

# IT VOYAGE

## Teacher's Reference Manual

### Class 1 to 8

#### Content

|         |    |
|---------|----|
| Class 1 | 3  |
| Class 2 | 6  |
| Class 3 | 11 |
| Class 4 | 16 |
| Class 5 | 23 |
| Class 6 | 30 |
| Class 7 | 38 |
| Class 8 | 49 |

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## Introduction

IT VOYAGE, a series of 8 books, is a humble effort to provide futuristic and comprehensive learning of computer applications covering basic concepts and in-detail insight into the software applications and programming approach. The series incorporates interactive, interesting and hands on methodology. Through class 1 to 8, the series covers features of MS-Office 2019/16 over Windows 10. It also includes many futuristic applications and concepts like Tux Paint, RoboMind, TupiTube, RobotBASIC, GIMP, Flash, Photoshop, CSS, App development, JavaScript, Data Science, Artificial Intelligence and Python etc.

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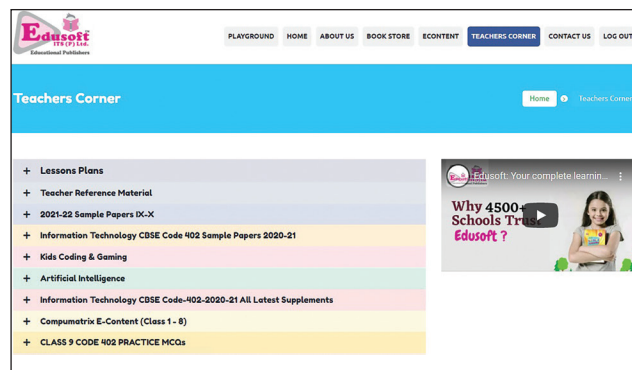
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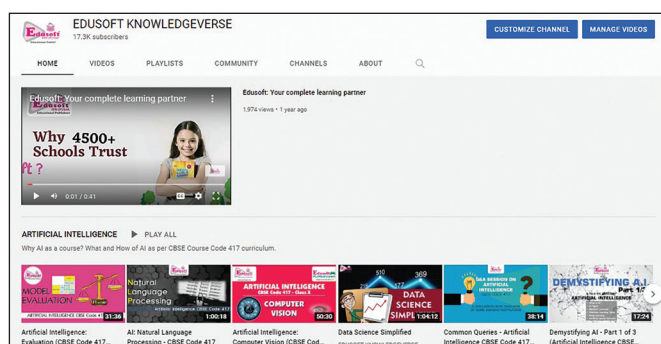
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# Class 1

## SYLLABUS

### TERM - I

1. Machines and Computers
2. Parts of a Computer
3. Naughty Mouse

### TERM - II

4. Drawing with Tux Paint
5. The Keyboard
6. Fun with Tux Typing

## Exercises

### Chapter 1 – Machines and Computers

**A. Choose the correct answer.**

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

**B. Write 'T' for True and 'F' for False in the front of following statements.**

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

**C. Fill in the blanks.**

1. School Bus      2. Personal      3. Offices      4. Manual      5. Automatic

**D. Match the following.**

1.                      -                      c  
2.                      -                      d  
3.                      -                      e  
4.                      -                      b  
5.                      -                      a

**E. Complete the places where we see computers.**

1. Airport                      2. Railway Station                      3. Home                      4. School

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## Chapter 2 - Parts of a Computer

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**A. Choose the correct answer.**

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

**B. Write 'T' for True and 'F' for False in the front of following statements.**

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

**C. Fill in the blanks.**

1. Monitor              2. Keyboard              3. Mouse              4. Headphone              5. Typing

**D. Complete the following words with correct letters.**

1. O, E                      2. M, I, O                      3. P, N, T                      4. Y, R

**E. Match the following.**

1. d                      2. a                      3. e                      4. f                      5. c                      6. b

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## Chapter 3 - Naughty Mouse

---

**A. Choose the correct answer.**

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

**B. Write 'T' for True and 'F' for False in the front of following statements.**

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

**C. Fill in the blanks.**

1. Cable                      2. Pointer                      3. Pad                      4. Scroll Wheel                      5. Index

**D. Match the following.**

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

---

## Chapter 4 - Drawing with Tux Paint

---

**A. Choose the correct answer.**

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

**B. Write 'T' for True and 'F' for False in the front of following statements.**

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

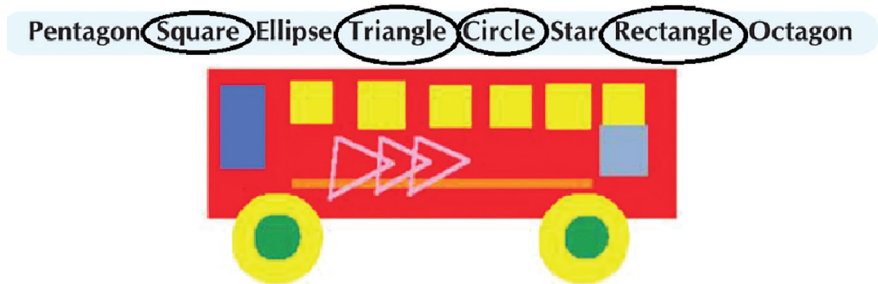
C. You do not want to quit Tux Paint, which button should you click? (Circle the button)

No, take me back!

D. You do not want to quit Tux Paint without saving your drawing. Which button should you click? (Circle the button)

No, don't bother saving!

E. See the red bus below. Circle the names of the shapes used in it.



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## Chapter 5- The Keyboard

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A. Choose the correct answer.

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

B. Write 'T' for True and 'F' for False in the front of following statements.

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

C. Fill in the blanks.

1. Down                      2. Caps Lock                      3. Enter                      4. Numbers                      5. Notepad

D. Match the following.

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

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## Chapter 6- Fun with Tux Typing

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This is a completely practical oriented chapter.

## Class 2

### SYLLABUS

#### TERM - I

1. Uses of a Computer
2. Computer Devices
3. Using Windows

#### TERM - II

4. More Fun with Tux Paint
5. Drawing with Paint
6. Introduction to WordPad
7. Step-wise Thinking

### Exercises

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## Chapter 1 – Uses of a Computer

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#### A. Choose the correct answer.

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

#### B. Match the following Words with field of computer.

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

#### C. Fill in the blanks.

1. Homework          2. Offices                  3. Bills                      4. Diseases                  5. Criminals

#### D. Tick (✓) the correct statement and cross (x) out the wrong one.

1. False (x)              2. True (✓)                  3. False (x)                  4. True (✓)                  5. True (✓)

#### E. Fill in the names of correct places in the sentences below.

1. Hospital              2. Bank                      3. Airport                  4. Police                      5. School

---

## Chapter 2 – Computer Devices

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. CPU                      2. Monitor                      3. Keyboard                      4. Printer                      5. Web Camera

**C. Match the following.**

1. c                      2. f                      3. d                      4. b                      5. a                      6. e

**D. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. True (✓)                      2. True (✓)                      3. False (x)                      4. False (x)                      5. True (✓)

**E. Rewrite the Jumbled Words.**

1. Mouse                      2. Monitor                      3. Printer                      4. Speakers                      5. Webcam

**F. Guess Who Am I?**

1. Mouse                      2. Monitor                      3. Headphone                      4. Keyboard                      5. Web Camera

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## Chapter 3 – Using Windows

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Desktop                      2. Wallpaper                      3. Icons                      4. Taskbar                      5. Start Menu

**C. Match the following.**

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

**D. Answer the following questions.**

1. Back: Our back should be straight. Shoulders: Shoulders should be relaxed.  
Elbows: Elbows should have support and bent at comfortable angle (90°).  
Wrist: Wrist should be comfortable and do not be bent while using keyboard and mouse.
2. Desktop is the background on which everything else appears, Windows provides a big desktop on entire computer screen.

3. a. Desktop: Desktop is the background on which everything else appears.
- b. Wallpaper: The picture which covers the desktop, it is also called desktop background.
- c. Taskbar: It is a thin strip at the bottom of the desktop from left side till right side.
- d. Start button: It is a small button on the bottom left-hand side, it shows power button and options to various programs.

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## Chapter 4 – More Fun with Tux Paint

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Flip                      2. Paint                      3. Label                      4. Text                      5. Left

**C. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. False (x)                      2. True (✓)                      3. False (x)                      4. True (✓)                      5. True (✓)

**D. Identify the correct Magic tool effect.**

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

**E. Identify the tool and write its number below its correct name.**

1. Paint                      2. Line                      3. Stamp                      4. Magic                      5. Shape

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## Chapter 5 - Drawing with Paint

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

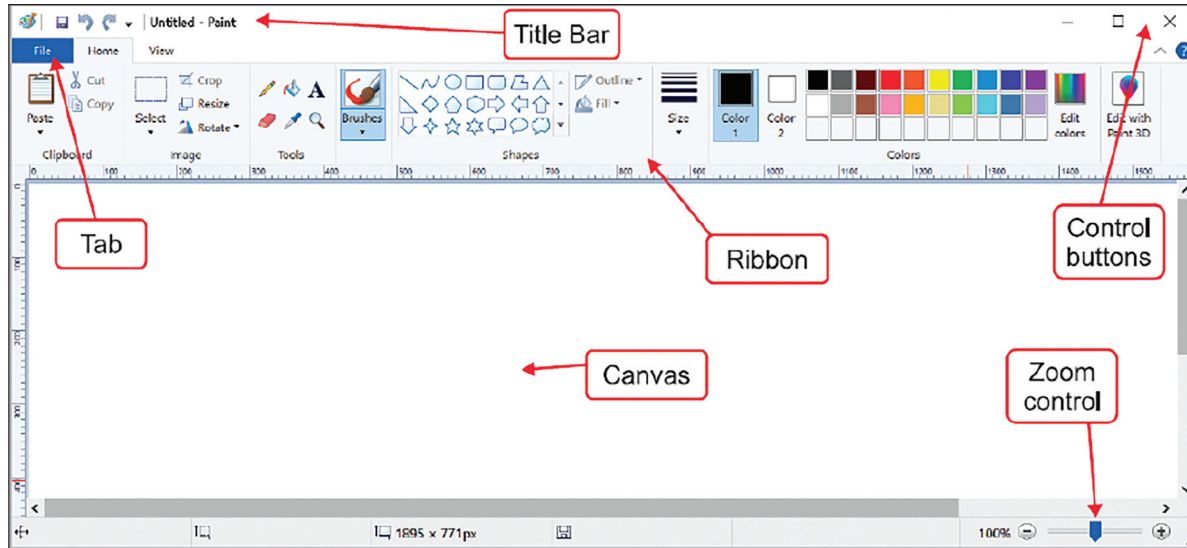
1. Color 1                      2. Color 2                      3. Brush                      4. Circle                      5. Eraser

