4.	Monitor	-	Output device
5.	White area	-	Typing area

IV. Answer the following:

1. Writing something on the computer is called typing.
2. 1. Click the start button on the desktop.
   2. Click on windows accessories option.
   3. Click on Notepad.
3. Blinking line moves as you type every letter. This Blinking line is the cursor point.
4. In the start button option.
5. Keyboard.

V. Draw a mind map of the things that you have learnt about Notepad in a notebook.



Chapter 6. LET'S START PAINTING

Page No. 62-64

I. Fill in the missing letters:

1. Pencil
2. Circle
3. Rectangle
4. Eraser
5. Line

II. Fill in the blanks using the help box:

1. Rectangle
2. Line
3. Circle or Oval
4. Erase
5. Fille with color

III. Match the following:

1. Pencil -
2. Fill with colour -
3. Line tool -
4. Rectangle tool -
5. Circle tool -

IV. Answer the following:

1. To open paint.
   Start → Windows → Accessories → Paint
2. Paint is a program that is used to draw and paint pictures on the computer.
3. Line tool, Eraser tool, Pencil tools, Rectangle tool, circle tool.
4. Pencil tool.
5. Drawing area, Tool box, Colour box.

Chapter 7. INPUT, PROCESS AND OUTPUT UNITS

Page No. 70-71

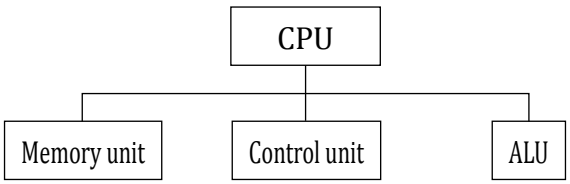
I. Choose the correct answer from the box:

1. Keyboard
2. Monitor
3. 3
4. CPU
5. Output

II. Answer the following questions:

1. Output unit is used to show the result. Input unit is used to give commands to the computer.
2. Memory unit, Control unit, ALU
3. Mouse, Keyboard
4. Monitor, Speaker
5. The Instruction flows from the input device to the processing device and then to the output device. This is called LPO cycle.

III. Draw a mind map on CPU units in a notebook.



Chapter 8. INTRODUCTION TO CATEGORIES

Page No. 75-77

I. Fill in the missing letters:

1. Categories
2. Grouping
3. Data
4. Program

II. Choose the correct words from the box.

1. Data
2. Two
3. Apperances
4. Vehicles
5. Catagories

III. Match the following:

1. Vehicles - Non-living thing
2. Humans - Living thing
3. Bus - Vehicles
4. Man - Human

IV. Answer the following:

1. Grouping is done based on physical appearances.
2. Categories formed on their appearance and characteristics.
3. Grouping is done based on physical appearances.
4. There are programs in computer used to group data based on our need.

Chapter 1. THE WORLD OF MACHINES

Page No. 13-16

I. Choose the correct answer:

1. 5
2. CPU
3. ALU
4. Memory
5. 3

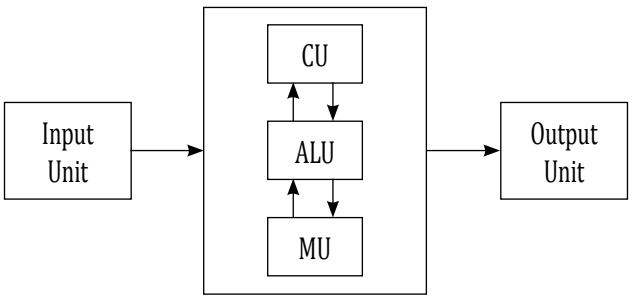
II. Expand the following:

1. CPU - Central Processing Unit
2. CU - Control Unit
3. MU - Memory Unit
4. ALU - Arithmetic Logic Unit
5. PC - Personal Computer

III. Answer the following:

1. The CPU is made up of a Mother - Board, Processers - (Intel, AMD), RAM and Hard Disk.
2. ALU Performs all Arithmetic operations and logical operations.
3. A set of instructions used to perform a specific task or particular task is called software.
4. A physical parts of a computer are called Hardware.
5. Memory Units are the storage areas in a computer.

IV. Draw a block diagram of a computer.

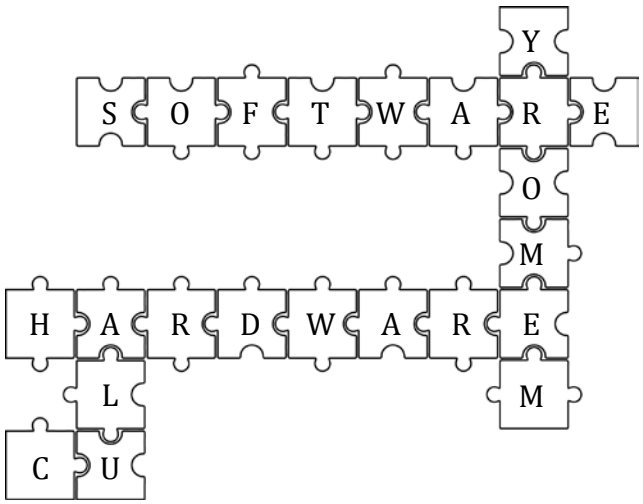


Activity Zone:

I. Who am I ?

1. CPU
2. ALU - Arithmetic Logic Unit
3. MU - Memory Unit
4. CU - Control Unit
5. Hardware

II. Solve the puzzle:



Chapter 2. COMPUTERS AND YOUR HEALTH

Page No. 22-23

I. Fill in the blanks with the help of the hint box:

1. Insulated
2. Monitor
3. Helpful
4. Clean
5. 18 to 24.

Chapter 3. INTRODUCTION TO WINDOWS

Page No. 31-34

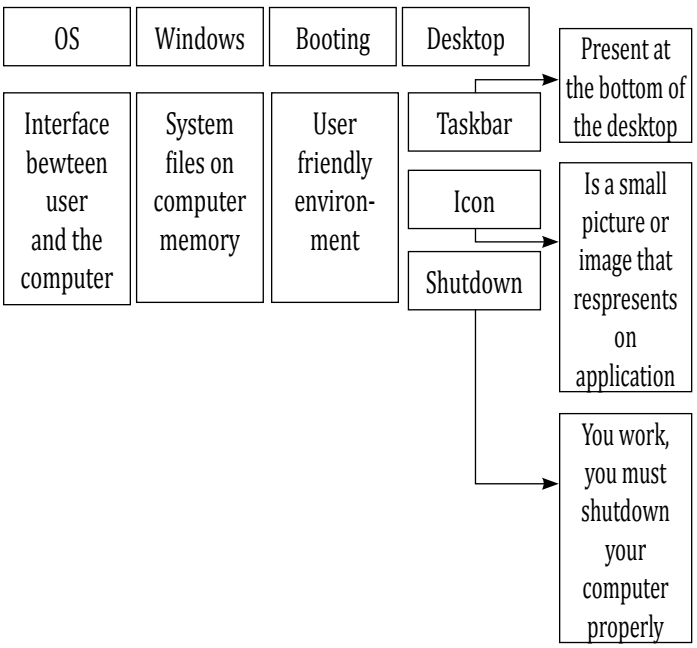
I. Choose the correct answer:

1. Graphical User Interface
2. Desktop
3. Taskbar
4. Start
5. Wallpaper

II. Answer the following:

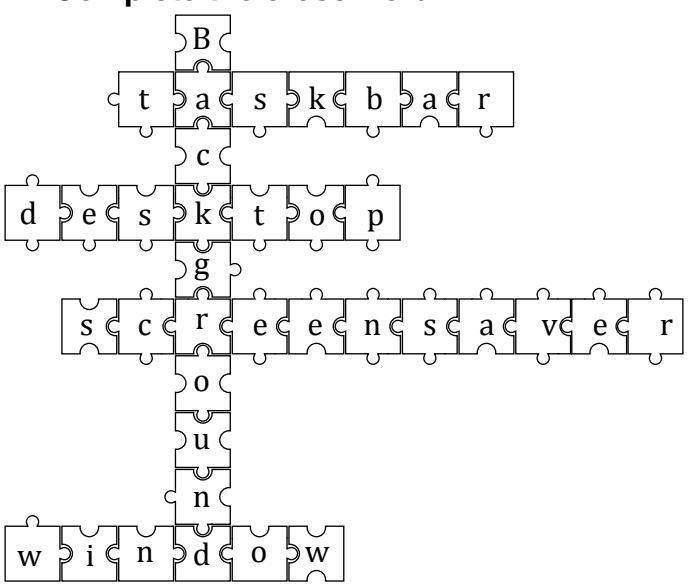
1. The process of loading system files on the computer memory is called booting.
2. The basic working platform is called a desktop.
3. An icon is a small picture or image that represents an applications.
4. The screen saver is a full screen animated image that is displayed on the monitor.
5. 1. Save all your documents.
   2. Click on the start button.
   3. Select the shut down command.

III. Draw a mind map on the working of a computer.



Activity Zone:

I. Complete the cross word



II. Who am I?

1. Taskbar
2. Screen saver
3. Icon
4. Desktop
5. Windows

Chapter 4. CREATING A DOCUMENT USING WORDPAD

Page No. 43-46

I. Choose the correct answer:

1. Word processor
2. Both (a) and (b)
3. Save
4. Backspace and Delete
5. Cut

II. Answer the following:

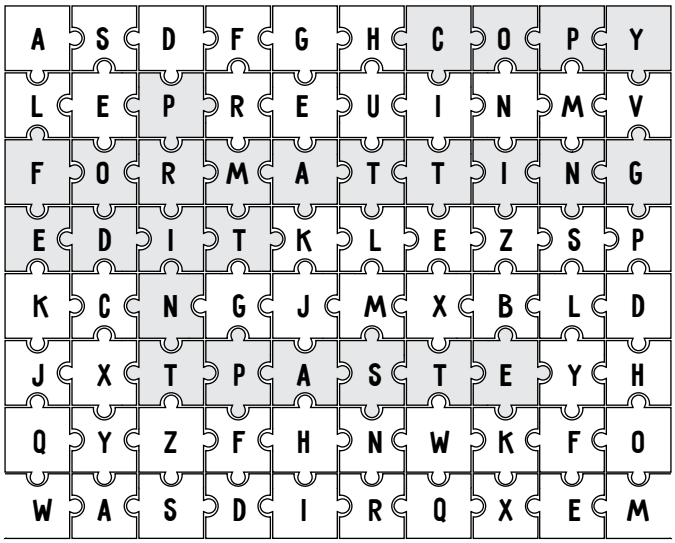
1. To start wordpad
   - Start
   - All programs
   - Accessories
   - Wordpad
2. The flash vertical bar on the screen is called an insertion point shortcut key.
3. **Bold:** 1. Select the required text
   2. Click the 'B' icon on the standard tool (or) use ctrl+B.
4. Remove formatting can be removed by clicking on the respective icons again.
5. Copying means to repeat the same information in your document at a different location.

III. Draw a mind map on short cut keys and their functions.

Save	Ctrl + S	Save a document
Bold	Ctrl + B	Bold the text
Italic	Ctrl + I	Style the text
Underline	Ctrl + U	Underline the text
Copy	Ctrl + C	Copy the text
Paste	Ctrl + V	Paste the text
Cut	Ctrl+X	Cut the text
Print	Ctrl+P	Print a document

Activity Zone:

I. Circle the words that are related to word processing.



II. Who am I?

1. B
2. U
3. Wordpad
4. Wordpad
5. Insertion point

III. Difference inbetween Notepad and Wordpad.

Notepad	Wordpad
Notepad is a text editor, meant for basic plain text entry.	Wordpad is a word processor for formatting and printing document.

Chapter 5. WORKING WITH WINDOWS APPLICATIONS

Page No. 56-59

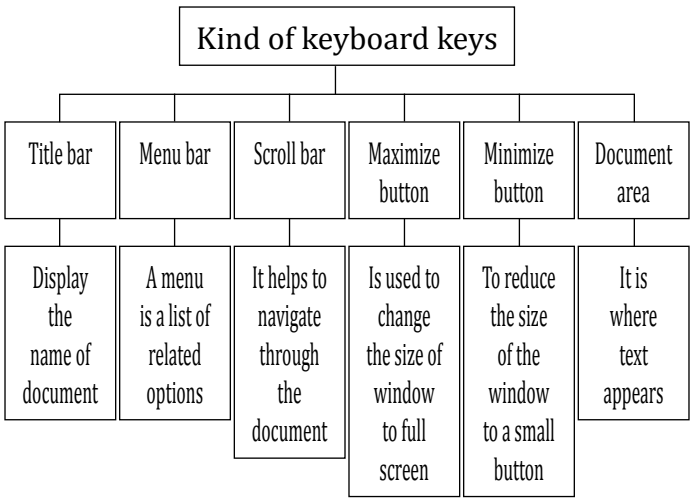
I. Choose the correct answer:

1. Double click
2. Both (a) and (c)
3. Title Bar
4. Maximize
5. File → Edit

II. Answer the following:

1. To open the calculator
   Start → All programs → Accessories → Calculator
2. A notepad is a basic text editor.
3. A document area is where your text appears.
4. To save a document.
   File → Save (or) ctrl+s
5. A small vertical blinking line, which appears at the top left corner of the document is called a cursor.

III. Draw a mind map on the different bars and buttons in a Notepad document.



Activity Zone:

I. Label the parts of the Notepad window.

1. Title bar
2. Menu bar
3. Close button
4. Minimize
5. Scroll bar
6. Document area

II. Who am I?

1. Maximize button
2. Close button
3. Minimize button
4. Title bar
5. Restore button

III. Colour and Match

1. To exit from Notepad - File → Edit
2. To print a file - File → Print
3. To save a file - File → Save
4. To create a file - File → New

Chapter 6. MORE ON PAINT

Page No. 71-74

I. Choose the correct answer:

1. Paint
2. Free form select
3. Pick colour
4. Brush
5. Spray

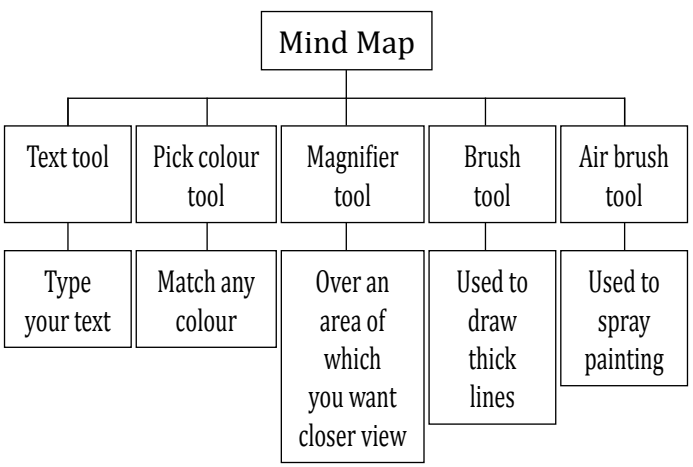
II. Answer the following:

1. Click the text on the tool box and type your text.
2.

Select tool	Free form select
Select tool is used to select a rectangular area of an image.	Free form tool is used to select an irregular portion of an image.

3. Magnifer tool is used for a closer view of an image.
4. Click the file menu and select the save option.
5. The pick colour tool is used to sample and match any colour in your picture.

III. Draw a mind map on any five tools and their uses.



Chapter 7. INTERNET

Page No. 82

I. Answer the following:

1. (a) Internet - Internet is a network that connects millions of computers worldwide.
   (b) Webside - A website is a collection of publicly accessible interlinked.
4. Internet explorer, Google chrome, etc.
5. We can search/download/save images from the internet by using search engines.

II. Answer the following:

1. Web browser
2. Internet
3. Bing
4. Computer
5. Windows

Class : 3 KEY ANSWERS

Chapter 1. HISTORY OF COMPUTERS

Page No. 9-12

I. Choose the correct answer:

1. Computer
2. Abacus
3. Difference engine
4. ADA
5. Punched cards

II. Answer the following:

1. It is an electronic machine capable of performing basic aerthmetic operation.
2. Difference engine was invented by charles babbage.
3. An abacus is the first known calculating machine.
4. It used to perform multiplication and dicision.

5. The first programming language was developed by lady Ada Lovelace.

Activity Zone:

I. Who am I ?

1. Computer
2. Abacus
3. Slide rule
4. Difference engine
5. Rotating wheel calculator

Chapter 2. INTRODUCTION TO MS WORD

Page No. 20-23

I. Choose the correct answer:

1. MS-Word
2. Microsoft
3. Document-1
4. Repeat
5. Spacebar

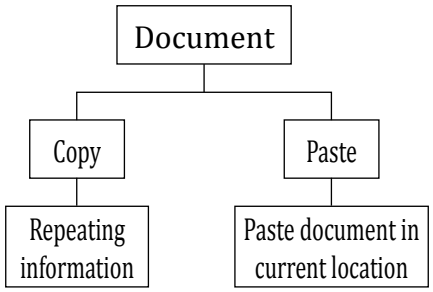
II. Answer the following:

1. To start MS-Word
   Windows → Scroll Down → Click on word
2. The delete key deletes the characters to the right of the cursor.
3. The Undo operation is used to reverse the last action performed.
4. Page number, Number of words.
5. Selected text can be easily cut and pasted in the required location. To move the curser anywhere up, down arrows in the keyboard can be used.

III. Answer in detail:

1. To save your document:
   (i) Click on the file menu and click on save.
   (ii) A dialog box appears.
   (iii) Name the document by typing in the file name box.
   (iv) Click the save button.
2. New document - Ctrl + N
   Save document - Ctrl + S
   Closing document - Ctrl + W
   Opening document - Ctrl + O
   Cut the document - Ctrl + X
   Paste the document - Ctrl + V
   Copy of document - Ctrl + C
   Undo the document - Ctrl + Z
   Redo the document - Ctrl + Y

IV. Draw a mind map to copy the text and move it.



Activity Zone:

I. Match the following:

1. New - Ctrl + N
2. Open - Ctrl + O
3. Undo - Ctrl + Z
4. Redo - Ctrl + Y
5. Close - Ctrl + W
6. Exit - Ctrl + F4

Chapter 3. INTRODUCTION TO MS POWERPOINT

Page No. 33-35

I. Choose the correct answer:

1. Microsoft
2. Slide
3. F5
4. Middle
5. Esc

II. Answer the following:

1. A presentation is a computerised way of communicating ideas with the help of text and pictures.
2. • Click on the Windows Icon.
   • To find the PowerPoint program
   • Click on the PowerPoint Icon
3. Place holders are the boxes with dotted outlines that appear when you create a New Slide.
4. The F5 key is used to view the Slide show.

5. • Click on New slide icon from Home Tab (or)
   • Click on Insert Tab from ribbons
   • Choose the new slide option

III. Answer in detail:

1. (i) Click on Insert Tab from the Ribbon.
   (ii) Select picture option
   (iii) Select required picture and click open button.
2. Powerpoint views.
   Powerpoint allows you to view the slides in different formate.
   There are three types of vies
   (i) Normal view
   (ii) Notes page view
   (iii) Slide sorter view
   (i) Normal view - This view is divided into three panes.
   The Outline Pane: This pane can be used to enter text in the side.
   The Slide Pane: This pane can be used to Add text, Graphics, Animation sound etc.
   The Notes Pane: This pane is used to Add information.
   (ii) Notes Page View - The Notes page view is used to enter notes for the slide within a presentation.
   (iii) Slide Sorter View - The slide sorter view gives you a miniature picture of each slide. It also helps in rearranging, deleting and adding slides to the presentation.

Activity Zone:

I. Who am I?

1. Normal View
2. Notes Page View
3. Slider Sorter View
4. Slide Show

Chapter 4. INTRODUCTION TO MS EXCEL

Page No. 45-47

I. Choose the correct answer:

1. Microsoft
2. Excel
3. Both (a) and (c)
4. Active cell
5. F2

II. Answer the following:

1. • Click the Window Button
   • Type Microsoft Office
   • Click on the Excel Icon to open MS-Excel program.
2. Cell addresses are a combination of a column name and a row number. Eg: A1, A2, ... etc.
3. A continuous group of cells in a worksheet.
4. The syntax of formula begin with an equal sign, followed by a combination of values, operations, and cell reference.
5. Number, Dates, Times, Text, Formulae.

III. Answer the following in detail:

1. (i) Several Mathematical, financial and statistical functions and formulae and built in.
   (ii) The results are accurate.
   (iii) The worksheet can be quite big in size.
   (iv) Data can also be viewed in the form of graphs.
   (v) Any part of it can be viewed, edited or printed.
2. 1. Click on the file menu.
   2. Select the close option.
   3. Click on close button on the top right corner of the excel window.

Chapter 5. MORE ON OPERATING SYSTEM

Page No. 52-53

I. Choose the correct answer:

1. Operating system
2. Computer memory
3. Apple
4. 1980
5. Two

II. Answer the following:

1. An operating system is an interface between the user and the computer system.

2. MS-DOS, Microsoft windows, Apple Macintosh, IBM OS12, Unix and Linux are examples of operating systems.
3. An operating system that allows only a single user to perform a task at a time is called a single user.
4. There are two types of operating systems, They are:
   (i) Single - User - Operating system
   (ii) Multi - User - Operating system
5. It is used in computer and laptops that allow same data and applications to be accessed by multiple user system. Eg: Linux and Unix.

III. Explain in detail:

1. As per the interface, operating systems are classified into two types: (i) CUI; (ii) GUI

   CUI:
   1) Full form of CUI is Character User Interface.
   2) It users are required to type the commands.
   3) It is based on OS.
   4) Eg: Ms-DOS.

   GUI:
   1) Full form of GUI is graphical user interface.
   2) It is based on OS
   3) It users required clicking on pictures, menus, icons using the mouse will execute the commands.
   4) Eg: Unix, MAC-OS

2. 1) MS-DOS - Microsoft Disk operating system.
   2) OS - Operating System
   3) CUI - Character User Interface
   4) GUI - Grap
   5) IBM - International Business Machines corporation

Chapter 6. INTRODUCTION TO SCRATCH

Page No. 65-67

I. Choose the correct answer:

1. Programming
2. Stage
3. Paint
4. Cat
5. Animations and games

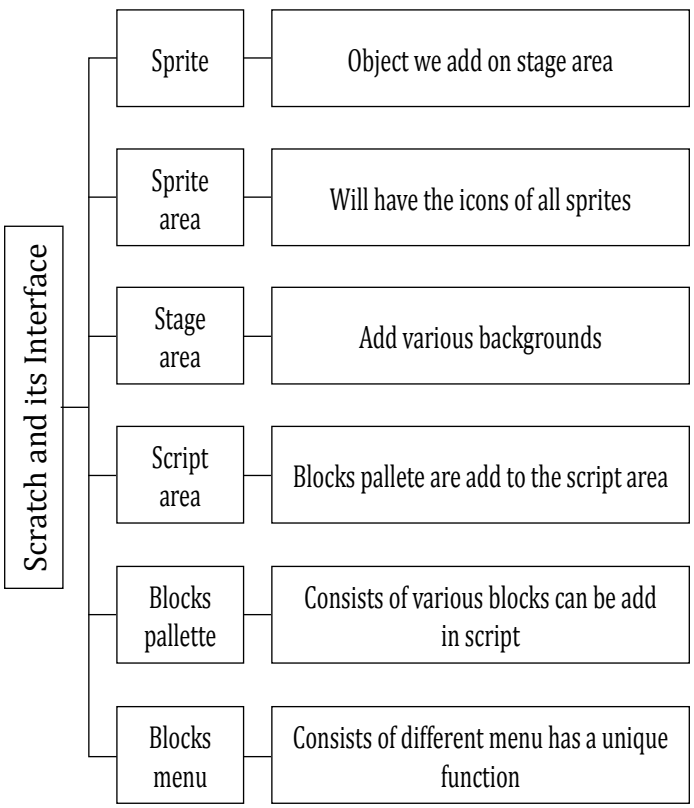
II. Answer the following:

1. Scratch is a programming language we can create animation and games with ease. Using scratch.
2. 1) Click on the windows button
   2) Scroll down to find scratch
   3) Click on scratch
3. Sprite is added on the stage everytime we open scratch.
4. This Menu Consists of different menus to choose from where each block has a unique function.
5. **Duplicate:** To make a copy of the currently selected sprite.
   Delete: To remove a sprite from the stage.

III. Explain in detail:

1. To create a sprite in scratch by clicking the icon.
2. Clicking on this icon will open the paint editor.
3. Use the Basic shapes and colour options to draw and paint.