**C. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. True (✓)                      2. True (✓)                      3. False (x)                      4. True (✓)                      5. True (✓)



D. Complete the labels in the figure.



## Chapter 6 - Introduction to WordPad

A. Choose the correct answer.

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

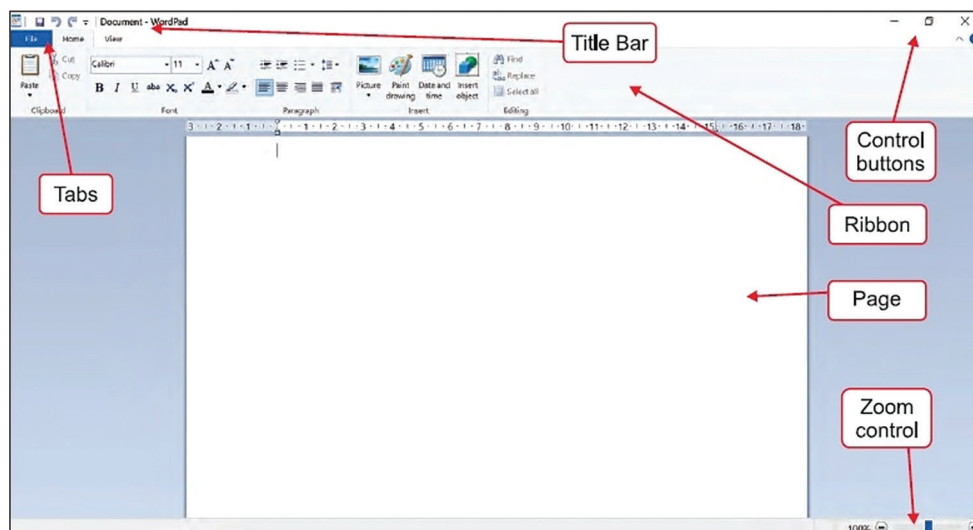
B. Fill in the blanks.

1. File                      2. Home                      3. View                      4. Pictures                      5. Page

C. Tick (✓) the correct statement and cross (x) out the wrong one.

1. False (x)                      2. True (✓)                      3. True (✓)                      4. False (x)                      5. False (x)

D. Name the parts of WordPad. Use words from the Hint Box.



E. Match the Correct Text Formatting.

1. f                      2. a                      3. d                      4. e                      5. c                      6. b

---

## Chapter 7- Step-wise Thinking

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Thinking              2. Solution              3. Right              4. Actions              5. Tasks

**C. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. True (✓)              2. True (✓)              3. False (x)              4. True (✓)              5. False (x)

**D. Answer the following questions.**

1. It is the ability to think the right way to decide the number and sequence of steps to accomplish a task successfully.
2. Subtask is a set of several smaller tasks to break down a large complex task into smaller tasks for easier tracking & completion.
3. Steps to make a square using 4 match sticks:
  - a. Take 4 match sticks and keep three matchsticks aside and put one vertical.
  - b. Put another matchstick with the previous one forming a right angle.
  - c. Put third matchstick above the second matchstick and last matchstick opposite to the first match stick.
  - d. Measure the dimensions with the help of scale.
4. Steps to unwrap and eat a candy:
  - a. Take a candy.
  - b. Carefully pick the candy and roll/twist it to tear off the wrapper.
  - c. Throw away the wrapper in a dustbin.
  - d. Eat the candy.
5. Not Applicable. Students will do themselves.

# Class 3

## SYLLABUS

### TERM - I

1. Working of a Computer
2. Introduction to Windows 10
3. Introduction to Files and Folders
4. MS Paint Tools

### TERM - II

5. Introduction to MS Word
6. Stepwise Thinking with Robomind
7. Fun with Scratch
8. Kodu Game Lab

## Exercises

### Chapter 1 – Working of a Computer

**A. Choose the correct answer.**

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

**B. Match the following words with field of computer.**

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

**C. Write INPUT, OUTPUT or PROCESSING below the steps for the following tasks.**

|                 | INPUT            | OUTPUT                            | PROCESSING  |
|-----------------|------------------|-----------------------------------|---|
| Making chapati  | Flour + water    | Chapati                           | Knead, Make balls<br>Flatten, Cook                                |
| Preparing lassi | Curd, sugar, Ice | Sweet, cool lassi                 | Mix   |
| Saving file     | Type the text    | Saved file                        | 1. Click on file> save,<br>2. Give file name,<br>3. Click on Save |
| Printing letter | Type the letter  | Printout on paper<br>from printer | Give Print command  |

**D. Fill in the blanks.**

1. Software      2. Hardware      3. Devices      4. Useless      5. Input

**E. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. False (x)      2. True (✓)      3. False (x)      4. True (✓)      5. False (x)

**F. Answer in one line.**

1. I stands for Input; P stands for Processing and O stands for Output.
2. In the statement + and – are instructions. 50, 100 and 60 are data.
3. CPU stands for Central Processing Unit.
4. ALU stands for Arithmetic and Logic Unit.
5. CU stands for Control Unit.

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## Chapter 2– Introduction to Windows 10

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Operating System      2. Linux      3. Wallpaper  
4. Icons      5. Power

**C. Match the icons in column A with their correct names in column B.**

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

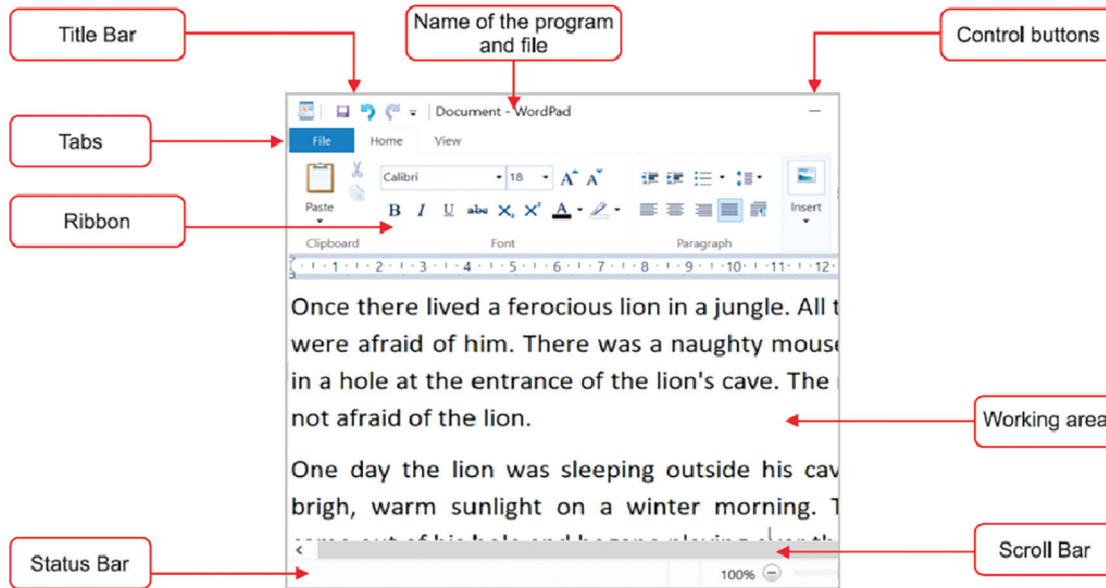
**D. Tick (✓) the correct statement and cross (x) out the wrong one.**

1. False (x)      2. False (x)      3. True (✓)      4. False (x)      5. True (✓)

**E. Explain the following terms in one line.**

1. It is a computer program having certain moving graphics, appears when the computer is idle for some time.
2. It is a picture used to cover the desktop, any image on the computer can be set as a wallpaper.
3. It is a voice enabled search bot provided by Windows 10 to speak the command into it or anything to search online.
4. Window is the rectangular area in which a program runs.
5. Theme is readymade setting which apply to change the Windows look at once.

**F. Label the figure given below.**




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## Chapter 3- Introduction to Files and Folders

---

**A. Choose the correct answer.**

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

**B. Complete the following steps to save a file by filling in the blanks.**

1. Save                      2. Drive                      3. Double                      4. File                      5. Save

**C. Match column A with Column B.**

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

**D. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)                      2. False (×)                      3. False (×)                      4. True (√)                      5. True (√)

**E. Explain the following terms in one line.**

1. Folder is a compartment where files and other folders are arranged in different categories.
2. Sub-folder is a folder inside another folder to organize files.
3. File is a storage of work, data of different types and has an unique name.
4. This-PC allows to see all the files, folders and drives on the computer.

---

## Chapter 4- MS Paint Tools

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Color 1                      2. Color 2                      3. Crop                      4. Magnifier                      5. Eraser

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)      2. True (√)      3. True (√)      4. False (×)      5. True (√)

**D. In one line, write the function of the following tools in MS Paint.**

1. Pencil is used to draw free-hand using left mouse button.
2. Text is used to insert text in the drawing.
3. Color Picker is used to select the exact color which is already in drawing.
4. Magnifier is used to enlarge or reduce any region of the drawing.
5. Fill with color is used to fill colors in closed drawing and shapes.
6. Eraser replaces parts of the drawing with background color.

---

## Chapter 5- Introduction to MS Word

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Cursor      2. Backspace      3. Format      4. Ribbons      5. Page

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)      2. True (√)      3. False (×)      4. False (×)      5. True (√)

**D. Match the Keyboard shortcuts in column A with Column B.**

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

---

## Chapter 6– Stepwise Thinking with Robomind

---

**A. Choose the correct answer.**

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

**B. Match the buttons in Column A with the instructions in Column B.**

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

C. Consider the given map and write the instructions for Robo to go and pick the beacon. Some steps are already filled for you.

|                 |
|-----------------|
| Forward         |
| Forward         |
| Turn right      |
| Forward         |
| Forward         |
| Turn left       |
| Forward         |
| Forward         |
| Turn right      |
| Forward         |
| Pick the beacon |

D. Fill in the blanks.

1. Left, Right      2. Forward, Backward      3. Remote control      4. Logical

E. Tick (✓) the correct statement and cross (×) out the wrong one.

1. False (×)      2. True (✓)      3. True (✓)      4. True (✓)      5. False (×)

---

## Chapter 7– Fun with Scratch

---

A. Choose the correct answer.

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

B. Fill in the blanks.

1. Blocks      2. Stage      3. Motion      4. Clockwise, Anti-clockwise

C. Match directions in Column A with the correct block in Column B.

1. b      2. d      3. a      4. c

---

## Chapter 8– Kodu Game Lab

---

A. Choose the correct answer.

1. b      2. a      3. d      4. a

B. Fill in the blanks.

1. Computer      2. Program      3. New World  
4. Change settings      5. Load World

C. Identify the parts of following Kodu Game Screen.

1. Terrain      2. Character (or Object)      3. Play Game button  
4. Camera tool      5. Object tool

## Class 4

### SYLLABUS

#### TERM - I

1. Basic Windows Settings
2. Windows 10: Working with Files and Folders
3. MS PowerPoint: Basics & Formatting
4. Edit and Format Word Document

#### TERM - II

5. MS Word: Text Enhancement
6. MS Word: Working with Graphics
7. Introduction to Internet
8. Logic Development with RoboMind
9. Programming Concepts with Scratch

## Exercises

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### Chapter 1 – Basic Windows Settings

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Windows              2. Personalization              3. Desktop              4. Clock              5. 3D Text

**C. Explain following terms in one line or sentence.**

1. Personalization is the process of changing theme, color, screen saver, etc. in Windows settings.
2. Screen saver is a moving patterns or graphics appears on the monitor when computer is idle for some time.
3. Wallpaper is the background picture of the desktop.
4. Windows Theme is a combination of graphical setting already created in Windows.

**D. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. True (✓)              3. False (×)              4. True (✓)



---

## Chapter 2 – Windows 10: Working with Files and Folders

---

**A. Choose the correct answer.**

1. a                      2. d                      3. b                      4. a

**B. Fill in the blanks.**

1. Primary              2. Sub-folder              3. Permanently              4. Ctrl + V              5. Folder

**C. Answer the following questions.**

1. A folder stores files and other folders and keep similar types of files together.
2. PC window stores and manage the files and folders stored in the computer.
3. Deleted file moves to the Recycle Bin. It can be restored from Recycle Bin by following steps:
  - a. Go to Desktop and double click on Recycle Bin icon.
  - b. Select the files to restore
  - c. Click on Restore the selected file.
4. F2 function key used to rename a file or folder.

**D. Tick (√) the correct statement and cross (x) out the wrong one.**

1. True (√)              2. False (x)              3. True (√)              4. False (x)              5. True (√)

**E. Match the following.**

| Column-I |   | Column-II |
|----------|---|-----------|
| 1.       | - | c         |
| 2.       | - | d         |
| 3.       | - | e         |
| 4.       | - | b         |
| 5.       | - | a         |

---

## Chapter 3 – MS PowerPoint: Basics & Formatting

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Gradient              2. Slide Show              3. Left, Right              4. Duplicate              5. Numbered

**C. Answer the following questions.**

1. Blank presentation has no slides and no predefined colors and styles. It is a plain black & white presentation, whereas other types of presentations have colors and styles.

2. Design theme is a preloaded design that can be applied on the slides for quick and easy formatting of the presentation.
3. Go to the desired slide > Insert tab > In the Text group > Text Box button. Draw the text box using mouse and type text.

**D. Match the terms in Column A with their correct explanation in Column B.**

| Column-A | - | Column-B |
|----------|---|----------|
| 1.       | - | e        |
| 2.       | - | d        |
| 3.       | - | b        |
| 4.       | - | a        |
| 5.       | - | c        |

## Chapter 4 – Edit and Format word Document

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Thesaurus          2. Subscript          3. Red                      4. Toggle                      5. Sentence case

**C. Answer the following questions.**

1. Editing the text is making corrections and modifications in the word document.
2. Formatting the text refers to changing the appearance of text; to make it attractive by changing its style, font, size and color.
3. Thesaurus is a collation of synonyms and antonyms used to enhance the language of the document and improves vocabulary.
4. It can be corrected by using spelling and grammar feature. Right click on the red wavy line and select suitable spelling.

**D. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)          2. True (√)          3. False (×)          4. True (√)          5. False (×)

**E. Match the feature in Column A with the correct output in Column B.**

| Column-A |   | Column-B |
|----------|---|----------|
| 1.       | - | d        |
| 2.       | - | g        |
| 3.       | - | i        |
| 4.       | - | h        |
| 5.       | - | e        |
| 6.       | - | f        |
| 7.       | - | a        |
| 8.       | - | c        |
| 9.       | - | b        |

---

## Chapter 5 – MS Word: Text Enhancement

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. 4                      2. Numbered                      3. Watermark                      4. Spacing                      5. Paragraph

**C. Answer the following questions.**

- Center alignment is used to keep text in the middle of the page and expand out towards edges whereas justified alignment used to keep margin on both sides of the text.
- Watermark is a faint imprint of text or images that appear behind the text and helps in calming the ownership of a document.
- Line spacing refers to the vertical space between the lines of text in a paragraph and paragraph spacing is the space above or below a paragraph.

**D. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)                      2. True (√)                      3. True (√)                      4. True (√)                      5. True (√)

---

## Chapter 6 – MS Word: Working with Graphics

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Shape Style                      2. Shape Outline                      3. WordArt                      4. Shapes                      5. In Front of Text

**C. Answer the following questions.**

1. Lines, Rectangles, Block Arrows and Flowchart.
2. Adjust, Picture styles and Arrange.
3. Icons are a library of small pictures.
4.
  - i. Select the picture and place mouse cursor over rotating icon.
  - ii. Click and drag the rotation button in the required direction and release the mouse.
5. In Resizing, we change the size (to make it large or shrink) an image while in cropping, we remove an unwanted part of an image.

**D. Tick (√) the correct statement and cross (×) out wrong one.**

1. True (√)      2. False (×)      3. True (√)      4. False (×)      5. True (√)

---

## Chapter 7 – Introduction to Internet

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Communication      2. Image      3. Chrome      4. Modem      5. Google

**C. Answer the following questions.**

1. The 'Internet' is a network of networks.
2. A search engine is a website which is used to search information on the World Wide Web.  
Example: Google, Bing.

**D. Write one line about the following terms.**

1. It is a link that takes the user quickly to other parts of the webpage or to other webpage.
2. A URL is the unique address of a website that is accessible on the Internet.
3. A webpage consists of text, image, audio, video animation etc.
4. Website is a collection of related webpages that are linked together.

**E. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)      2. True (√)      3. False (×)      4. False (×)      5. True (√)

## Chapter 8 – Logic Development with RoboMind

### A. Choose the correct answer.

1. c                      2. a                      3. b                      4. a                      5. d\*

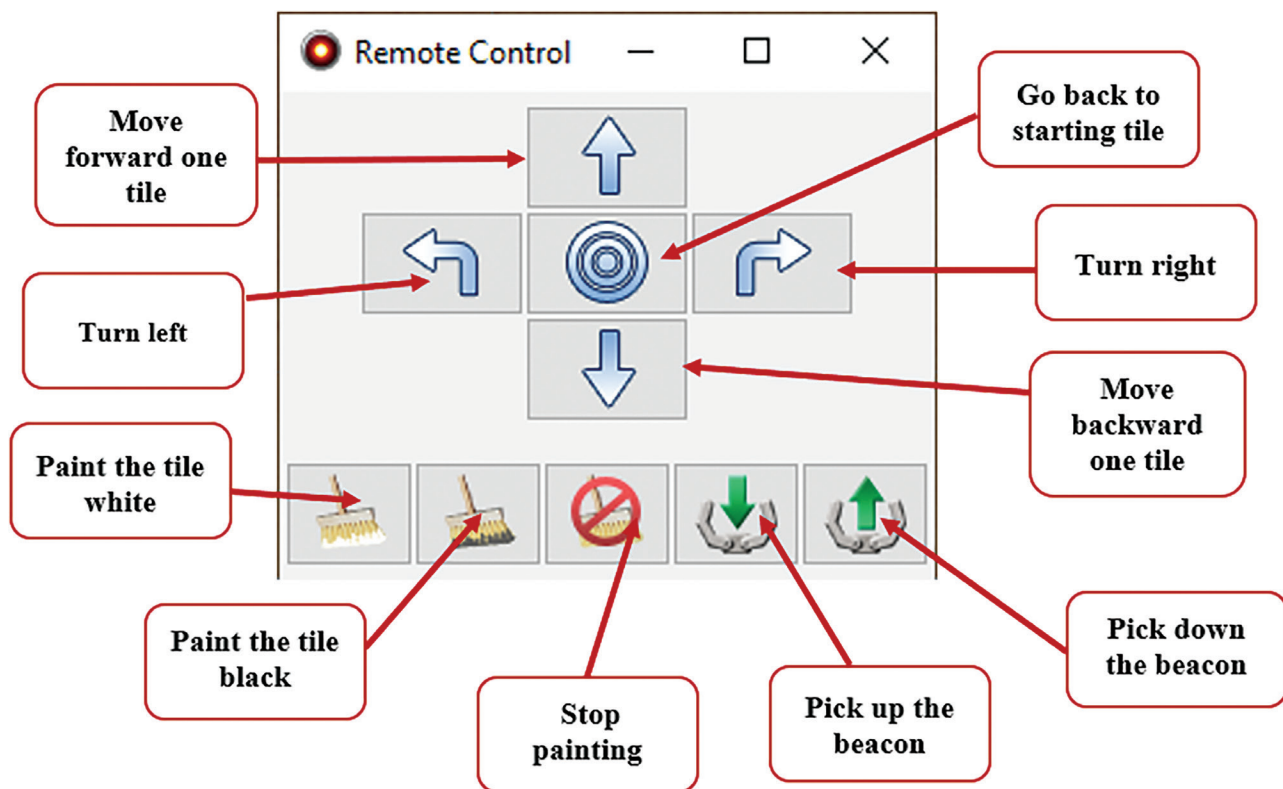
\*Clicking  button does which of the following in RoboMind.

### B. Fill in the blanks.

1. frontIsClear            2. frontIsBeacon            3. False            4. True\*\*            5. Logical

\*\* If there is beacon in front then, frontIsBeacon will return true.

### C. Label the Remote Control.



### D. Answer the following questions.

1. Click on File > Open Map; In Open dialog box, select the file findSpot1.map and press open button.
2. Go to File > Open Map and open the file passBeacons1.map, then write the program and click on Run it.
3. Repeat used to move or turn Robo multiple times in a sequence by taking a number within parentheses and instructions inside the block and execute as many times as the number.
4. if-else block help in decision making. If block takes the command and execute only if the checked condition is true otherwise else block will execute.