IV. Draw a mind map on Scratch and its interface.



Chapter 7. PROGRAMMING USING SCRATCH

Page No. 77-79

I. Fill in the blanks:

1. Change effect
2. forever
3. Pendown
4. Play sound
5. Keyboard

II. Match the following:

Block	Function
Think blocks	DISPLAYS thought bubbles with text in them from a Sprite.
Move block	Moves the Sprite either in the forward or backward direction based on a given value. A (-) symbol preceding the value will move the Sprite backward.
Next costume	controls the action to be performed by Scratch once the Green Flag icon is clicked.
When Green Flag clicked	changes the costume of the Sprite in an order as per the availability of the Costumes in the Costumes tab.
Glide block	Performs a glide action on the Sprite for a given amount of time until the given set of points is reached on the Stage.

III. Answer the following:

1. These blocks are used to display a message on the stage.
2. This block controls the action to be performed by scratch.
3. Move the sprite either in the forward or backword direction based on the gives value.
4. This block clears all the drawings made by the pen down black from the stage.
5. These blocks are used to set the position of a sprite.

IV. Answer in detail:

When clicked
clear
Pendown
Set pen colour to ☐
Repeat 20
move 5 steps
coat 0 - 2 sec
move 10 steps
next costume
point in direction ○
set pen colour in ☐
repeat 20
move 5 steps
wait 0 - 2 secs
move 10 steps
next costume
wait 0 - 2 secs
next costume
point in direction - 90
set pen colour to ☐
repeat 90
move 5 steps
wait 0.2 sec
move 5 steps
next costume
wait 0 - 2 secs
next costume
point in direction 180
set pen colorte ☐
repeat 20
move 5 steps
wait 0 - 2 secs
move 5 steps
next costume
wait 0 - 2 secs
next costume
point indirection 90▽

Chapter 8. SEARCH ENGINES AND KEYWORDS

Page No. 86-87

I. Fill in the blanks:

1. Search results
2. Search engine
3. Keywords
4. Search suggestion
5. Special characters

II. Answer the following:

1. Serach engines make it easier to find and access this information.
2. Keywords are also known as search terms and then press enter on your keyboard.
3. Search engines let the users search for specific information such as Imges, Audio and Video.
4. (i) Search result
   (ii) Search suggestions
   (iii) Refinning your search
   (iv) Content specific searches
   If you are having difficulty thinking of new search terms. Search suggestions can be used.

III. Answer in detail:

1. Use search engines to search for information on the internet.
2. Use keyboards entered by the user to search for information on the internet.
3. Search engines let the users search for content specific information of Images, Audio and Video.

Class : 4 KEY ANSWERS

Chapter 1. GENERATIONS OF COMPUTERS

Page No. 10-12

I. Choose the correct answer:

1. Five
2. Machine
3. Cobol, Fortran
4. Transistors
5. Third

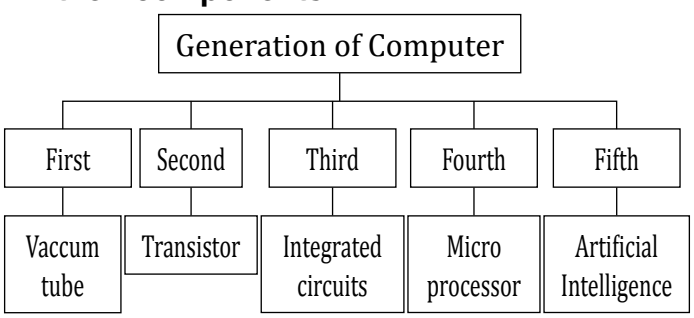
II. Answer the following:

1. Vaccum tubes was used in the first generation of computer.
2. (i) The transistor was a far superior technology
   (ii) It relied on punched cards for input and printouts for output.
3. They were large in size. It occupied a lot of space and produced enormous heat.
4. IBM 1401 and CDC 3600 are examples of second generation computers.
5. AI - Artificial Intelligence software.

III. Answer the following in detail:

1. BASIC - Basic Integrated Circuits
   VLSI - Very Large Scale Integration
   ENIAC - Electronic Numerical Integrator and Calculator
   UNIVAC - Universal Automatic Computer
   AI - Artificial Intelligence
2. First generation → Vaccum tubes → Machine language
   Second generation → Transistors → High level language
   Third generation → Integrated circuits → High level language
   Fourth generation → Microprocessor → High level language
   Fifth generation → Artificial Intelligence → High level language

IV. Draw a mind map of the generations with their components.



Chapter 2. MORE ON MS WORD

Page No. 22-24

I. Choose the correct answer:

1. Ctrl + B
2. Insert → Picture → From file
3. Word Art
4. Rows and Columns
5. Ctrl + E

II. Answer the following:

1. Formating text in Microsoft Word refers to controlling how text appears in your document. This includes the size, colour and font of the text.
2. (i) Select the text you want to modify.
   (ii) Home tab → Click drop down → Font box
   (iii) Font style → Select
   (iv) Font will change in document
3. A set of type characters that are darker and havier than normal.
4. (i) Select the table by clicking the move handle that appears above the top left corner of the table.
   (ii) Select on alignment option in the paragraph group on the Home tab.

III. Answer the following in detail:

1. Bold - It refers to the text in the same font and in the same size.

   Ctrl + B = Bold

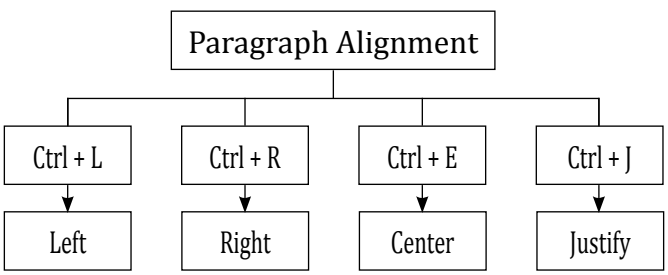
   Italics - To change the words to Italics, select the word and press the Italic Button

   Ctrl + I = Italic

   Underline - To underline a word, select the word and press the underline icon on the Home tab.

   Ctrl + U = Underline
2. (i) Go to Design → Page borders
   (ii) Make selections → Want to border to look
   (iii) To adjust the distance between the border and edge of the page
   (iv) Select OK

IV. Draw a mind map on paragraph alignment.



Chapter 3. MORE ON MS POWERPOINT

Page No. 30-31

I. Choose the correct answer:

1. Sound
2. A Single Slide
3. Dissolve
4. Blinds Vertical
5. Strips up-right

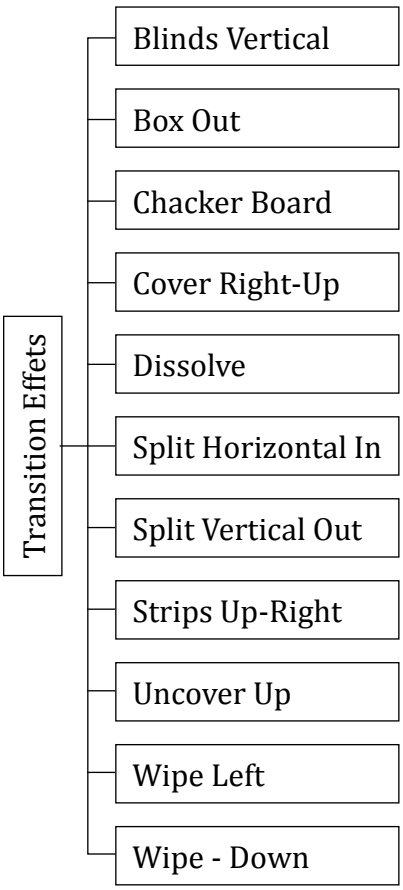
II. Answer the following:

1. A theme is a template with a specific design that can be applied to a slide.
2. (i) Select the slide for changing the background
   (ii) Click on the design tab
   (iii) Click on format background option
3. Slide transition is the animation way in which slides appear one after the other in a slide shows.
4. Custom Animation is used to animate different objects in the slide during a slide show.
5. Wordart is a decorative way to represent headings in different styles.

III. Answer the following in detail:

1. To apply a theme to a slide
   (i) Click on the design tab
   (ii) Select themes group and select the theme of your choice.
2. (i) Select the slide to apply transition affect.
   (ii) Go to the transition tab
   (iii) Select any transition effect from given list
   (iv) Selected transition happening to the slide
3. (i) Click on the insert tab
   (ii) Click on the wordart button, choose any style
   (iii) The wordart text box appears
   (iv) Type the text

IV. Answer the following in detail:



Chapter 4. MORE ON MS EXCEL

Page No. 42-43

I. Choose the correct answer:

1. Left
2. =
3. Both formula and functions
4. Column width
5. = Sum (A1 : A5)

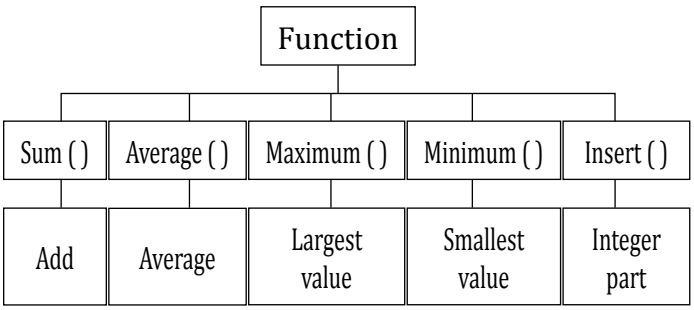
II. Answer the following:

1. Text, Numbers, Date, Mathematical, Formula can be typed in a cell.
2. Left, Center, Right, Top, Middle, Bottom.
3. Function is a Pre-defined Formula Built in excel.
4. Addition, Subtraction, Multiplication, Division, Exponentiation, Percent.
5. Charts can present Data and information in an Attractive and compact manner.
   Charts are easier to understand and compare and they convey the messages quickly.

III. Answer the following in detail:

1. B - This icon is used to display the data in bold.
   I - This icon is used to display the data in Italics.
   U - This icon is used to underline that data.
   A - This icon shows a colour palettes can be used to change the font colour.
   $ - Display the contents of the selected cells in default format.
   % - Display the current contents in percentage format.
2. Fill command is used to generate a data series based on a defined pattern.
   Eg: Type 2 in cell A1
   Type 4 in cell A2
   Highlight the cell and drag down with the mouse
3. Chart offer a visual presentation of the data.
   Types of charts
   1. Bar chart - Compare value and placeless emphasis on ???
   2. Column chart - Change in data over a period of ???
   3. Line chart - Shows trends in data at equal intervals.
   4. Pie chart - Shows the proportional size of items.

IV. Draw a mind map on the functions used in Excel.



Chapter 5. INTRODUCTION TO MEMORY UNIT

Page No. 49-50

I. Choose the correct answer:

1. Bytes
2. Binary digit
3. Read / Write
4. 2

II. Answer the following:

1. The memory unit of a computer stores data and instructions required by the computer.
2. The memory unit of a computer consists of two types, they are
   1. Internal memory
   2. External memory
3. Hard disks are storage devices that hold huge memory space.
   Flopy disks is a removable magnatic storage medium allows recording of data
4. The secondary storage devices are Hard disks, CDs, Pendrive and external hard disk.

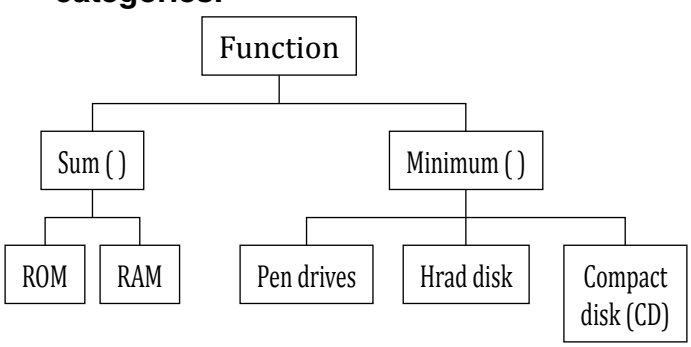
III. Answer the following in detail:

1. 8 bits = 1 byte
   1024 bytes= 1 kilo bytes (KB)
   1024 KB = 1 megabite (MB)
   1024 MB = 1 gigabite (GB)
   1024 GB = 1 terabite (TB)

2.