---

## Chapter 9 – Programming Concepts with Scratch

---

**A. Choose the correct answer.**

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

**B. Match the blocks with their correct category:**

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

**C. Fill in the blanks with the words given below.**

1. Increases            2. Event                3. Downward            4. Sensing              5. Say

**D. Answer the following questions.**

1. Stage shows the position and placing of sprites in our animation. Sprites are various objects that together make our animation.
2. Motion Category blocks: Move block moves the sprite by given number of steps. Glide-to block glides the sprite for given number of seconds to the given position of x and y coordinates.  
Events category blocks: *when \_\_\_key pressed* block begins animation when any given key is pressed on the keyboard. *when this sprite is clicked* block runs animation when user clicks with mouse on the sprite to which the script is associated.
3. *turn* block turns the sprite by given degrees while *point in direction* block turns the sprite to point in the directions: up (0), down (180), right (90) or left (-90).
4. Checking certain condition and deciding the course of the script is called decision making like checking if the sprite is not moving in desired direction, then changing its direction.
5. An event is any action occurring at any point of time before, after or during an animation for example, user clicks on a sprite or a key is pressed on the keyboard.

## Class 5

### SYLLABUS

#### TERM - I

1. Brief History of Computers
2. MS PowerPoint: Graphics & Multimedia
3. MS Word Page Layout
4. MS Word: Working with Tables
5. Introduction to MS Excel

#### Term - II

6. MS Excel: Working with Worksheet
7. Internet Searching & Surfing
8. Interactive Programming with Scratch
9. Kids Animation with TupiTube

### Exercises

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## Chapter 1 – Brief History of Computers

---

#### A. Choose the correct answer.

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

#### B. Fill in the blanks.

1. GIGO                      2. Instructions                      3. Self-intelligent                      4. Micro computer                      5. Third

#### C. Tick (√) the correct statement and cross (×) out the wrong one.

1. True (√)                      2. False (×)                      3. False (×)                      4. True (√)                      5. True (√)

#### D. Answer the following questions.

1. a) Tabulating Machine invented by Herman Hollerith to process the data and automatically read information.  
b) Analytical Engine was the fully automatic calculating machine designed by Charles Babbage in 1833.  
c) Pascaline invented by Blaise Pascal in 1642 was a mechanical calculator.

2. a)

| First Generation Computers   | Second Generation Computers   |
|--|---|
| 1. Vacuum Tubes were used.<br>2. Big in size.<br>3. They were expensive.<br>E.g. UNIVAC, ENIAC | 1. Transistors were used.<br>2. Small in size.<br>3. Cheaper than first generation of computer<br>E.g. IBM 1401, PDP- I |

b)

| Third Generation Computers  | Fourth Generation Computers  |
|---|--|
| 1. IC based.<br>2. Smaller but not handheld.<br>3. Single user OS.<br>E.g. IBM 360, 370 | 1. VLSI Microprocessor based.<br>2. Small in size, handheld also.<br>3. Multi-user, GUI Operating system.<br>E.g. IBM PC, Apple Macintosh, Compaq PC |

3. The 2 limitations of computers are:
- Computers do not have self-intelligence.
  - Computers cannot express emotions.

The 2 characteristics of computers are:

- Diligent: Computers can work for longer hours tirelessly. They do not get bored of repeated tasks.
  - Fast: Computer's processing speed is in million instructions per second. This speed is higher than the thinking speed of humans.
4. Computers have capacity of multitasking and perform a variety of tasks. They execute multiple tasks such as multimedia, word processing, printing, etc. at the same time.

**E. Briefly list 2 key features of each type of computer classified on the basis of size.**

- Super computer:
  - Very high storage capacity.
  - Data processing is ultra-fast.
- Mainframe:
  - Smaller than super computers.
  - Large memory capacity.
- Mini:
  - Expensive and larger than micros.
  - Mostly used as network servers.
- Micro:
  - Portable and high speed.
  - Support different types of secondary memories.

**F. Match the following.**

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

## Chapter 2 – MS PowerPoint: Graphics and Multimedia

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Audio-Video      2. Icons, 3D model      3. Title and content      4. Datasheet



**C. Mention the use of the following objects.**

1. Tables are used to effectively organise and represent the given data in the form of rows and columns.
2. A chart is a pictorial or graphical form to represent data. It describes the relation between two or more sets of values in presentation.
3. SmartArt graphic is a virtual representation of information to effectively communicate our messages or ideas. SmartArt graphic allows us to communicate through graphics instead of just text.
4. Icons are small graphical representation of object or category which is used to communicate visually.
5. 3D Models are objects that move in 3D space with height, width and depth as third dimension.

---

## Chapter 3 – MS Word Page Layout

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Custom              2. Landscape              3. Header, Footer              4. Letter, A4              5. Picture

**C. Answer the following questions.**

1. A page margin is a blank with space between the text and edge of the page on all the sides.
2. Page orientation is the direction in which a document is displayed or printed. The two types of page orientation are portrait (vertical) and landscape (horizontal). School time table will best fit in Landscape orientation.
3. The steps to insert a blank page are:
  - a. Put the cursor in the document after which you want to insert a blank page.
  - b. On the Insert tab in, Pages group, click on the Blank Page button.
4. These are links to text or picture that can provide access to a file, document or website directly from a page/document.

**D. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. False (×)              3. True (√)              4. True (√)              5. True (√)

**E. Write the steps of the following.**

1. i) Select the text and click on drop-down arrow of Columns button in Page Setup group on Page Layout tab.  
ii) Select the Two option in the list.

2. i) Select the text that you want to put as a hyperlink.  
ii) Click on Hyperlink button in Links group on Insert tab and select the required options in the Insert Hyperlink dialog box.
3. Insert tab > Header & Footer section > Page Number> Bottom of Pages.
4. Insert tab > Symbol button > Symbol tab in the dialog box > Select desired Symbol > Insert button.

---

## Chapter 4 – MS Word Working with Tables

---

**A. Choose the correct answer.**

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

**B. Match the following.**

1. e                      2. c                      3. d                      4. a                      5. f                      6. b

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)            2. True (√)            3. False (×)            4. True (√)            5. True (√)

**D. Answer the following questions.**

1. Table is a common and effective way to organize and present information and data in rows and column.
2. The intersection of a row and column in a table makes a rectangular box called a cell.
3. Select the required cells and click on Merge Cells button in Merge group on Layout tab.
4. Select the required cell and click on Split Cells button in Merge group on Layout tab. Enter the number of columns and rows (into which you want to split the selected cell) and click on OK button.
5. Table design provides a set of predefined table design that include borders, colours, cell alignments, etc.

---

## Chapter 5 – Introduction to MS Excel

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Data                      2. Column, Row            3. Active                      4. Cell Pointer            5. Workbook

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)            2. True (√)            3. False (×)            4. True (√)            5. False (×)

**D. Answer the following questions.**

1. i) In Excel, numbers and calculations are managed efficiently.  
ii) In Excel, data can easily be created, analyzed and maintained.
2. The current cell on which the cursor is placed is called active cell.
3. An Excel file is known as a workbook. It can hold many worksheets.
4. a. Cell Address is a combination of column letter and row letter that identifies a cell.  
b. Cell Range is a group of cells adjacent to each other and consist of cell address in the first cell colon and last cell address.

**E. Match the following.**

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

---

## Chapter 6 – MS Excel: Working with Worksheet

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Copying              2. Moving              3. Pasting              4. Dates              5. Mouse

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)              2. False (×)              3. False (×)              4. True (√)              5. False (×)

**D. Answer the following questions.**

1. Select the cells A1, A2, A3, A4 > Place the cursor on the bottom- right corner of the selection > Click and drag the mouse over the cell B5, B6, B7, B8
2. Type Wed in the A1 cell > Select it and position the mouse pointer at the lower right corner of the selection, mouse pointer changes to + sign > Click and drag up to the A7 across column A1 and release the mouse button.
3. Undo command reverses the last action while Redo command reverses the Undo command.
4. Write the shortcut keys to do the following.
  - i. Moving data: Ctrl + X
  - ii. Redoing an undone action: Ctrl + Y
  - iii. Insert a row or column: Ctrl + +
  - iv. Delete a row or column: Ctrl + minus(-)
  - v. Cancelling the last action: Ctrl + Z

---

## Chapter 7 – Internet Searching and Surfing

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Internet              2. Web browser      3. WWW              4. Enter              5. Home

**C. Answer the following questions.**

1. A browser is an application software which is used to open websites.
2. Surfing the internet is undirected type of exploration of the World Wide Web.
3. Online Education is a cheap and easy way to get education. It is also known as distance learning and consists of taking classes through the Internet.

**D. Write a few words about the following.**

1. **Online Shopping:** Using online shopping various products can be purchased.
2. **Video Conferencing:** This is the way to communicate with others on internet using web camera, microphone, speakers, etc.
3. **News and Information:** These are the facilities to get information about online news and other various topics such as science, technology, sports and education, etc.

---

## Chapter 8 – Interactive Programming with Scratch

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Music, sound      2. Event              3. Instruction      4. Control

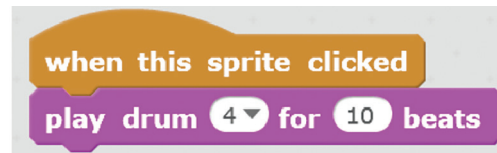
**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)              2. True (√)              3. False (×)              4. False (×)              5. True (√)

**D. Answer the following questions briefly.**

1. Sprites are the building blocks of animation. These are images that are put together and animated. Blocks are used to create the script for a sprite. Each block represents an instruction. Blocks are placed under various categories depending on their working.

2. A script is a set of Scratch blocks arranged to define how an animation shall work. Scripts are created by drag-dropping various blocks in the script editor. Scripts are executed by clicking Execute script green flag button or through some event. For example, following script will play drum 4 ten times when the sprite is clicked by the user.



3. Costume editor in Scratch is used to make changes in the appearance (editing) of a sprite. (This has not been discussed in Class 5 that Costume Editor can also be used to create new sprites since it is out of the scope of class 5)

---

## Chapter 9 – Kids Animation with TupiTube

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Multimedia      2. Stage                      3. Rotation                      4. Motion                      5. Initial, Ending

**C. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. False (×)                      2. True (✓)                      3. False (×)                      4. False (×)

# Class 6

## SYLLABUS

### TERM - I

1. Algorithm and Flowchart
2. Computer Languages & Programming Techniques
3. MS PowerPoint: Animation and Transition
4. Game Creation in Scratch
5. MS Word: Mail Merge

### Term - II

6. MS Excel: Working with Data
7. MS Excel: Formatting, Formulas and Functions
8. MS Excel: Presenting Data in Charts
9. Image Processing Basics with GIMP
10. Communication using Internet

## Exercises

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### Chapter 1 – Algorithm and Flowchart

---

**A. Choose the correct answer.**

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

**B. Answer the following questions.**

1. A flowchart is graphical representation of a program flow. It helps in understanding what the program is doing.
2. A flowchart easily depicts the program logic. It is easy to analyse the problem using a flowchart. Flowcharts help in better program documentation. Using flowcharts, errors can be identified and removed easily.
3. A loop is used to execute instructions repeatedly as long as we need. We need to type instructions only once and loop takes care of their repeated execution.
4. Process box is used to show the calculations and processing instructions while Decision box is used to keep the conditional statements.