	RAM	ROM
1.	It is not permanent	It is permanent
2.	It stores program are currently being used by the computer	It stores startup instruction
3.	It is a volatile memory	It is a non-volatile memory

IV. Draw a mind map on memory and its categories.



Chapter 6. CONDITIONAL STATEMENTS IN SCRATCH

Page No. 59-60

I. Choose the correct answer:

1. Sprites
2. Repeat until
3. Wait until
4. Forever
5. Control

II. Answer the following:

1. Conditional statements have slots that are shaped with points on either side with is true or false.
2. They are found in the control programming blocks as shown below. If ( ) then and if ( ) then else are conditional blocks.
3. This block is an extension of the if then value. If condition is true then a lines get executed.
4. The forever block is used to run a program again and again without any mouse click.
5. The if ( ) then block is a control block and If its boolen condition is true. The blocks held inside it will run.

Chapter 7. BROADCAST AND RECEIVE IN SCRATCH

Page No. 66-67

I. Choose the correct answer:

1. Signals
2. << when I receive>>
3. Control
4. When I Receive
5. Broadcast

II. Answer the following:

1. Technique of sending and receiving signals is called Broadcast.
2. (i) Determine your set top box device has HDM1 connection.
   (ii) Once successfully located the HDM1 port on device proceed to HDM1 cable.
3. Broadcast
   • Broadcast block
   • Broadcast and wait block
   Receiving
   • When I Receive Block
4. We use the <<when I Receive>> block to receive the broadcast.
5. Broadcast block that is present under control menu.
   Broadcast and wait block works to wait until all scripts activate by broadcast end.

Chapter 8. THE WORLD OF EMAIL

Page No. 75-76

I. Fill in the blanks:

1. Electronic mail
2. 1980's
3. ARPANET MORPHED
4. Username and Domain
5. Unique

II. Answer the following:

1. Email is a computer based application for the example of messages between user.
2. The first message was sent from computer to computer on Arpanet 1971, Ray to milinson developed email.
3. Email content are primary classified as headers and the body details about the message such as the unique identify of the message.
4. It is '@' sign is a divider in the email address and it reports the username from the service provider's name.
5. It is the name you choose to be identified with for email purposes and that you have provided to the email.

II. Answer in detail:

1. Open the Gmail account creation website
2. Click create an account button
3. Enter your first and last name
4. Create a Gmail - username
5. Enter a password twice
6. Click next button
7. Skip the phone number, recovery email address shown
8. Add your date of birth
9. Select a gender
10. Click on the next button
11. Click on the I Agree
12. Account page opened

Class : 5 KEY ANSWERS

Chapter 1. TYPES OF COMPUTERS

Page No. 12-13

I. Choose the correct answer:

1. Digital
2. Laptop
3. Workstation
4. Note book
5. Mainframe

II. Answer the following.

1. Analog computers perform computing operations based on a varying range of values.
2. • Speed
   • Accuracy
   • Automation
   • Endurance
   • Versatility
3. A hybrid computer is a computing system that combines both digital and analog components.
4. Laptop Computers are portable computer, that fit in a briefcase or in a backpack that can be carried around.
5. • PARAM Series
   • CYBER Series
   • CRAM Series
   • FUJITSU Series

III. Answer the following detail.

1. Classification of computers based on the Principles of operation are,
   • Analog Computer
   • Digital Computers
   • Hybrid computers

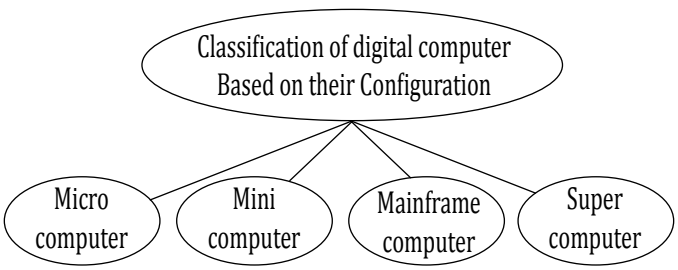
   Analog Computers: Perform computing operation based on a varying range of values.

Digital Computer: operate on digital data such as numbers.

Hybrid computers: Is a computing system that combines both digital and analog components.

2. • weather forecasting.
   • Space research.
   • weapon research.
   • atomic research.
   • design of aircrafts.

IV. Draw a mind map on the classification of digital Computers based on their configuration.



Chapter 2. INTRODUCTION TO MS ACCESS

Page No. 24-25

I. Fill in the blanks:

1. Computer based data bases
2. Datasheet
3. Tables, Queries, reports
4. Database
5. Database from template and Create blank database.

II. Match the following:

1.	Record	Shows only the information you want. It is also the end result of a query.
2.	Database	Organized collection of your data.
3.	Query	Information (all fields/columns) for every individual item in a file.
4.	Report	Request that you make to extract only the information you want.
5.	Form	A user-friendly interface used for entering or displaying data.

III. Answer the following:

1. A database is an organized collection of your data.
2. a) **Record** - Information for every individual item in a file is called a Record.
   b) **Report** - A report is similar to a form, but it only shows the information you want.
   c) **Field** - A record is divided into separate headings known as fields.
3. i) Start by launching MS Access.
   ii) Select Blank desktop database. Enter the name for your database and click the create button.
   iii) Access will create a new blank database.
4. A query is a request you make of your data, to extract only the information you want.
5. i) Maintain all information for each individual.
   ii) Track data without needing a separate Software program.
   iii) Run reports and analyses using the reports and charts.

IV. Answer the following in Detail:

1. Refer the book page no. 23.

Chapter 3. CREATING TABLES IN MS ACCESS DATABASE

Page No. 37-38

I. Fill in the blanks:

1. Data type
2. Short Text
3. 8 bytes
4. 2
5. Primary key

II. Match the following:

1.	Short Text	Assign a unique number or assigned by Microsoft Access when any new record is created. Usually used as the primary key.
2.	Long Text	Text, including numbers which does not need calculation. (e.g., Mobile numbers).
3.	Number	It allows you to store currency values and numeric data with one to four decimal places.
4.	Date/Time	Store date/time for the years 100 through 9999.
5.	Currency	This data type is used for lengthy text or alphanumeric data.
6.	Auto Number	Used for storing mathematical calculations.

III. Answer the following:

1. Primary is the column(s) that contain values that uniquely identify each row in a table.
2. i) Creating table in Datasheet View
   ii) Creating table in Design view.
3. Primary key helps us find the required data as the field marked as primary key will have no repeated data.
4. a) Date- store date/time for the years 100 through 9999.
   b) Yes/No - It only stores Logical values Yes or No.
   c) Hyperlink - Text or combinations of text and numbers stored.
5. Design View. Design view can make it easier to set up a table.

IV. Answer the following in Detail:

Refer the book Pg No: 29-33

Chapter 4. INTRODUCTION TO NETWORK

Page No. 47-50

I. Choose the correct answer:

1. Communication channels
2. 4
3. WAN
4. 5
5. Bus

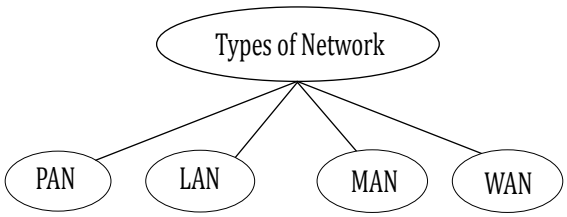
II. Answer the following:

1. A network is formed when a group of computers and devices are connected together for various purposes such as communication, sharing information and resources.
2. Network topology is the structure or layout by which the nodes in a network are collected.
3. Communication channels for:
   PAN - Bluetooth and Wi-Fi
   LAN - cables
   MAN - Either cables or satellites
   WAN - Mostly satellites.
4. The size, ownership, physical architecture and the distance it covers determine the category of a network.
5. PAN - Personal Area Network.
   MAN - Metropolitan Area Network
   WAN - Wide Area Network

III. Answer in Detail:

1. Advantages
   A network allows:
   - Ordered flow of information among computers.
   - Sharing of files and folders.
   - Sharing of hardware and software devices and applications.
   - Provides a communication link between users in a network.
2. Refer the diagram book page no. 40, 41, 42
3. Refer II Ans 2
   Refer book page no.43-45

IV. Draw a mind map on the different types of network.:



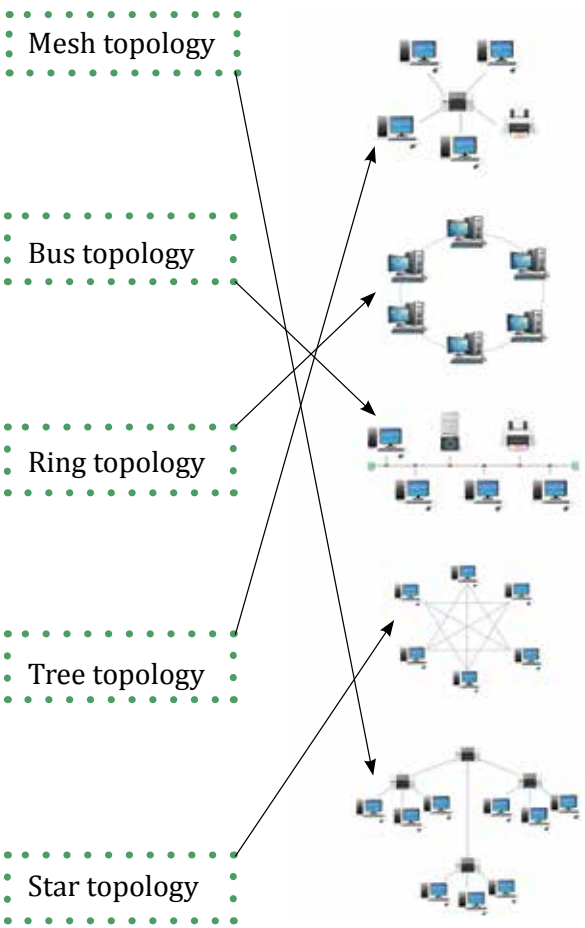
Activity Zone

I. Who am I?

1. PAN
2. LAN
3. MAN
4. WAN

Project Activity

II. Match the following:



Chapter 5. INTRODUCTION TO INTERNET

Page No. 56-58

I. Choose the correct answer:

1. Tim Berners Lee
2. ISP
3. home page
4. e-mail
5. @

II. Answer the following:

1. Internet is a network of networks with millions of computers that are connected to each other.
2. A modem (modulator-demodulator) is a computer peripheral that can be fixed externally inside the CPU or it can be attached separately.
3. • Micro Soft Edge.
   • Mozilla Firefox.
   • Safari
   • Google chrome
   • Opera
4. A web browser is a program that is used to surf the Internet.
5. Using an e-mail, You can send text, pictures, sounds, programs or even movies to any other person on the internet, anywhere in the world.

III. Answer in Detail:

1. **ARPANET** - Advance Research Projects Agency Network..
   ISP - Internet Service Provider
   Modem - Modulator-demodulator
   www - World Wide Web.
   e-mail - Electronic mail.
2. ✓ Requirements for an internet Connection
   • a computer
   • A Telephone, Cable line or a dongle
   • A modem
   • An account with an ISP
   • A web browser. ex. Internet Explorer

3. Step 1: Login your Gmail account, using id and password.
   Step 2: click compose button
   Step 3: Add recipient e-mail id in the To field.
   Step 4: At the bottom of the page, there is a Send option. click Send to send mail.
4. Create Gmail account,
   Step 1: Visit Google account Creation page.
   Step 2: Click on Create account.
   Step 3: The sign- up form will appear. Enter your first and last name.
   Step 4: Choose a user name.
   Step 5: Enter s password
   Step 6: Enter your Phone number,
   Step 7: Enter DOB.
   Step 8: Choose a Gender.
   Step 9: Click on I agree.

Chapter 6. BASICS OF ROBOTICS

Page No. 70

I. Answer the following:

1. A robot is a machine, probably resembling either a human or an animal, which is capable of carrying out certain tasks that humans usually do or even certain tasks that humans find it difficult to do.
2. A robot is typically made either of plastic or of metal. There are mainly three parts in a robot.
   - Controller
   - Mechanical parts
   - Sensors
3. Nanorobotic or nanobots are robots scaled down to microscopic size in order to put them into very small spaces to perform a function.