**C. Match the following.**

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

---

## Chapter 2 – Computer Languages and Programming Techniques

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Machine              2. Compiler              3. Variable              4. Operands              5. Begin

**C. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. False (×)              3. False (×)              4. True (✓)              5. False (×)

**D. Answer the following questions.**

1. Machine language, Assembly language, High level language, Modern language.
2. A program is executable on computer while pseudocode is the logical representation of a program.
3. Data is a raw, individual piece which alone does not make any sense. Data type defines what type of data it is like date, number or text. A variable is a named identifier that stores the value of a particular data type.
4. NOT operator checks for the reverse of any condition. E.g. NOT (a > b) means value of variable a is less than or equal to the value of variable b.
5. Steps in planning of a program:
  - i. Define and analyze the problem
  - ii. Develop the solution

**E. Write Pseudocodes to do the following.**

1. Begin  
    Accept a, b  
    Result = (a \* b) / (a + b)  
    Display Result  
End
2. Begin  
    Accept Radius  
    Area = (22/7)\*(Radius\*Radius)  
    Display Area  
End

---

## Chapter 3 – MS PowerPoint: Animation and Transition

---

**A. Choose the correct answer.**

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

**B. Answer the following questions.**

1. A simulation of movement, created by displaying a series of pictures, or frames is called animation.
2. The steps to apply animation to an object are:
  - i. Select the object which is to be animated.
  - ii. On Animations tab, click on More drop-down arrow in the Animation group. Or, click on Add Animation button in Advanced Animation group.
  - iii. Select the desired effect from drop-down menu.
  - iv. The effect is applied to the object.
3. Motion Path' is used to move the object in a specified pattern.
4. Slide Transition is an animation-like effects that occur in Slide Show view, when we move from one slide to the next during an on-screen presentation.

The steps to apply transition to a slide are:

- i. Select the slide in the Slide Navigation pane.
- ii. On Transitions tab, in Transition to This Slide group, click on More drop- down arrow. A drop-down menu appears.
- iii. Select the desired transition to apply it to the selected slide.
5. The steps to add a sound to a slide transition are:
  - i. Select the desired slide on which you want to add sound.
  - ii. On Transitions tab, in Timing group, click on Sound drop-down list box and choose a sound to apply it to the selected slide.
6. Action buttons are built-in shapes that can be used to launch an action in the presentation such as go to next/previous or a specified slide, play a sound/video or run a program.
7. The steps to add an action button on a slide are:
  - i. Select the slide in Slide Navigation pane.
  - ii. On Insert tab, in Illustrations group, click on Shapes command. A drop-down menu appears.
  - iii. Select the desired action button.
  - iv. Drag and draw the action button (shape) on the slide. The Action Settings dialog box appears.
  - v. In Action on click section, click on drop-down arrow of Hyperlink to: and select the required action. For example, click on Next Slide option.

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. False (×)              3. True (√)              4. True (√)              5. True (√)



---

## Chapter 4 – Game Creation in Scratch

---

**A. Choose the correct answer.**

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

**B. Fill in the blank.**

1. Animation            2. Library            3. Control (please change events option in book)  
4. Variable            5. Answer

**C. Answer the following questions.**

1. A block is used to create scripts. Each block is like an instruction in the script. An sprite is the character placed on the Scratch stage. A sprite is animated or manipulated by the help of scripts.
2. To make a sprite move 100 steps, first drag-drop when this sprite is clicked event block then add to it the motion block move \_\_\_ steps. Set the steps' value to 100.
3. if-then block executes when the given condition is true otherwise it is skipped (statements enclosed in it do not execute) while in if-then-else block, if part executes when the given condition is true otherwise the else part is executed.
4. Re-iteration means executing statements (blocks) repeatedly until some condition remains true. When that condition is not true then the re-iteration stops. Scratch provides loops such as forever and repeat.
5. A variable is the storehouse of value in Scratch. To create a variable: In Scripts tab > Variables Category > click Make a Variable. In the dialog box, give variable name and click OK.

---

## Chapter 5 – MS Word: Mail Merge

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Data Source            2. Merge Field            3. First Record, Last Record  
4. Sender            5. Feed

**C. Answer the following questions.**

1. Mail merge tool is used to create a document for multiple recipients.
2.
  - i. Main Document: - It is a document which has the common data that needs to be sent to multiple recipients.
  - ii. Data Source: - It contains recipients' details that is to be merged with the main document.
  - iii Merge Field: - It is the data item which is to be merged with the document from a data source.
  - iv. Merge Document: - This is the final document, which is obtained after merging of fields from data source.

3. Steps to insert merge fields in the document are:
  - i. Put cursor on the main document where you want to merge a field. On Mailings tab, in Write and Insert Fields section, click on Insert Merge Field button, a list of fields from selected data source appears.
  - ii. Click on a field to merge. Repeat this process till you merge all the fields.
4. Steps to merge all the data in a single document are:
  - i. On the Mailings tab, in Finish section, click on Finish & Merge button and select Edit Individual Documents option.
  - iii. The Merge to Printer dialog box appears. Click on OK button. This action will merge all the data (on the separate pages) in a single document.
5. Steps to view merged data are:
  - i. Click on Preview Result button in Preview Results section on Mailings tab.
  - ii. To view next or previous data click on Next Record or Previous Record buttons.

---

## Chapter 6 – MS Excel: Working with Data

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Relative                                      2. Sorting                                      3. Filter  
 4. Conditional formatting                      5. Absolute

**C. Answer the following questions.**

1. Cell referencing is the way to identify the location of a cell in a group of cells in the worksheet. These cell addresses are used in formulas and functions.
2. Cell Referencing is of three types:
  - i. Relative Cell Referencing
  - ii. Absolute Cell Referencing
  - iii. Mixed Cell Referencing
3. Sorting data is rearranging the data. It can be done for alphabets, numbers, date and time, cell color, font color or icon set.
4. Filter tool is used for filtering data based on text, numbers, date and time, cell colour, font colour, etc.

**D. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)                      2. True (√)                      3. False (×)                      4. False (×)

---

## Chapter 7 – MS Excel: Formatting, Formulas and Functions

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Format Cells      2. Relational      3. =                      4. Average()      5. #N/A

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)              2. True (√)              3. False (×)              4. True (√)              5. True (√)

**D. Answer the following questions.**

1. Font face, Alignment, Indent, Cell Border and Font size.
2. Steps to format the numbers are:
  - i. On the Format Cells dialog box, click on Number tab.
  - ii. Select Number in the Category section. On the right side, several options are given to apply on numeric data.
  - iii. Select the required options and click on OK button.
3. - Alignment tab is used to position text and numbers in the cells, change the orientation and specify text control in cells.  
- Font tab is used to set the font face, font size, font style, font color and other effects.
4. Steps to apply a colorful border to a cell are:
  - i. On the Format Cells dialog box, click on Border tab.
  - ii. Now, click on Color drop-down list box and select the desired colour.
5. A formula is an equation that performs a calculation. Like a calculator, Excel can execute formulas for addition, subtraction, multiplication and division.
6. Operators for basic mathematical operations are, (a) '+' is used for addition (b) '-' is used for subtraction (c) '\*' is used for multiplication (d) '/' is used for division (e) '%' is used for percentage (f) '^' carat for exponents.
7. A Function in Excel is a predefined formula that perform calculations by using specified values called arguments in a particular order or structure.

---

## Chapter 8 – MS Excel: Presenting Data in Charts

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Chart                      2. Bar Chart                      3. File                      4. Goal Seek                      5. F11

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)      2. False (×)      3. True (√)      4. True (√)      5. False (×)

**D. Answer the following questions.**

1. A chart is a pictorial representation of the data i.e. it allows us to illustrate the data graphically.
2. Column chart shows data as vertical columns with categories on x axis and values on y axis. It compares the values of one or more items.
3. To move a chart on the worksheet,
  - i. Point mouse cursor anywhere on the chart area, it converts into moving handle.
  - ii. Click and drag the chart to new location.
4. The steps to change the chart style are:
  - i. Select the chart on the worksheet. The Design and Format tabs appear on Ribbon.
  - ii. Click on Design tab.
  - iii. Click on the drop-down button of Chart Styles and select the required style from the menu.
5. The steps to create a chart are:
  - i. Select the cell range on which you want to create the chart (including column titles).
  - ii. On Insert tab, in Charts group, click on desired chart type.
  - iii. Select the chart sub-type from the drop-down list.
6. Insert tab > Illustrations group > Pictures tool > Locate the picture on the dialog box, select the picture and click Insert button on the dialog box.

---

## Chapter 9 – Image Processing Basics with GIMP

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Toolbox      2. Feather      3. Threshold      4. Shift      5. Flattening

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)      2. True (√)      3. False (×)      4. True (√)      5. True (√)

**D. Answer the following questions.**

1. Pencil tool draws with a sharp, smooth and dry strokes.  
Bucket fill tool will either fill the entire selection, or only parts whose colors are similar to the points which are clicked on.
2. In the Toolbox, click on the lower box of Foreground/Background colors icon > In the change Background color dialog box, select the grey color and click on OK > Select the background colors with the Color Picker Tool > Click OK

3. Subtract from the current selection: This mode allows new selection to be created by subtracting from any already existing selection. This is done by pressing Ctrl key while making a new selection.

Intersect with to the current selection: This mode allows new selection as the overlapped area of the existing selection. This is done by pressing Shift + Ctrl keys while making a new selection.

4. Threshold: It sets the colour sensing of the tool. Higher the threshold, more will be the colour sensitivity.

Opacity: It Sets the transparency/opacity of the colour.

Feather edges: It defines how much part around the selection will be a little blur. The radius of feathering can be changed.

Hardness: It Sets colour darkness.

5. Hiding a layer is a toggle option to hide/show the layer. There is an icon of eye in Each layer which is Clicked on to hide/unhide layers.

Locking a layer means it cannot be edited until it is unlocked. It appears faded and a small icon of chain lock is displayed, clicking on the lock icon unlocks the layer.