II. Answer in detail

1. A sensor is used to sense / preceive the external as well as internal environment Types of Sensors.
   - External Sensors
   - Internal Sensors
   - **External Sensors:** These help sense elements like light touch, sound and proximity.
   - **Internal sensors:** These sensors are required to measure the internal state of the robot.

     Ex: The automatic driving program in cars by Tesla.
2. - Education
   - Exploring outer space
   - Hospitals

   Education: Many robots such as cyber - pets are used in colleges. Humanoid robots take Learning to the next step.

   Exploring Outer Space: Robots can also be used in places that have unfavorable conditions for humans, live studying outer space for example. AI based support systems.

   Hospitals: Scientists are already on the task to make robots that are similar to tasks like delivery drugs to precise locations in the human body, conducting routine monitoring of patients and other similar tasks.
3. Refer the book page no. 67-69

Chapter 7. INTRODUCTION TO MULTIMEDIA

Page No. 76-77

I. Choose the correct answer:

1. Two
2. Text
3. video
4. Analog wave
5. both a and b.

II Answer the following.

1. Multimedia is a computer based presentation technique that incorporates text, graphics, sound, animations and. video elements

2. Animation refers to the simulation of movement created by displaying a series of pictures, one after the other.
3. Media means the way through which one can convey information.
4. Name Some popular animated films.
   - Finding Nemo
   - Polar Express
   - Ice Age
   - Sindbad
5. CBT - Computer Based Tutorials.
   WBT - Web Based Tutorials

III. Answer the following in detail:

1. Multimedia applications are also widely used in the fields of engineering medicine and Scientific research. For example, in engineering, multimedia tools are used for designing and testing new components and products. In medicine, doctors can be trained by viewing a Virtual surgery or by simulating a Surgical procedure, without endangering the life of a human being. A scientist can look at the molecular model of compound and manipulate it.
2. Components of Multimedia:
   - Text
   - Images
   - Sound
   - Animation
   - video

   Text: Text is the primary component of multimedia. Most of the information is conveyed through the text.

   Images: Images play a key role in multimedia. It is easier to e-learn and retain information from images.

   Sound: Sound is a very important aspect of multimedia. The sound that you hear are analog wave patterns.

   Animation: Animation are primarily used to illustrate or demonstrate an idea or a concept.

   Video: Video refers to live images in motion, recorded with the help of a camera.

Class : 6 KEY ANSWERS

Chapter 1. COMPUTER FUNDAMENTALS

Page No. 13

I. Choose the correct answer:

1. a) Computers
2. c) Input
3. d) brain
4. b) three
5. a) Byte

II. Match the following:

1.	Input device	To feed data or instructions into the computer
2.	Output device	Monitors and printers
3.	RAM	Read/Write memory
4.	Secondary storage	Floppy
5.	CPU	Brain of the computer

III. Answer the following questions in one or two words:

1. • Touch Screen.
   • Barcode reader
   • Digital camera
   • Scanner
2. • Monitor
   • Printer
   • Speaker
3. • Memory Unit
   • Control Unit
   • Arithmetic and logic unit
4. • Internal memory or primary memory
   • External memory or secondary memory
5. ROM - stands for Read Only Memory.

IV. Answer the following questions briefly:

1. A hard disk is a computer's permanent storage device.
2. RAM is also called Read/Write memory. Since we can write information into this memory and also read from it. The moment you switch off the computer, the information in RAM will be erased.
3. Information stored in ROM is permanent. They are not erased even when the power goes off. Hence, it is called nonvolatile memory.
4. The devices used to store information permanently are called secondary storage devices.
5. The Information and instructions typed through the keyboard and the output of programs are displayed on the monitor. A monitor is also called a Visual Display unit or VDU in short.

Chapter 2. UNDERSTANDING WINDOWS

Page No. 25-26

I. Choose the correct answer:

1. b) Hardware
2. a) Software
3. c) operating system
4. b) GUI
5. a) desktop

II. Answer the following questions in one or two words:

1. • Application Software
   • System Software
2. • MS DOS
   • Windows
   • UNIX
   • LINUX
   • MAC OS
3. GUI Stands for Graphical User Interface
4. • Floppy disk drive
   • Keyboard
   • Printer
   • Monitor
   • Mouse
5. i) Click Start, select search option

   ii) Type explorer in the search box.

   iii) Windows Explorer window will appears.

III. Match the following:

1.	Operating system	Allows to interact with the computer hardware
2.	Booting	Process of loading the operating system
3.	File	Collection of information
4.	Desktop	Place holder for the icons and taskbar
5.	Icons	Small pictures seen on the desktop

IV. Answer the following questions briefly:

1. The Input, Output and Secondary storage devices are called Peripheral devices.
2. • Transfers commands given through the keyboard and mouse.
   • Sends data to the screen or printer.
3. Windows is a popular Operating system which works on the concept called GUI.
4. Once a file is created, a unique file name is given to it and stored. This distinct name helps in identifying the file easily, in the feature.
5. A folder is used to store a collection of files. A folder is necessary to classify files according to their content.

Chapter 3. MS- EXCEL – CHARTS

Page No. 32-33

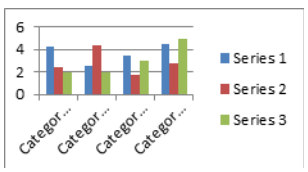
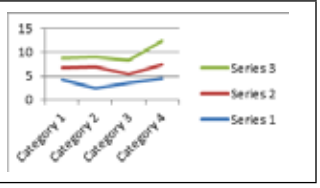
I. Fill in the blanks:

1. Chart
2. 5
3. Pie
4. Line
5. Bar/column

II. Answer the following:

1. A chart is a visual representative of data in both columns and rows.
2. Charts are usually used to analyse trends and patterns in data sets.

   You can also draw charts to compare other entities based on the data that you have entered in Excel sheet.
3. • Pie chart
   • Bar chart
   • Column chart
   • Line chart
   • Combo chart
4.

Bar Chart	Line Chart
When you want to compare values across a few categories	When you want to visualize trends over a period of time.
	

5. • Allows you to visualize data graphically.
   • Easier to analyse trends and patterns.
   • Easy to interpret compared to data in cells.

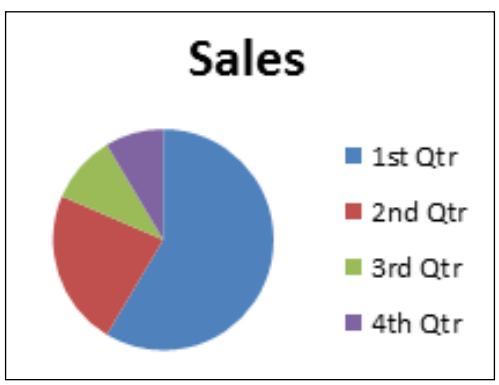
III. Answer in detail:

Step 1: Select the data.

Step 2: Click on the Insert tab from the ribbon.

Step 3: Click on the Pie chart dropdown button.

Pie chart displayed on the screen.



Chapter 4. MS-ACCESS DATA ENTRY AND QUERY

Page No. 41

I. Fill in the blanks:

1. Tables, forms, reports *and* queries
2. Query
3. Run, design
4. Datasheet
5. View

II. Answer the following:

1. A query is a request for a specific data results.
2. • Select the View Datasheet view option in the ribbon.
   • You can type data into one or more fields.
3. After creating a query, go to the Design tab and click Run option.
4. • Select queries
   • action queries
5. • View data only from the fields you are interested in viewing. When you open a table, you see all the fields.
   • View records that meet criteria that you specify.

Chapter 5. INTRODUCTION TO PROGRAMMING

Page No. 46

I. Fill in the blanks:

1. Computer program
2. Machine language
3. Binary language
4. Machine language
5. python

II. Answer the following:

1. Programming is the act of instructing computers to carryout tasks.
2. Programming language are high level languages that are written in human readable format.
3. Machines have their natural language like humans do. Computers do not understand the human language. The natural language of computers is the binary code 0 and 1. These represent two states on and off. This is called the machine language or the binary language.
4. • Interpreters
   • Compilers
   • a hybrid of interpreters and compilers
   • assemblers
5. Translators convert the source code to machine language.

III. Answer in detail:

1. Translator – Convert the source code to machine language.

   Types of Translators:
   • Interpreters
   • Compilers
   • a hybrid of interpreters and compilers
   • assemblers

   Interpreters: The translator processes the source code line by line, and runs every line in the final program.

   Compilers: One of the translator, it converts the source code entirely to binary via a compilation process.

   Hybrid translator: A hybrid translator is a combination of both interpreter and compiler.

   Assembler: Convert assembly language into binary language.
2. Programming is the act of instructing computers to carryout tasks. It is often referred to as coding.

   Computer Program: A computer program is a sequence of instruction that the computer executes, to achieve a particular output or to complete a task.

   Examples: Top five programming languages currently are, Java, Python, Javascript, C/CPP, PHP.

Chapter 6. ALGORITHM AND FLOW CHART

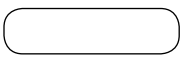
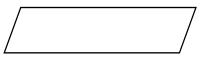
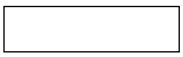
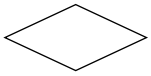
Page No. 51

I. Fill in the blanks:

1. Algorithm and Flowchart
2. Flowchart
3. Problem
4. Algorithm
5. Terminal box

II. Answer the following:

1. A flowchart is the graphical or pictorial representation of a given problem.
2. Algorithm is a step-by step procedure to solve a given problem.
3.

1.	Terminal box	
2.	Input / Output	
3.	Process	
4.	Decision	
5.	Connector	

4.

Algorithm	Flowchart
It is a procedure for solving problems.	It is graphic representation of a process.
It is easier to solve complex problem.	It is hard to solve complex problems.

5. Find the smallest of two numbers.
   Step 1: Start the program.
   Step 2: Read a and b
   Step 3: Check if a is less than b, then print a is smallest number.
   Step 4: If false Print b is smallest number.
   Step 5: stop the program.

III. Answer in detail:

1. Refer the book Page No.49
2. Refer the book page No. 49 & 50.

Chapter 7. INTRODUCTION TO 'C' PROGRAMMING

Page No. 61

I. Fill in the blanks:

1. C programming
2. 1972, Dennis M. Ritchie
3. UNIX
4. ANSI [American National Standard Institute]
5. Linker

II. State True or False:

1. TRUE
2. TRUE
3. FALSE
4. FALSE
5. TRUE

III. Answer the following:

1. C programming is a general purpose, procedural and important computer programming language.
2. Refer Book Pg.No 52
3. Refer Book Pg.No. 52, 53
4. Token is the smallest individual element in C.

IV. Answer in Detail:

1. Refer Book Pg.No. 59
3. Refer Book Pg.No. 53

Chapter 8. INTRODUCTION TO ROBOTICS

Page No. 69

I. Fill in the blanksL

1. Asimov
2. Adept's SCARA robots, Cognex in-sight robot, Barrett technology manipulator
3. Law 3
4. Four
5. Two

II. Match the following:

2, 3, 1, 0

III. Answer the following:

1. Robot is a reprogrammable, multifunctional manipulator, designed to move material, parts, tools or specialized devices through variable programmed motions for the performance of a variety of tasks.
2. Refer Book Pg.No 66
3. Adept's SCARA robots, Cognex in-sight robot, Barrett technology manipulator
4. Refer Book Pg.No.68
5. Refer Book Pg.No.65

IV. Answer in detail:

1. Refer Book Pg.No 66
2. Refer Book Pg.No. 68

Chapter 9. INTRODUCTION TO CIRCUITRY USING MICROCONTROLLERS

Page No. 76

I. Fill in the blanks

1. Circuitry
2. micro controller
3. BBC

II. State True or False:

1. TRUE
2. FALSE
3. TRUE
4. FALSE
5. TRUE

III. Answer the following:

1. Circuitry is a system of electric circuits through which signals can travel from one component to another.
2. A microcontroller is a board that consists of many components that are connected to each other.
3. micro:bit is a pocket-sized computer that introduces you to how software and hardware work together.
4. Buttons, LED display & light sensor, Pins – GPIO, Pin-3 volt power, Pin-Ground, Touch logo, Microphone LED – new, Programming the micro:bit

IV. Answer in detail:

1. Refer Book Pg.No 72, 73
2. from microbit import *
   # Define smiley face pattern
   smiley_face = Image("00000:"
   "09090:"
   "00000:"
   "90009:"
   "09990")
   # Display smiley face
   display.show(smiley_face)
   sleep(2000) # Wait for 2 seconds

   # Display message "Coding is fun!"
   display.scroll("Coding is fun!")

Smiley Fun with Coding
Write down the code to display the message "Coding is fun!" using a micro:bit, following a smiley face.

```
from microbit import *
# Define smiley face pattern
smiley_face = Image("00000:"
              "09090:"
              "00000:"
              "90009:"
              "09990")
# Display smiley face
display.show(smiley_face)
sleep(2000)  # Wait for 2 seconds
# Display message "Coding is fun!"
display.scroll("Coding is fun!")
```

This code first defines a smiley face pattern using a 5x5 grid of pixels.
The Image() function is used to create a custom image using 0s and 9s. Each 0 represents an off pixel, and each 9 represents an on pixel.
The smiley face pattern is then displayed on the LED screen using the display.show() function.
After displaying the smiley face for 2 seconds (sleep(2000)), the code uses the display.scroll() function to scroll the message "Coding is fun!" across the LED screen.

Class : 7 KEY ANSWERS

Chapter 1. WORKING PRINCIPLES OF A COMPUTER

Page No. 8-9

I. Choose the correct answer:

1. A) System Unit
2. C) Both a and b
3. C) Main Memory
4. B) 3
5. B) Trouble Shooting

II. Fill in the blanks:

1. PS/2
2. Mother Board

3. Expansion Card
4. Serial, Parallel
5. ROM

III. Expand the following:

1. BIOS – Basic Input Output System
2. USB – Universal Serial Bus
3. UPS – Uninterruptible Power Supply
4. VGA – Video Graphic Adaptor
5. PS/2 – Personal System / 2

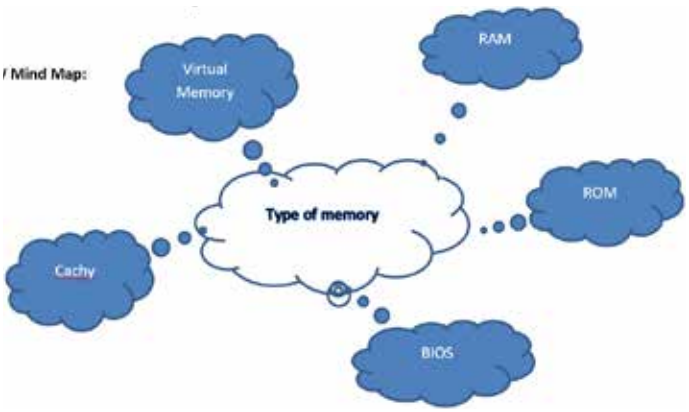
IV. Answer the following:

1. The mother board is the main board that all the other internal components connect to.
2. System unit, also known as the base unit, is the main body of a desktop computer.
3. The Basic Input Output System tests all the critical components to ensure that they function properly.
4. The storing of frequently used data in an extremely fast RAM, that connects directly to the CPU, is called Caching.
5. A port is a connector where you plug in an external device such as a key board, monitor, printer, mouse and micro phone.
6. Uninterruptible power supply is a device that supplies power to connected equipment from a separate source in the absence of utility power.
7. Virtual memory is the space on a hard disk used to temporarily store data and can be swapped, in and out of the RAM as needed.
8. An expansion card is a circuit board that lets you add new features to a computer.

V. Answer in Detail:

1. The CPU is the brain of the computer. It controls the overall activities of a computer.
   - The CPU consists of the control unit, ALU (Arithmetic and Logic Unit), a memory unit and various temporary buffers.
   - The ALU is the part of the CPU where are computation takes place.
   - The control unit controls all the hard ware operations.
   - The MU stores the program and data that are currently being used.
2. Refer the book: Page No.7

VI. Mind Map:



Chapter 2. Logical Functions in MS-Excel

Page No. 20-21

I. Answer the questions:

A. = AND(A2>A3, A2<A4) – False
B. = OR(A2>A3, A2<A4) – False
C. =AND(A2<A4, A2+A3=24) – False

II. A. =IF(A2<100, "Within budget", "Over budget")
B. =IF(A2=100, SUM(B5:B15), " ")

III. Olive oil can be purchased according to this price schedule:

	A	B
1	Cost / gallon for the first 500 gallons	$23
2	Cost / gallon for gallons above 500	$20
3	Number of gallons	
4	10	230
5	483	11109
6	500	11500
7	1,600	33,500

IV. Write IF statements to calculate the cost of the quantities of olive oil listed in cells A5, A6 and A7 above:

A. =IF(A5<=500, B1*A5, 500*B1+(A5-500)*B2)
B. =IF(A6<=500, B1*A6, 500*B1+(A6-500)*B2)
C. =IF(A7>500, B1*A7, 500*B1+(A7-500)*B2)

Chapter 3. Forms In MS-Access

Page No. 31

I. Fill in the blanks:

1. Auto order
2. Arrange tab
3. Themes group design
4. Property sheet
5. Unbound

II. Answer the following:

1. User Friendly Interface, Customizable Templates, Powerful Query Designer Integrated Reporting Tools, Customizable Forms, Macros for Automation.
2. A form is a database object that we can use to enter, edit or display data from a table or a query.
3. To create a form with a single mouse click with the Form Wizard or in Design View.

III. Answer in detail:

1. Creating a form in MS-Access.
    1. Select your database table by clicking on it in Access
    2. Click the "Create" tab at the top, find the Forms Section and Select Form.
    3. Microsoft Access will create a new form with all the columns of your table as fields.
    4. You can now edit and also add new data to your table with this form.
    5. Click the "Safe" icon at the top left corner to save your newly created form.
    6. Enter a descriptive name for your form and click ok to save it.

Chapter 4. Data Types in C

Page No. 36-37

I. Answer the following:

1. The data type in a programming language, is the collection of data with values having fixed meaning as well as characteristics. Example: integer, float, character.
2. Write down the different data types in C.
   Data types in C
    1. Primary (Build-in) data types
    2. Derived data types
    3. User defined data types
3. Derived data types
   Arrays, References, Pointers
4. Primary data type with variable names
   int age;
   char letter;
   floag height, width;

II. Answer in detail:

1. i) Primary data types.
   C compiler supports five primary data types
    1. void - It holds no value and is generally used for specifying the type of function or what is returns.
    2. int - Used to denote an integer type
    3. char - Used to denote a character type
    4. float, double - Used to denote a floating point type
    5. int *, float *, char* - used to denote a pointer type

   ii) Derived data types
   C supports three derived data types
    1. Arrays – Arrays are sequences of data items having homogeneous values
    2. References – Function pointers allow referencing functions with a particular signature
    3. Pointers – Pointers are used to access the memory and deal with their addresses

   iii) User defined data types
   There are three such types
    1. Structure – It is a package of variables of different types under a single name

2. Union – These allow storing various data types in the same memory location
3. Enum – Enum consists of integral constants, and each of them is assigned with a specific name.

2.
```
# include <stdio.h>
int main()
{
        int a = 1000; || positive integer data type
        float b = 3.1743; || float data type
        char c = 'S'; || char data type
        long d = 43657; || long positive integer
        long e = -216556; || long negative data type
        int f = -195; || negative integer data type
        short g = 160; || short positive integer
        double h = 4.1234567890 || double float data type
}
```

Chapter 5. ROBOTICS WITH LEGO MINDSTORMS EV3

Page No. 48

I Fill in the blanks:

1. Lego Mindstorm
2. EV3 software
3. Ultrasonic sensor
4. Color

II True of False:

1. True
2. True
3. False
4. True

III. Answer the following:

1. Lego Mindstroms EV3 Core Kit is a robotic kit that lets you build and program starter robot models. It has a programmable power brick, plus servo motors and color, touch and infra-red sensors that help the robot move and communicate.
2. Distinguishes between seven different colors and can also detect the absence of color. It also serves as a light sensor by detecting light intensities.
3. Color sensor, touch sensor, ultra sonic sensor, gyro sensor, accelerometer temperature sensor, light sensor.
4. Measures the robot's rotational motion and changes in its orientation. We can measure angles, create balancing robots and other things.

IV. Answer in detail:

1. 1. Lego mind storms EV3 kit
   2. EV3 software
   3. Technic parts
      - Build a robot using Lego Technic pieces and the EV3 brick computer.
      - Download a program to make the robot drive
      - Experiment making your own programs using the EV3 software
      - EV3 uses drag and drop programming, we can drag and drop the code blocks to program your robot.
2. Main Components of Lego Mind Storm
   1. EV3 Brick
      Serves as the Control Center and Power Station for your robot, just like the CPU of a computer.
   2. Color Sensor
      Distinguishes between seven different colors and can also detect the absence of color.
   3. Ultrasonic Sensor
      Generates sound waves and reads their echoes to detect and measure distance from objects.
   4. Gyro Sensor
      Measures the robot's rational motion and changes in its orientation.
   5. Medium Motor
      Can be programmed to turn on or off, control its power level.
   6. Large Motor
      Is optimized to be the driving base on your robots. Move steering or move tank programming block in the EV3 software, the large motors will coordinate the action simultaneously.

Chapter 6. SENSORS IN EV3

Page No. 58

I. Fill in the blanks:

1. Analog
2. Red
3. Pressed Released Bumped
4. Loop code

II. State True or False:

1. True
2. False
3. True
4. True

III. Answer the following:

1. The touch sensor is an analog sensor that can detect when the sensor's red button has been pressed and when it is released. The sensor can be programmed to trigger any action using three conditions. Pressed, released or bumped.
2. The ultrasonic sensor is a digital sensor that can measure the distance to an object in front of it. It does this by sending out high-frequency sound waves and measuring how long it takes the sound to reflect back to the sensor.
3. 1. Open the EV3 software and create a new project.
   2. Drag and drop the following blocks from the block palette to the programming canvas

   Stat block: This block is used to start the program

   Move Tank block: Set the tank block to move the robot forward for a specific number of steps

   Wait block: This block is used to pause the program execution for a specified duration

   Gyro Sensor block: Set the Gyro sensor block to measure the rotation angle of the robot.

   Move Steering block: Set the move steering block to turn the robot to a specific angle.

   3. connect the blocks as follows :
      - Connect the start block to the Move Tank block
      - Connect the move tank block to the wait block
      - Connect the wait block to the Gyro Sensor block
      - Connect the Gyro Sensor block to the move steering block.
   4. Configure the blocks as follows

   Move Tank block :
   - Select the motors you want to use for movement (e.g left motor and right motor)
   - Set the power level (e.g 50% power)
   - Specify the number of steps you want the robot to move forward.
   - Wait block: Set the duration for which you want the program to pause (e.g 1 second)

   Gyro sensor block
   - Select the gyro sensor connected to the EV3 robot.
   - Set the mode to "Angle" to measure the rotation angle of the robot.

   Move steering block
   - Select the motors you want to use for turning (e.g left motor and right motor)
   - Set the power level (e.g 50% power)
   - Specify the angle you want the robot to turn 9e.g 90 degrees)

IV. Answer in detail:

1. 1. Gyro Sensor

   Gyro sensor detects rotational motion of your robot. The sensor measures the rate of rotation in degrees per second.

   2. Touch Sensor

   The Touch sensor is an analog sensor that can detect when the sensor's red button has been pressed and when it is released. The sensor can be programmed to trigger any action using three conditions. Pressed, released or bumped.

   3. Ultrasonic Sensor

   The Ultrasonic sensor is a digital sensor that can measure the distance to an object in front of it. The Ultrasonic sensor can help your robots avoid furniture, track a

moving target detect an intruder in your room or "Ping" with increasing volume or frequency as an object gets closer to the sensor.