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## Chapter 10 – Communication Using Internet

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### A. Choose the correct answer.

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

### B. Fill in the blanks.

1. Internet      2. Forward mail      3. E-mail a/c      4. Yahoo mail/Gmail      5. Compose

### C. Tick (√) the correct statement and cross (×) out the wrong one.

1. False (×)      2. False (×)      3. True (√)      4. True (√)  
5. True (√)      6. True (√)      7. True (√)

### D. Answer the following questions.

1. Internet is a network of networks. It connects millions of computers of the world with each other.
2. E-mail is the most widely used Internet-based communication tool. It is used to send & receive messages through internet.
3. Some of Internet-based communication tools are:
  1. E-mail                      ii. E-greetings                      iii. Blogs                      iv. E-community
  - v. Chatting/Instant messaging                      vi. Groups
4. 'Chatting' on internet is an online communication tool which allows two or more people to send and receive messages at the same time.

# Class 7

## SYLLABUS

### TERM - I

1. Introduction to Photoshop 2021
2. Data Representation in Computers
3. Making Webpages with HTML
4. HTML Attributes and Text Formatting
5. Lists and Images in HTML

### Term - II

6. Computer Networking
7. Internet: E-commerce and More
8. Mobile App Development
9. Robot Programming with RobotBASIC
10. Introduction to Data Science and AI

## Exercises

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### Chapter 1 – Introduction to Photoshop 2021

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**A. Choose the correct answer.**

1. d                      2. b                      3. a                      4. b

**B. Fill in the blanks.**

1. Text                      2. PSD                      3. Lower                      4. Higher

**C. Match the Photoshop Tools with their function.**

1. d                      2. a                      3. f                      4. b                      5. c                      6. e

**D. Answer the following questions.**

1. Selection is a way to isolate part of an image to make adjustments to that part, or work on only that area. Once made a selection, only the selected area will be impacted by the edits.

2.
  - i) Right click on Lasso tools in the Toolbox. Select Magnetic Lasso Tool from the pop-up.
  - ii) Click at one point to start the selection and slowly move the pointer around. Keep clicking at shorter distances. The selection outline magnetically sticks to the outline of the region.
  - iii) Finally come back to the starting point with selection outline around entire selection. At this point, double click to complete the selection.
3. Options Bar: The Options bar which is below the menu bar, shows various options for the selected tool in the toolbox.
4. To remove the unwanted outer area of the image:
  - i) Pick up the Crop Tool in the Toolbox and drag with mouse to mark the area which need to keep.
  - ii) Double click inside the bounding rectangle that is created.
  - iii) The region outside the bounding rectangle will be cropped.

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## Chapter 2 – Data Representation in Computers

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### A. Choose the correct answer.

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

### B. Fill in the blanks.

1. 15                      2. 9                      3. Carried forward                      4. Borrowed                      5. 2

### C. Tick (✓) the correct statement and cross (×) out the wrong one.

1. True (✓)                      2. False (×)                      3. True (✓)                      4. False (×)                      5. True (✓)

### D. Answer the following questions.

1. Various computers have different coding systems due to two reasons – i. the coding systems evolved over a period of time and ii. Various design and operating systems. E.g. some chips such as toys can just work with Octal system, PCs and computers use binary and hexadecimal to represent larger values.
2. Universal Character Set Code or UNICODE covers all ASCII characters and a wide range of other characters, symbols, emojis and historic characters in different languages. It is the most preferred character set today.
3. Binary number system works in the process of electrical pulse present (1) or absent (0). Just these two representations are enough to represent all kind of data, even graphics, audio and video. Binary system is an efficient way of representing logical operations done by computers.
4. The steps to create a new layer are:
  - a.  $(1001)_2 + (1010)_2 =$  from left side:  $1 + 0 = 1, 0 + 1 = 1, 0 + 0 = 0, 1 + 1 = 0$  and 1 carry to next significant bit hence, 10011
  - b.  $(10)_2 + (11)_2 + (101)_2 =$  first add 10 and 11.  $0+1=1, 1+1=10$  hence 101. Now add, 101 and 101.  $1+1=0, \text{ carry } 1 \text{ to next bit}, 1+0+0 = 1, 1 + 1 = 10$  hence 1010.
  - c.  $(10101)_2 - (101)_2 = 1 - 1 = 0, 0 - 0 = 0, 1 - 1 = 0, \text{ then write } 0 \text{ as it is and } 1 \text{ as it is hence, } 10000$

d.  $(110)_2 * (100)_2 =$  just like decimal multiplication,

$$\begin{array}{r} 000 \\ 000 \\ 110 \\ \hline 11000 \\ \hline \end{array}$$

e.  $(1010)_2 * (11)_2 =$  just like decimal multiplication,

$$\begin{array}{r} 1010 \\ 1010 \\ \hline 11110 \\ \hline \end{array}$$

f.  $(1010)_2 / (11)_2 =$  just like decimal division, from 1010.

$$\begin{array}{r} 11 \\ \hline 11 \mid 1010 \\ - 11 \\ \hline 011 \\ 11 \\ \hline 00 \end{array}$$

5. Convert the following numbers into their binary equivalent:

- |                              |                           |                          |                          |
|------------------------------|---------------------------|--------------------------|--------------------------|
| a. $255 / 2 = \text{Rem } 1$ | $127 / 2 = \text{Rem } 1$ | $63 / 2 = \text{Rem } 1$ | $31 / 2 = \text{Rem } 1$ |
| $15 / 2 = \text{Rem } 1$     | $7 / 2 = \text{Rem } 1$   | $3 / 2 = \text{Rem } 1$  |                          |
| Finally, 111111              |                           |                          |                          |
| b. $13 / 2 = \text{Rem } 1$  | $6 / 2 = \text{Rem } 0$   | $3 / 2 = \text{Rem } 1$  |                          |
| Finally, 1101                |                           |                          |                          |
| c. $31 / 2 = \text{Rem } 1$  | $15 / 2 = \text{Rem } 1$  | $7 / 2 = \text{Rem } 1$  | $3 / 2 = \text{Rem } 1$  |
| Finally, 11111               |                           |                          |                          |
| d. $300 / 2 = \text{Rem } 0$ | $150 / 2 = \text{Rem } 0$ | $75 / 2 = \text{Rem } 0$ | $37 / 2 = \text{Rem } 1$ |
| $18 / 2 = \text{Rem } 0$     | $9 / 2 = \text{Rem } 1$   | $4 / 2 = \text{Rem } 0$  | $2 / 2 = \text{Rem } 0$  |
| Finally, 100101100           |                           |                          |                          |

6. Convert the following binary notations to decimal:

- |   |                            |        |
|---|----------------------------|--------|
| a. $101 = 1 \times 2^0 + 0 \times 2^1 + 1 \times 2^2$   | $= 1 + 0 + 4$              | $= 5$  |
| b. $11011 = 1 \times 2^0 + 1 \times 2^1 + 0 \times 2^2 + 1 \times 2^3 + 1 \times 2^4$                 | $= 1 + 2 + 0 + 8 + 16$     | $= 27$ |
| c. $0011 = 1 \times 2^0 + 1 \times 2^1 + 0 \times 2^2 + 0 \times 2^3$                                 | $= 1 + 2 + 0 + 0$          | $= 3$  |
| d. $010101 = 1 \times 2^0 + 0 \times 2^1 + 1 \times 2^2 + 0 \times 2^3 + 1 \times 2^4 + 0 \times 2^5$ | $= 1 + 0 + 4 + 0 + 16 + 0$ | $= 27$ |



---

## Chapter 3 – Making Webpages in HTML

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Reverse              2. PRE                      3. HTML                      4. WWW                      5. Closing

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. True (√)                      3. True (√)                      4. False (×)                      5. True (√)

**D. Answer the following questions.**

1. Hyper Text Markup Language is a set of elements using which web pages are created. The text in the web page is marked up using HTML elements for formatting and presentation which is interpreted by the browser.
2. An element in HTML is used to apply markup on the web page contents for different purpose. For example, `<B>Hello</B>` has marked up the word Hello to be in bold face. Elements that have opening as well as matching closing tag are called container elements since they hold the text within such as `<B></B>`, `<I></I>` while elements with no closing tag are called empty elements such as `<BR>` for inserting line break.

3. The 5 basic text formatting elements in HTML are:

|  |   |   |
|--|---|---|
| <code>&lt;B&gt;&lt;/B&gt;</code>         | - | To display the text as Bold                       |
| <code>&lt;I&gt;&lt;/I&gt;</code>         | - | To display the text italicised                    |
| <code>&lt;U&gt;&lt;/U&gt;</code>         | - | To underline the text                             |
| <code>&lt;SMALL&gt;&lt;/SMALL&gt;</code> | - | To display the text smaller than the default size |
| <code>&lt;BIG&gt;&lt;/BIG&gt;</code>     | - | To display the text bigger than the default size  |

4. `<BR>` tag is used to insert a line break and subsequent text is displayed on the next line. Browser needs line break markup specifically. It does not insert line breaks on its own. For example, if the text is written in the editor like this:

WELCOME

ALL

then browser will display it as WELCOME ALL. So, to display ALL in new line, `<BR>` is needed after WELCOME like this `WELCOM <BR> ALL`.