2. 1. Open the EV3 software and create new project
   2. Drag and drop the following blocks from the block palette to the programming canvas
      Start block: This block is used to start the program
      Loop block: This block is used to continuously check the touch sensor.
      Touch Sensor block: Set the touch sensor block to detect when the touch sensor is pressed.
      Move steering block: Set the move steering block to turn the root.
      Wait block: This block is used to pause the program execution for a specified duration.
   3. Connect the block as follows
      - Connect the start block to the Loop block
      - Connect the Loop block to the Touch sensor block
      - Connect the Touch sensor block to the move steering block
      - Connect the move steering block to the wait block
      - Connect the wait block to the loop block
   4. Configure the blocks as follows
      Touch sensor block: Select the touch sensor connected to the EV3 robot.
      Move steering block: Select the motors you want to use for turning (e.g left motor and right motor)
      Set the power level (e.g 50% power)
      Specify the angle you want the robot to turn(e.g 180 degrees)
      Wait block
      Set the duration for which you want the program to pause (e.g 1 second)

Chapter 7. SENSORS IN MICRO BIT

Page No. 67-69

I. Fill in the blanks:

1. Touch capacity
2. Light
3. USA 1950
4. Temperature
5. Movement

II. State True or False:

1. True
2. True
3. False
4. True
5. True

III. Answer the following:

1. A sensor is a device that detects and responds to some type of input from the physical environment.
2. A temperature sensor is an input device that measures temperature. The BBC micro: bit has a temperature sensor inside the processor which can give you an approximation of the air temperature.
3. The touch logo used capacitive touch, sensing tiny changes in electrical fields to know when your finger is pressing it. Just like your phone or tablet screen.
4. An accelerometer is a motion sensor that measures movement. The accelerometer in the BBC micro: bit detects when you tilt it from left to right, backwards and forwards and up and down. You can program the micro: bit to use the accelerometer to create interesting applications.

IV. Answer in detail:

1. a. Accelerometer
   An accelerometer is a motion sensor that measures movement.
   b. Temperature sensor
   A temperature sensor is an input device that measures temperature. The BBC micro: bit has a temperature sensor inside the processor which can give you an approximation of the air temperature.
   c. Light sensor
   A light sensor is an input device that measures light levels.
   d. Touch sensor
   The touch logo uses capacitive touch, sensing tiny changes in electrical fields to know when your finger is pressing it. Just like your phone or tablet screen.

Chapter 8. MORE ON THE INTERNET

Page No. 76-77

I. Choose the correct answer:

1. a) electronic mail
2. c) irctc.co.in
3. b) ATM
4. b) 2GB
5. c) Netiquette

II. Answer the following:

1. Internet is a network of networks having number of computers connected to each other to share information, programs, data and other media elements among themselves.
2. Video conferencing is a process in which two or more people have a real-time conversation face to face but being in different locations. It is one of the most popular type of communication in this modern era of computers and smart phones.
3. E_learning enables online educational programs that help in obtaining degrees and certifications. An e_learning course could be as simple as making a lemon juice to building a rocket.
4. Some of the most popular social networking sites:
   Facebook.com, twitter.com, instagram.com, youtube.com, linkedin.com
5. Team viewer is a proprietary computer software program for remote control, desktop sharing, online meetings, web conferencing and file transfer between computers.

III. Answer in detail:

1. - We can add photos and albums of our choice
   - We can search for our friends and relatives
   - Songs and videos can be uploaded and shared
   - These websites help us chat with people of our choice
2. 1. **Communication:**
   One should be courteous and respectful to others while sending e_mail or chatting on the internet. Do not use offensive language or word.
   2. **Be tolerant and careful:**
   One should be tolerant and careful while listening to others and should not jump to any conclusions as different people from all over the world may have different views.
   3. **Keep personal information private:**
   One should keep personal information private and should not share it over the internet, as it can have serious consequences.
   4. **Cyber Bullying:**
   Intention to hurt or embarrass another person by sending or posting wrong text or images through the internet, cell phones or other devices is defined as cyber bullying.
   5. **Language issues:**
   One should not use offensive language /comments and hurt other people's feelings.
   6. **Copyright laws:**
   Copyright laws should always be obeyed while copying text or saving any picture.

Chapter 9. COMPUTER VIRUS

Page No. 84

I. Choose the correct answer:

1. d) Vital information resource under siege
2. b) macro
3. c) wings.zmist
4. c) program
5. d) both a and c

II. Answer the following questions:

1. A virus is a self-replicating program that can cause damage to data and files stored on your computer. Virus stands for Vital Information Resource Under Siege.
2. From pen drives or other portable storage devices, From a computer network, From the internet, From E-mail
3. Anti virus is a computer software that helps detect malicious software such as viruses and worms. They are installed in a computer to detect and eliminate know viruses.
4.
   - Cleans infected files and system
   - Detects infected programs
   - Blocks the user from accessing an infected file
5. Anti-virus software
   - Avast
   - MCAfee
   - Norton
   - Sophs
   - AVG
   - Kaspersky
   - Panda
   - VFT
   - F-secure

III. Answer in detail:

1.
   - Scan your system regularly
   - Keep a backup
   - Scan downloaded files
   - Scan removable disks such as CD's, Pen drives, etc.
   - Turn e-mail preview option off and scan all e-mail attachments
   - Update the anti-virus on a regular basis
   - Do not download pirated software, movies, songs, games
   - Do not visit unauthorized web sites
   - Use an original operating system
2.
   - Computer programs take longer to boot than normal
   - The hard drive runs when not used
   - New files or folders keep appearing on the system
   - Beeping noises come from the computer
   - Strange graphics are displayed on the computer monitor
   - Program size keeps changing
   - Programs act erratically
3.
   - Log on to microsoft security essentials
   - Page and download the software. Click on the download new button
   - After the downloading is completed double click the MSE Install icon to begin the installation process
   - The installation is generally self explanatory just follow the instructions that appear on screen. Click on the check box to turn on the windows firewall when asked to.
   - When it is done, it will ask you to run a scan. Click on Yes and it will download the latest virus definitions and run its first scan.
4.
   - Microsoft security essentials will now run in the background constantly monitoring your computer for any viruses
   - The green icon means that the security status of your computer is good
   - Whenever your computer has an issue the appearance of the Microsoft security essentials home page changes
   - The status pane will turn either yellow or red depending upon the type of issue, the antivirus software has detected.
   - A yellow icon means that your computer is unprotected and that some action should be taken
   - A red icon means that your computer is at risk and that immediate action is required to protect it

Chapter 1. NUMBER SYSTEM

Page No. 9

I. Choose the correct answer

1. b) 8
2. a) Digital
3. c) 16
4. a) Most Significant Bit
5. b) Octal

II. Answer the following questions:

1. A bit is a small piece of data that is derived from the words "Binary digit.
2. A number system denotes a group of characters which denote various numerical quantities.
3. Binary, Octal, Decimal, Hexadecimal
4. Sound waves, Telephone signals, Temperatures
5. MSB - The left most bit in the binary number is called Most Significant Bit.
   LSB - The right most bit in the binary number is called Least Significant Bit

III. Solve the following:

1.
$$\begin{array}{cccccccc} & & 1 & & & 1 & 1 & \\ & 1 & 0 & 1 & 1 & 0 & 0 & 1 \\ & & 1 & 1 & 0 & 0 & 1 & 1 \\ \hline (+) & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 0 \end{array}$$

$(1011001)_2 + (110011)_2 = (1\ 0\ 0\ 0\ 1\ 1\ 0\ 0)_2$

2.
$$\begin{array}{cccc} & 0 & 10 & \\ 1 & \cancel{1} & \cancel{0} & 1 \\ 1 & 0 & 1 & 0 \\ \hline (+)\ 0 & 0 & 1 & 1 \end{array}$$

$(1101)_2 - (1010)_2 = (0011)_2$

3. (i) $(F4)_{16} = (1\ 1\ 1\ 1\ \ 0\ 1\ 0\ 0)_2$

   (ii) $(CAB)_{16} = (1\ 1\ 0\ 0\ \ 1\ 0\ 1\ 0\ \ 1\ 0\ 1\ 1)_2$

4. (i) $(32)_{10}$

2	32	
2	16	0
2	8	0
2	4	0
2	2	0
	1	0

$(32)_{10} = (100000)_2$

(ii) $(65)_{10}$

2	65	
2	32	1
2	16	0
2	8	0
2	4	0
2	2	0
	1	0

$(65)_{10} = (1000001)_2$

5. (i) $(\underbrace{0\ 0\ 0\ 1}_{1}\ \ \underbrace{1\ 0\ 1\ 0}_{A})_2 = (1\ A)_{16}$

   (ii) $(0111)_2 = (7)_{16}$

IV. Answer the following:

1. • Binary number system
   • Octal number system
   • Decimal number system
   • Hexa decimal number system

Binary number system: In the binary number system, only the digits, 0s and 1s, are used. Ex.: $(11011)_2$

Octal number system: The octal number system, which has the base 8, contains eight symbols(0-7). Ex.: $(426)_8$

Decimal number system: The system that uses the decimal numbers or digits 0 to 9 is called the decimal number system. This system is said to have a base, or radix, of ten. Ex.: $(597)_{10}$

Hexa decimal number system: The sixteen symbols that are used in the hexadecimal system are 0, 1, 2, .. 9, A, B, C, D, E and F. Ex.: $(2A7)_{16}$

2. Convert the following :

1. (i)

2	516	
2	258	0
2	129	0
2	64	1
2	32	0
2	16	0
2	8	0
2	4	0
2	2	0
	1	0

$(516)_{10} = (1004)_{8}$

(ii)

8	516	
8	64	4
8	8	0
	1	0

$(516)_{10} = (204)_{16}$

(iii)

16	516	
16	32	4
16	2	0

$(516)_{10} = (1000000100)_{2}$

Chapter – 2: FUNCTIONS IN "C"

Page No. 22

I. Match the following:

stdio.h	-	This is a standard input/output header file. It contains all the library functions Regarding standard input/output.
conio.h	-	This is a console input/output header file
stdlib.h	-	This header file contains all the general library functions like malloc(), calloc(); exit(), etc...
string.h	-	It contains all string related library functions like get(), puts(), etc...
math.h	-	This header file contains all the math operations related functions like sqrt(), pow(), etc.....

II. Answer the following:

1. A function is a set of code that take inputs, do some specific computation and produces output.
2. • Functions help us in reducing code redundancy, which means repeating a set of code repeatedly.
   • Functions make code modular
   • Functions provide abstraction
3. By using function prototype we declare a function in "C"

Function Prototype

Header • return data type function name (parameter)

Body • statements return 0;

III. Answer in detail:

1. 1. Refer Q1, Advantages of Functions in C, Q3
   2. Refer the book page no.20 and 21

IV. Lab time:

2.

```
#include <stdio.h>

int main() {
        int number;

        printf("Enter a number: ");
        scanf("%d", &number);

        if (number % 2 == 0) {
        printf("%d is an even number.\n", number);
        } else {
        printf("%d is an odd number.\n", number);
        }

        return 0;
}
```

Chapter – 3: VARIABLES AND CONSTANTS IN "C"

Page – 29.

I. Choose the right answer:

1. b) int count;
2. a) True
3. a) Const
4. b) Static

II. Answer the following:

1. In "C", a variable has a name and contains a value.
2. Constants are values that are fixed throughout the program.
3. 1. Local
   2. Global
   3. Static
   4. External
   5. Automatic
4. External variable can be shared across multiple "C" program files, this variable is declared using the extern keyword.