---

## Chapter 4 – HTML Attributes and Text Formatting

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Opening              2. Image              3. Color              4. Size              5. &gt;

**C. Write HTML Code to display the following.**

1. `<H6><FONT COLOR= "red" FACE= "impact">Some heading</FONT></H6>`
2. `<BODY BACKGROUND= "house.gif">`
3. `<P ALIGN= "right"> <FONT COLOR= "blue" SIZE=6>Student's Name</FONT></P>`
4. `<HR COLOR= "red" SIZE=5><FONT FACE= "agency fb">WELCOME</FONT><HR COLOR= "red" SIZE=5>`
5. `<P>` has closing tag like `<P>This is some paragraph</P>` while `<HR>` inserts a horizontal rule hence no closing tag is required like `<HR COLOR= "green" SIZE=5 WIDTH= "80%">`

**D. Answer the following questions.**

1. Attributes are the properties that describe the elements. They describe the appearance and behaviour of elements. E.g. Font element has attributes such as Size, Face and Color using which text can be formatted in different appearances. `<FONT COLOR= "red" FACE= "impact" SIZE=5>`.
2. Comments are useful for documentation purpose. They can also be used to suppress the effect of any element. Any text in comment tags is ignored by the browser. Comments are written using `<!--` and `-->`. A For example: `<!-- This will not be displayed by the browser-->`.
3. HTML entities: `&lt;HTML&gt;` will display `<HTML>` as `&lt;` represents `<` and `&gt;` represents `>`.  
`5 &divide;` 2 = 2.5 will display `5 ÷ 2 = 2.5`  
`&copy;` will display copyright symbol ©  
`&amp;` will display & sign.  
`&reg;` will display symbol ®
4. Font element is used to apply various colours, size (ranging from 1 to 7) and font faces on the text. These are specified by the attributes of font element namely Color, Size and Face respectively. For example, `<FONT COLOR= "red" FACE= "impact" SIZE=5>WLECOME</FONT>` will display the text WELCOME in red color, impact font and size 5.
5. Horizontal rule is represented by empty element `<HR>`.  
Example 1: Horizontal rule with center alignment, red color and thickness 5 points.  
`<HR align= "center" color= "red" size= 5>`  
Example 2: Horizontal rule with no 3D shade and width 80% of screen.  
`<HR noshade width= "80%">`

6. HTML colour codes are hexadecimal notations with 3 parts – first part represents the intensity of Red colour from 0 (no red) to F (max intensity in hexadecimal value for 16), second part represents the intensity of Green colour and third part Blue colour. For example, #ff0000 means only red colour since the two pairs of green and blue are 00 respectively. #ffffff means white i.e. mix of maximum intensities of all 3 basic colours. #000000 will be black. Every hexadecimal notation is preceded by # sign.

**E. Match the following.**

1. g                      2. f                      3. e                      4. d                      5. a                      6. b                      7. c

## Chapter 5 – Lists and Images in HTML

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. UL                      2. OL                      3. DD                      4. Bottom                      5. Alternate

**C. Answer the following questions.**

- |   |   |
|---|---|
| <p>1. Example 1: <code>&lt;OL TYPE= "a" START= "3"&gt;</code><br/> <code>&lt;LI&gt;Item 1&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 2&lt;/LI&gt;</code><br/> <code>&lt;LI&gt;Item 3&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 4&lt;/LI&gt;</code><br/> <code>&lt;/OL&gt;</code></p> <p>Example 2: <code>&lt;OL TYPE= "I" START= "2"&gt;</code><br/> <code>&lt;LI&gt;Item 1&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 2&lt;/LI&gt;</code><br/> <code>&lt;LI&gt;Item 3&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 4&lt;/LI&gt;</code><br/> <code>&lt;/OL&gt;</code></p> <p>Example 3: <code>&lt;OL TYPE= "i" START= "1"&gt;</code><br/> <code>&lt;LI&gt;Item 1&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 2&lt;/LI&gt;</code><br/> <code>&lt;LI&gt;Item 3&lt;/LI&gt;</code><br/> <code>&lt;/LI&gt;Item 4&lt;/LI&gt;</code><br/> <code>&lt;/OL&gt;</code></p> | <p>Output<br/> c. Item 1<br/> d. Item 2<br/> e. Item 3<br/> f. Item 4</p> <p>Output<br/> II. Item 1<br/> III. Item 2<br/> IV. Item 3<br/> V. Item 4</p> <p>Output<br/> i. Item 1<br/> ii. Item 2<br/> iii. Item 3<br/> iv. Item 4</p> |
|---|---|

|            |   |            |
|------------|---|------------|
| Example 4: | <pre>&lt;OL TYPE= "A" START= "27"&gt;   &lt;LI&gt;Item 1&lt;/LI&gt; &lt;/LI&gt;Item 2&lt;/LI&gt;   &lt;LI&gt;Item 3&lt;/LI&gt; &lt;/LI&gt;Item 4&lt;/LI&gt; &lt;/OL&gt;</pre> | Output     |
|            |   | AA. Item 1 |
|            |   | AB. Item 2 |
|            |   | AC. Item 3 |
|            |   | AD. Item 4 |

2. Definition list displays a definition term and its definition description. Definition term is displayed using <dt> tag and description using <dd> tag. Definition list is displayed using <dl> tag. For example,

```
<dl> <dt>Noun</dt> <dd>Everything is noun</dd></dl>
```

3. In HTML, images are displayed with the <img> tag. Since, there is usually text along with the images, the images are aligned with respect to the text. Default alignment is inline which means image is displayed in same flow as the text on same baseline on which text appears. Other alignments are LEFT, RIGHT, TOP, MIDDLE and BOTTOM for left to the text, right to the text, top of the baseline of text, middle (vertically) of the text between baseline and topline of the text and below the baseline of the text respectively.

4. <MARQUEE HEIGHT= "50%" DIRECTION= "top" SCROLLAMOUNT = "5%">Some text</MARQUEE>

5. Example 4: <OL>

```
<LI>Open Source</LI>
  <UL style= "disc">
    </LI>Linux</LI>
    <LI>Android</LI>
  </UL>
<LI>Commercial</LI>
  <UL style= "disc">
    </LI>Windows</LI>
    <LI>MacOS</LI>
  </UL>
</OL>
```

Output: 1. Open Source

- Linux
- Android

2. Commercial

- Windows
- MacOS

---

## Chapter 6 – Computer Networking

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Redundancy      2. Permissions      3. Bus, Star      4. Mesh      5. Storage

**C. Match the network topology with its correct characteristic.**

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

**D. Answer the following questions.**

1. A router connects multiple networks of different types and is capable of routing the data packets from one computer of a network to another computer of the other network. Switch connects various computers and devices over a network. It transfers signals and data to various devices over a network.
2. In Client-Server architecture, one or more computers provide certain services such as file sharing, printer sharing and internet access to all the other computers connected on the network. Such computers that provide services to other computers are called Servers (file server, print server etc.) and the computers that request and utilize those services are called Clients.
3.

|      | Advantage   | Disadvantage  |
|------|---|---|
| Bus  | Requires lesser cable length.                                   | Whole network shuts down if main cable breaks down. |
| Star | Faults can be detected easily.                                  | More cable length is required.                      |
| Ring | Faster data transfer among nodes.                               | Break down in cable slows down the network.         |
| Mesh | Communication continues even if a cable in network breaks down. | It is expensive due to lot of cable length needed.  |
| Tree | Easier to expand such network.                                  | Difficult to configure and setup such network.      |

---

## Chapter 7 – Internet: E-Commerce and More

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. WWW                      2. M-Commerce                      3. Pin, OTP                      4. Trainer                      5. Blog



---

## Chapter 8 – Mobile App Development

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. iOS, Android      2. Designer, Blocks      3. Event      4. Property      5. Control

**C. Answer the following questions.**

1. A mobile app is a piece of software that runs on a handheld device such as smartphone or tablet.  
3 main benefits of apps are:
  - i. They are easy to download and install.
  - ii. Apps are mostly free.
  - iii. Apps can display the responsive version of the related web site.
2. A hybrid app contains the features of a native as well as web app. They are designed for a specific operating system but they can also display the contents and features of the web site. Their design is responsive that means while displaying the web site content they adjust the display according to the size of the device. Web app display the contents of the related web site and it can run on any operating system.
3. Designer part of MIT App Inventor provides graphical and non-graphical components to create the user interface of the app. Blocks part allows to add desired functionality to the app by using suitable programming blocks given with the editor.
4. If-then-else block is a decision-making block and decides the course of the program depending on a condition. If the condition is true then blocks inside the if part are executed. But if the condition is not true and some instructions are to be executed then else part is used. else part executes when condition with if does not return true.
5. Control:                      if-then-else, while  
Math:                              +, -  
Text:                                join, string “ ”  
Variable:                         get, set to

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## Chapter 9 – Robot Programming with RobotBASIC

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**The purpose of this chapter is to develop programming and logic skills in the students so the focus is on the practical workout of the commands in the chapter.**

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## Chapter 10 – Introduction to Data Science and AI

---

**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Data                      2. Human brain                      3. Analysis                      4. Analytics  
5. Supervised                      6. Reinforced

**C. Categorise into structured, semi-structured and unstructured data.**

- Structured: 2, 6                      Semi-structured: 1, 4                      Unstructured: 3, 5

**D. Match the following terms with their correct explanation/definition.**

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

**E. Answer the following questions.**

1. Describing life events in the form of data is called datification. Deriving useful conclusions from data is called data science, artificial intelligence is the field to develop machines that exhibit human-like intelligence.
2. Tables and data collected from forms is structured data, CSV files, XML files, QR codes are semi-structured data and search results, chat data and online posts are unstructured data.
3. Data science helps in deriving useful conclusions from vast amount of data. Data science helps in revealing unseen problems by analysing data. With the help of data science, we can deal with social and economic problems more effectively.
4. The volume of data available online from numerous sources is very huge in size. It is being created constantly, adding to the size every passing moment. Most of the data is not in structured format. This data exists in various of data types such as images, video, audio, text etc. So, huge volume, unstructured format and variety of data types makes it difficult to be processed by traditional computers. It needs advanced, fast computers.
5. Techniques of data science help in preparing the training and testing data suitable for the desired AI algorithm. Acquiring the data, cleaning it, exploring it and preparing it for AI algorithm is done using data science. Then, the process of training the AI algorithm with training data and testing its performance using testing data is done.



# Class 8

## SYLLABUS

### TERM - I

1. Database Management System
2. Working with MS Access
3. Table, Hyperlinks and Forms in HTML
4. Creating Interactive Webpages
5. Introduction to Flash CS6

### Term - II

6. Introduction to Data Science
7. Artificial Intelligence
8. Computer Ethics and Crimes
9. Taming Python
10. Introduction to Programming Logic

## Exercises

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### Chapter 1 – Database Management System

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Data                      2. Authenticity, authority                      3. Database  
4. Cardinality                      5. Redundant

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)                      2. False (×)                      3. False (×)                      4. False (×)  
5. True (√)                      6. True (√)

**D. Answer the following questions.**

1. Data is a raw piece of information which alone does not make sense. Relating data pieces together logically gives useful information.
2. DBMS is an application software that enables users to create, maintain database and control all the access to the data. DBMS is efficient from file systems in managing the information and to integrate them with other programs and applications. Data can be kept secured in a DBMS.
3. The 2 types of queries are:
  - i. Selection query: This type of query takes out the data from one table or more. Such queries do not modify the data in the table.
  - ii. Action query: As the name suggests, such queries modify the table data and structure of the table. They are used to delete and update records or adding/removing fields in the table.
4. Primary key uniquely identifies each record in the table. A foreign key is a referential constraint between two tables. The foreign key refers to a matching value in another table (parent). For example,

| Table: STUDENT   |                 |
|------------------|-----------------|
| ADMISSION_NUMBER | STUDENT NAME    |
| ADM000000001     | Ravi Kumar      |
| ADM000000002     | Anu Sharma      |
| ADM000000003     | Rehman Siddiqui |

| Table: PERFORMANCE |        |       |
|--------------------|--------|-------|
| ADMISSION_NUMBER   | EXAM   | MARKS |
| ADM000000003       | Term 1 | 76    |
| ADM000000001       | Term 2 | 84    |
| ADM000000002       | Term 1 | 83    |
| ADM000000002       | Term 2 | 89    |
| ADM000000003       | Term 2 | 78    |
| ADM000000001       | Term 1 | 93    |

Here, in table STUDENT, ADMISSION\_NUMBER is Primary key while in table PERFORMANCE, it is foreign key. (Every value has a matching value in the parent table).

5. The 4 characteristics of any DBMS are controlled data redundancy, data sharing, data integrity and data security.
6. Below are the data types in MS-Access:

| Data Type       | Description   |
|-----------------|---|
| Short/Long Text | It stores the text which might be an alphabet, a number or both.        |
| Number          | It stores the numbers that can be used for calculations.                |
| Auto Number     | It stores auto-generated numbers and automatically increases the value. |
| Date/Time       | It stores the date and time values in different formats.                |
| Currency        | It specifies the currencies and displays them in different formats.     |
| Yes/No          | It stores only those values which have two answers: True/False.         |
| OLE Object      | It stores the data from other software like Word, Excel etc.            |

Examples of any four are:

Number – age (45), marks (83), score (100) etc.

Date/Time: 12/23/2022, 10/1/2023 etc.

Currency: \$500.45

Text: Names (Ravi), Cities (Delhi), Description (The student was absent on the day of exam) etc.

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## Chapter 2 – Working with MS Access

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Rows                  2. Many                  3. One                      4. Fields                  5. Referential integrity

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. False (×)              3. True (√)              4. False (×)              5. True (√)

**D. Answer the following questions.**

1. Filtering means displaying data on the basis of some filter criteria. Filtering helps us display only those records which we need according to our requirement. This helps in analysing the data easily.
2. One-to-one relationship means that one record of a table matches with exactly one record in other table. For example, a passenger can have one seat in flight.  
One-to-many relationship means one record of a table matches with multiple records in a table. For example, an item is sold to many customers or a teacher teaching many classes.
3. Referential integrity means to ensure that correct data is stored in the tables. This is done by applying referential integrity rules to check if matching values are present in the related tables or not. With this arrangement, we can minimize entering records with repeated data. This way, data redundancy (repeated data) is minimized.
4. PASSENGER(many) booked on (1)TRAIN  
PASSENGER(1) occupies (1)SEAT

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## Chapter 3 – Tables, Hyperlinks and Forms in HTML

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**A. Choose the correct answer.**

1. c                      2. d                      3. a                      4. c

**B. Fill in the blanks.**

1. Form                  2. Checked                  3. Name                      4. Button                  5. Internal

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. True (√)              2. True (√)              3. False (×)              4. True (√)              5. True (√)

**D. Answer the following questions.**

1. Rowspan attribute is used to merge the cells across two or more adjacent rows while colspan attribute merges cells across two or more adjacent columns.

- Radio button is used to accept one of multiple choices from user in a form. It is created by setting type property of input tag to radio. They are grouped together by giving same value to their NAME attribute.
- An HTML form is a section of a document containing normal content, markup, special elements called controls (checkboxes, radio buttons, menus, etc.), to get inputs from the user. It is used to gather the user input and submit to the web server for processing.

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## Chapter 4 – Creating Interactive Web Pages

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. alert()              2. prompt()              3. onChange              4. conversion              5. Event handler

**C. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. True (✓)              2. False (×)              3. True (✓)              4. True (✓)              5. False (×)

**D. Answer the following questions.**

- A variable identifies data in our program. A variable is identified by a unique name and its value may change as program executes. To create a value in JavaScript, var keyword is used and values are assigned to it using assignment operator =. E.g., var x = 1000.

- Event is any interrupt that occurs due to user action or application like, mouse click. Event handler is the function that executes in response to an event. On any event, invoking correct event handler is called even handling. E.g.

```
<script language="javascript"> function greet()
```

```
{
```

```
    alert("Greetings")
```

```
}
```

```
</script>
```

```
<font onclick="greet()">Click me to welcome you.</font>
```

Here, event handler greet() will be invoked when user clicks with mouse on the text enclosed within font element.

- The code is:

```
var a = parseInt(prompt("Enter a number:"))
```

```
var sqr = a * a
```

- InnerHTML property refers to the area between the start and end tag of any container element.

E.g. mytext.innerHTML="Here comes the text."

mytext is the ID of any HTML container element such as FONT or P or H1 etc..

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## Chapter 5 – Introduction to Flash CS6

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Timeline              2. Layers              3. Lock              4. Keyframe              5. Stage

**C. Answer the following questions.**

1. A sequence of pictures or drawings simulating a movement is called animation. Keyframes are the drawings which define the change in the drawing or movement. We can apply tweening between two keyframes.
2. The Timeline is the area where we organize and control time-based animation in Flash. Flash documents divide lengths of time into frames. On the timeline we can also add layers. In each layer a separate object can be kept for easier management.
3. Layers help in stacking the objects above or below the other. For example, a car can be kept in a layer and tree can be kept in another layer just below it so that it seems that tree is behind the car. Using layers, we can easily manage various objects easily that make our whole animation. Each layer can be given a unique, relevant name.
4. The steps are:
  1. Go to frame 1 and draw a square at the top of the stage using Rectangle tool.
  2. Right click on frame 10 and select option Insert Keyframe.
  3. On this frame, drag the square down to the middle of the stage.
  4. Right click on frame 20 and select option Insert Keyframe.
  3. On this frame, drag the square down to the bottom of the stage.Now, press Control > Play option to test.
5. Lasso: It is a selection tool to select irregular shapes by sensing colour intensity.  
Sub-selection: It is used to drag lines and outlines of shapes into a curvy structure.  
Ink bottle: It applies outline or stroke colour of a drawing object.

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## Chapter 6 – Introduction to Data Science

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Anomaly              2. Historical              3. Classification              4. Clustering              5. Relevant

**C. Match the scenario in column A with the conclusion in column B.**

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

**D. Answer the following questions.**

1. Data is an individual piece of value which alone does not make any sense. Practice of drawing out useful conclusion from the data is called data science.
2. Data science tries to answer questions such as Yes/No type predictions, anomaly detection, forecasts, grouping values on the basis of differences or similarity.
3. Classification is the process of grouping the observations on the basis of some criteria such as grouping students in to slabs of marks obtained. Clustering means grouping on the basis of some similarity among the observations such as grouping subscribers who watch horror movies.
4. Five applications of data science are:
  - i. Profiling people on social media according to their interests.
  - ii. Analysing customer experience on E-commerce website for improvements in services.
  - iii. Predict life threatening scenarios such as forest fire, floods, cancer, heart attack possibility.
  - iv. Risk analysis by analysing data of customers before giving them loan.
  - v. Faster and efficient search by search engine on the basis of previous searches of the user.

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## Chapter 7 – Artificial Intelligence

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**A. Choose the correct answer.**

1. c                      2. b                      3. d                      4. c

**B. Fill in the blanks.**

1. Habits              2. Reason              3. Machine              4. Inductive              5. Deep Learning

**C. Tick (√) the correct statement and cross (×) out the wrong one.**

1. False (×)              2. True (√)              3. True (√)              4. True (√)

**D. Answer the following questions.**

1. Human brain first senses the incoming stimulus. For example, feeling hot. Reasoning means analysis the stimulus and reach a suitable conclusion. For example, feeling hot is sensing and deciding not to go closer to the fire is reasoning.
2. The 5 traits of human intelligence are perception, learning, problem solving, reasoning and language.
3. The 3 applications of machine learning are predicting weather conditions, image recognition and expert systems in fields like medical and education.

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## Chapter 8 – Computer Ethics and Crimes

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Virus                      2. Firewall                      3. Spyware                      4. Phishing

**C. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. False (×)                      2. True (✓)                      3. False (×)                      4. True (✓)

**D. Answer the following questions.**

1. Trojan is a program promoted as useful program but once installed it harms the computer. A Worm slows down the computer and replicates itself from one computer to other over a network.

2. Phishing: Fraudulently acquiring sensitive information from the users by impersonating trusted websites like banks and e-commerce merchants etc. is called Phishing. Phishers target the details like pins, passwords and answers to security questions. Phishing occurs generally in the form of an email or through a legitimate sounding phone call.

Pharming: When website's traffic is redirected to another unauthorized fake URL then it is called pharming. Hackers somehow get access to the website's servers and manipulate the configuration files which identify the server as host website on Internet.

Protection: Install anti-phishing software.

Never give away any sensitive information related to finance and security like pins, passwords, bank balance, transaction details, identification numbers etc. in reply to undesired emails and never on phone.

3. Children must know that their parents and teachers are always available for them when they face such problem.

Children must know that no matters what, parents and teachers are their first support.

Children should inform their elders about any incident that sounds nasty even remotely.

Children must know the fact that cyber bullies are not capable to do any harm and they can never carry out their claims of harming someone.

Children are advised to block such intruders immediately and never entertain them.

4. A firewall is a security combination of hardware and software that is used to protect a server and network resources from unauthorized access and intrusion. Firewall checks the incoming data packets over the networks and filters out which do not have suitable and sufficient permission to access the network. This way an extra level of protection is created right at the gates of the network.

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## Chapter 9 – Taming Python

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**A. Choose the correct answer.**

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

**B. Fill in the blanks.**

1. Comments            2. Interactive            3. //                      4. Strings                5. input()

**C. Tick the correct answer**

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

**D. Answer the following questions.**

- The 2 applications of Python programming language are:
  - Web development
  - Making games
  - Data Analysis
- # This is a single line comment.  
"""This is a multi  
Line comment"""
- Interactive mode is useful to run or test individual statements quickly if you do not need to save them while script mode allows to save the script and then execute it anytime later.
- / operator returns the returns value with decimal place (float). E.g.,  $3/2 = 1.5$   
// operator returns integer value after division. E.g.,  $3/2 = 1$   
% modulus operator returns the remainder of the division. E.g.,  $5\%3 = 2$
- len() returns the number of characters in a string. E.g., len("hi all") will return 6.

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## Chapter 10 – Introduction to Programming Logic

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**A. Choose the correct answer.**

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

**B. Tick (✓) the correct statement and cross (×) out the wrong one.**

1. False (×)            2. True (✓)            3. False (×)            4. True (✓)            5. True (✓)