III. Answer in detail:

1. Refer Book Page No. 25, 26

2.
```
# include <stdio.h>
{
    float a, b, avg;
    printf (" Enter first number ");
    scanf ("%f", &a);
    printf(" Enter second number ");
    scanf ("%f", &b);
    avg=(a+b)/2;
    printf(" Average of two numbers = %f", avg);
    return 0;
}
```

3.
```
# include <stdio.h>
int main()
{
    int a, b, c;
    printf(" Enter first number");
    scanf ("%d", &a);
    printf ("Enter second number");
    scanf ("%d", &b);
    c = a-b;
    printf("Difference of two numbers is = %d", c);
    return 0;
}
```

IV. Project Time:

1.
```
#include <stdio.h>

int main() {
    int num1, num2;

    printf("Enter the first number: ");
    scanf("%d", &num1);

    printf("Enter the second number: ");
    scanf("%d", &num2);

    // Adding and subtracting 20 and 30 from the numbers
    int added_num1 = num1 + 20;
    int added_num2 = num2 + 20;
    int subtracted_num1 = num1 - 30;
    int subtracted_num2 = num2 - 30;

    printf("After adding 20, the first number becomes: %d\n", added_num1);
    printf("After adding 20, the second number becomes: %d\n", added_num2);
    printf("After subtracting 30, the first number becomes: %d\n", subtracted_num1);
    printf("After subtracting 30, the second number becomes: %d\n", subtracted_num2);

    return 0;
}
#include <stdio.h>

int main() {
    int num1, num2;

    printf("Enter the first number: ");
    scanf("%d", &num1);

    printf("Enter the second number: ");
    scanf("%d", &num2);
```

```
    int sum = num1 + num2;
    int difference = num1 - num2;
    int product = num1 * num2;
    int quotient = num1 / num2;
    int remainder = num1 % num2;

    printf("Sum: %d\n", sum);
    printf("Difference: %d\n", difference);
    printf("Product: %d\n", product);
    printf("Quotient: %d\n", quotient);
    printf("Remainder: %d\n", remainder);

    return 0;
}
```

Chapter – 4: CONTROL STATEMENTS AND LOOPS IN C

Page No. 40-42

I Fill in the blanks:

1. Conditional or decision-making
2. Root directory
3. default
4. break
5. loop
6. Rename

II. True / False

1. True
2. True
3. True

III. Choose:

1. c) executes continuously
2. b) for loop
3. b) do while

IV. Project Time:

1.

```
#include <stdio.h>

int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (number % 3 == 0) {
    printf("%d is a multiple of 3.\n", number);
    } else {
    printf("%d is not a multiple of 3.\n", number);
}

return 0;
}
```

2.

```
#include <stdio.h>

int main() {
int a,b,c;

printf("Enter three numbers: ");
scanf("%d %d %d", &a, &b, &c);

if (a >= b && a >= c {
    printf("%d is the greatest number.\n", a);
} else if (b >= a && b >= c) {
    printf("%d is the greatest number.\n",b);
} else {
    printf("%d is the greatest number.\n", c);
}
return 0;
```

3.

Fibonacci Series.

```
# include <stdio.h>
int main()
{
    int i, n;
    int f1=0, f2=1;
    int f3=f1+f2;
    printf (" Enter the number of terms ");
    scanf("%d", &n);

    printf(" Fibonacci Series %d %d ", f1, f2)
    for (i=3; i<=n, ++i)
    {
        printf("%d", f3);
        f1=f2;
        f2=f3;
        f3=f1+f2;
    }
    return 0;
}
```

4.

```
//for loop

#include <stdio.h>

int main() {
    int i;

    printf("Using for loop:\n");
    for (i = 0; i < 10; i++) {
        printf("Computer\n");
    }

    return 0;
}

//while loop
#include <stdio.h>

int main() {
    int i = 0;

    printf("Using while loop:\n");
    while (i < 10) {
        printf("Computer \n");
        i++;
    }

    return 0;
}


//do while loop

#include <stdio.h>

int main() {
    int i = 0;

    printf("Using do-while loop:\n");
    do {
        printf("Computer \n");
        i++;
    } while (i < 10);

    return 0;
}
```

Chapter – 5: ARRAYS IN "C"

Page No. 48-49

I. Fill in the blanks:

1. Array
2. index position

II. True or False

1. True
2. False

III. Choose the correct answer:

1. b) 0

IV. Project Time:

1.

```
#include <stdio.h>

// Function to search for a value in an array
int searchArray(int *arr, int size, int value) {
    int i;

    for (i = 0; i < size; i++) {
        if (arr[i] == value) {
            return i; // Return the index if value
is found
        }
    }

    return -1; // Return -1 if value is not found
}

int main() {
    int arr[] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};
    int size = sizeof(arr) / sizeof(arr[0]);
    int searchValue;
    int result;

    printf("Enter the value to search: ");
    scanf("%d", &searchValue);

    // Call the searchArray function to find the val-
ue in the array
    result = searchArray(arr, size, searchValue);

    if (result != -1) {
```

```
        printf("Value %d found at index %d.\n",
        searchValue, result);
    } else {
        printf("Value %d not found in the array.\n",
        searchValue);
    }

    return 0;
    }
```

2.

```
#include <stdio.h>
void bubbleSort(int arr[], int size) {
    int i, j, temp;

    for (i = 0; i < size - 1; i++) {
        for (j = 0; j < size - i - 1; j++) {
        if (arr[j] > arr[j + 1]) {
            temp = arr[j];
            arr[j] = arr[j + 1];
            arr[j + 1] = temp;
            }
        }
    }
}

int main() {
    int arr[] = {5, 2, 8, 1, 6};
    int size = sizeof(arr) / sizeof(arr[0]);
    int i;

    printf("Original array: ");
    for (i = 0; i < size; i++) {
        printf("%d ", arr[i]);
    }

    bubbleSort(arr, size);

    printf("\nSorted array in ascending order: ");
    for (i = 0; i < size; i++) {
        printf("%d ", arr[i]);
    }

    return 0;
}
```

3.

```
#include <stdio.h>
int main() {
    int numGrades, i, numStudents, total
    Strength = 0;

    printf("Enter the number of grades or classes: ");
    scanf("%d", &numGrades);

    for (i = 1; i <= numGrades; i++) {
        printf("Enter the number of students in
        grade or class %d: ", i);
        scanf("%d", &numStudents);
        totalStrength += numStudents;
    }

    printf("Total strength of the school: %d\n",
    totalStrength);

    return 0;
}
```

Chapter – 6: AN INTRODUCTION TO HTML AND FORMATTING TAGS EXISTING

Page No. 65-67

I. Choose the correct answer:

1. b) Hyper Text Markup Language
2. d) HTML
3. d) both a and b
4. a) Tim Berners Lee
5. b) <>
6. b) 6
7. a) left
8. a)
9. c)
10. c) No shade

II. Answer the following:

1. HTML stands for Hyper Text Markup Language. Hypertext is simply a piece of text that contains links to other texts. Markup language is a way of writing style and layout information within a text document.

2. • HTML Editor
   • Web Browser
   • Web Server
3. HTML editor is a software application required to create web pages. Some editors are:
   • WYSIWYG Editor
   • Text Editor
4. WYSIWYG stands for What You See Is What You Get.
5. • Internet Explorer
   • Mosaic
   • Netscape Navigator
   • Net Cruiser
   • Mac web/Win Web
   • Mozilla Firefox
   • Opera
6. A tag is an element that instructs the web browser what to display and how to display it.
7. A web server is a software that uses HTTP (Hyper Text Transfer Protocol) to serve the files that form web pages to users.
8. A tag that has both a start tag and an end tag is called a container tag.
   Ex. <HTML>.....</HTML>
   <BODY>.....</BODY>
9. Tags what have only a start tag and do not contain text or any other tag elements are called empty tags.

, <HR>.....
10. • Head Section
    • Body Section
11. Heading tags used to provide a heading to a web page.
12. <HTML>
    <HEAD>
    <TITLE> Paragraph alignment </TITLE>
    </HEAD>
    <BODY>
    <Palign = “left”> unity is strength </p>
    <Palign = “center”> unity is strength </P>
    <Palign = “right”> unity is strength </P>
    </BODY>
    </HTML>
13. Center tag displays the text or an image in the center of the web page.
14. Size attribute is used to increase or decrease the font size.
15. Superscript tag is used to display the text in the superscript format.
    Subscript tag is used to display the text in the subscript format.

III. Answer in detail:

1. An HTML document has two sections,
   • Head Section
   • Body Section

   Head Section: The head section contains information about the document.
   Body Section: The body section defines the document’s body. This section may contain several other tags.

   Head Section:
   <HTML>
   <HEAD>
   <TITLE>.....</TITLE>
   </HEAD>

   Body Section:
   <BODY>
   </BODY>
   </HTML>

   <TITLE> - This is used to provide the title to as HTML document
   </TITLE> - This tag is used to end a title.
   <HEAD> - This tag is used to provide a heading to a web page
   </HEAD> - This tag is used to end the heading
   <BODY> - This tag hold the body of the page
   </BODY> This tag is used to end the body
2. To create, save, and view an HTML document, you can follow these steps:
   1. **Create an HTML file:** Open a text editor (e.g., Notepad) and create a new file. Save it with a .html extension, such as example.html.
   2. **Write HTML code:** Inside the HTML file, write your desired HTML code. For example, you can create a simple HTML structure with a heading and a paragraph:
   3. **Save the HTML file:** Save the file after writing the HTML code.

4. **View the HTML document:** Open the saved HTML file in a web browser (e.g., Google Chrome, Mozilla Firefox). You can either double-click the file or right-click and choose "Open with" to select a browser.

3. an HTML code to display your address.

```
<HTML>
<HEAD>
<TITLE> my address </TITLE>
</HEAD>
<BODY>
XXXX
Siddhu Matric. Hr. Sec. School
5, Vijayalakshmi Theatre Road,
Viswanathapuram,
Madurai-14
</BODY>
</HTML>
```

4. To reduce the size of the text from the normal size, we use <Small> tag. To display a text bigger than the normal size, we use <Big> tag.

5. 1. **<b> and :** These tags are used to make text bold. They are typically used to emphasize important or strong content.
   2. **<i> and :** These tags are used to italicize text. They are commonly used to indicate emphasis or to differentiate a particular section of text.
   3. **<u>:** This tag is used to underline text. It is often used to highlight or indicate links or important information.
   4. **<s> and <strike>:** These tags are used to strikethrough text. They are often used to indicate deleted or outdated content.
   5. **<sub>:** This tag is used to render subscript text. It is commonly used for mathematical or chemical formulas where smaller text is placed below the baseline.
   6. **<sup>:** This tag is used to render superscript text. It is commonly used for mathematical equations or to indicate footnotes.

Chapter – 7: HTML – Level II

Page No. 75

I. Choose the correct answer:

1. d) all of these
2. b) double quotes
3. c) 3
4. c) BG Sound
5. a) 3

II. Answer the following:

1. We can change the font of the text in HTML using the face attribute of <Font> tag.

2. List out different lists in HTML.
   - Ordered List
   - Unordered List
   - Definition List

3. Moving or scrolling text can be placed in a web page by using <marquee> tag.

4. To change the background color of a web page, by color attribute is used in the body tag.

5. The <BGSOUND> tag is used to add sound for HTML.

III. Answer in detail:

1. Refer book page no.71
2. Refer book page no.73
3. Refer book page no.73
4. Refer book page no.74

Chapter 8. MORE ON EV3

Page No. 80

I. Fill in the blanks:

1. Color
2. 7
3. loop
4. Orange

II. Answer the following:

1. The color sensor is used to make the EV3 follow a line, find a color, move until reaching a line and other such operations.
2. To repeat a set of blocks is called a loop.
3. black, brown, blue, green, yellow, red, white

III. Answer in detail:

1. Refer the Book Page No. 76
2. Refer the Book Page No. 79 & 80

IV. Project time:

```
# Line Follower Program with Touch Sensor Stop

# Import the necessary modules
from ev3dev2.motor import OUTPUT_A, OUTPUT_B, MoveTank
from ev3dev2.sensor import INPUT_1, INPUT_2, INPUT_3
from ev3dev2.sensor.lego import ColorSensor, TouchSensor

# Initialize the sensors and motors
tank = MoveTank(OUTPUT_A, OUTPUT_B)
color_sensor = ColorSensor(INPUT_1)
touch_sensor = TouchSensor(INPUT_3)

# Set the desired speed and adjust the following values as needed
speed = 20
threshold = 30

# Main program loop
while not touch_sensor.is_pressed:
    # Read the reflected light intensity from the color sensor
    intensity = color_sensor.reflected_light_intensity

    # Adjust the motor speeds based on the intensity of the reflected light
    if intensity < threshold: # Line is to the right, turn left
        tank.on(left_speed=speed, right_speed=0)
    else:  # Line is to the left, turn right
        tank.on(left_speed=0, right_speed=speed)

# Stop the robot when the touch sensor is pressed
tank.off()
```

Chapters 9. IoT ON MICRO:BIT

Page No. 84

I. Fill in the blanks

1. 25
2. BBC
3. magnetometer
4. loop
5. 255

II. Answer the following

1. sensor is a hardware component that detects and measures physical quantities or environmental conditions.
2. Accelerometer
   Magnetometer
   Temperature Sensor
   Light Sensor
3. Refer the book pg no 81
4. Refer the book pg no 81
5. Measures the sound levels in numbers between 0 and 255.

III. Answer in detail

1.

```
from microbit import *

while True:
    sound_value = microphone.sound_level()

    if sound_value > 200:
        display.show(Image.ASLEEP)
        music.play(music.BA_DING)
        display.clear()
    else:
        display.show(Image.HAPPY)
```

2. Refer the book page no. 83.