

1. Number System



Take Off

Do it yourself



Double Tap

1. 1000_2

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

$$= 8 + 0 + 0 + 0$$

$$= 8_{10}$$

2. $2 \mid 30$

$$\begin{array}{r|l} 2 & 15 \\ \hline \end{array} \quad -0$$

$$\begin{array}{r|l} 2 & 7 \\ \hline \end{array} \quad -1$$

$$\begin{array}{r|l} 2 & 3 \\ \hline \end{array} \quad -1$$

$$\begin{array}{r|l} & 1 \\ \hline \end{array} \quad -1$$

$$(30)_{10} = (11110)_2$$



Choose the correct option.

1. b.

2. a.

3. b.

4. a.

5. b.



Tick (✓) the correct statements and cross (×) the wrong ones.

1. ✓

2. ×

3. ✓

4. ✓

5. ✓





-

Scratch Your Brain.

- ## 2.

Advanced Features of Excel



Take Off

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





Double Tap

1. ✓ 2. ✕ 3. ✕ 4. ✓



Choose the correct option.

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



Tick (✓) the correct statements and cross (✕) the wrong ones.

1. ✕ 2. ✕ 3. ✕ 4. ✓ 5. ✕



Answer the following questions:

1. Sorting of data means to organise the data in ascending or descending order.
2. The filters once applied can be easily removed. Click anywhere in the worksheet and repeat steps to apply filters. You will notice that the filter arrows in front of column headers disappear and the hidden rows also reappear.
3. Sorting of data means to organise the data in ascending or descending order, whereas Filter is used to separate unwanted material from a mixture.
4. To apply conditional formatting to a series of data, follow these steps:
Step 1: Select the data and click on the Conditional Formatting command.
Step 2: Select the desired conditional formatting.
Step 3: Now select the desired option to apply on the selected cell range.



Scratch Your Brain.

1. a. Sorting
b. Filter
c. Sort A to Z
d. Top/Bottom Rules
e. Ascending order
2. Do it yourself.
3. Competency-based/Application-based questions:
a. Sort A to Z
b. Filter



Periodic Assessment 1

(Based on chapters 1 & 2)

- A.** 1. The total number of digits used in a number system is called its base or radix.
2. The hexadecimal number system consists of 16 digits from 0 to 9 and letters from A to F.
3. Sorting data means to organise the data in ascending or descending order.
- B.** 1. Decimal Octal Scientific Binary
2. Int Bit Nibble Byte
- C.** 1. c. 2. e. 3. b. 4. a. 5. d.
- D.** 1. In case more than one column is to be sorted in such a way that the first column is in ascending order and if some data is same for more than one row, then the second column of such rows gets sorted in descending order. You can do this in Excel using Custom Sort.
2. Filtering process is used to separate unwanted material from a mixture. Excel also allows you to filter unwanted data from a set of data.
3. The octal number system consists of eight digits from 0 to 7. Hence, the base of octal number system is 8. In this system, the position of each digit represents a power of 8. Any digit in this system is always less than 8. Octal number system is used as a shorthand representation of long binary numbers.

3. Layers in Krita



Take Off

Do it yourself.



Double Tap

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



Choose the correct option.

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



Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✓ 2. ✗ 3. ✓





Answer the following questions:

1. Duplicating a layer means making an exact copy of an existing layer. A layer along with its contents and properties can be duplicated.
2. To move a layer, follow the given steps:
 Step 1: Select the layer in the Layers docker.
 Step 2: Click on the Move layer or mask up or Move layer or mask down button at the bottom of the Layers docker.
3. To add a new layer in Krita, follow the given step:
 - Click on the Add Layer button at the bottom left corner of the Layers docker. When you click on this button, a new layer is added.



Scratch Your Brain.

1.     
 Add Layer Duplicate Layer Delete Layer Close eye Shaped Icon Open eye Shaped Icon
2. Competency-based/Application-based questions:
 - a. Text tool
 - b. By clicking on the delete the layer or Mask button.

4. Animations in Krita



Take Off

1. Add layer
2. Duplicate layer
3. Delete Layer



Double Tap

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



Choose the correct option.

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





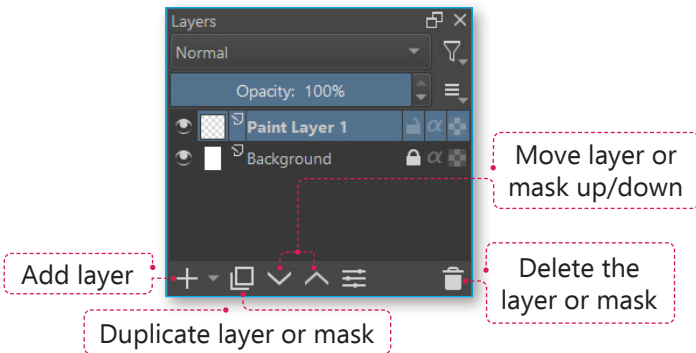
- 



Periodic Assessment–2

(Based on chapters 3 & 4)

A.



- B.
1. Animation is a method by which images are manipulated in a manner so that they appear as moving objects.
 2. Timeline is present below the stage. It is a rectangle shape section which is used to control and manage the animation of different objects and layers.
 3. Keyframes are special frames where some change are defined in the properties of an object. These changes can be modifications in size, shape, colour, position, of the object etc.

- C.
1. Dimensions: This tab contains the settings related to the file. The common options under this tab are:

Width and Height: Used to specify the width and height of the new image in pixels, centimeters, inches, millimeters, points and picas.

Resolution: Used to specify the number of pixels per inch. More resolution, makes the image clear while low resolution makes the image blur.

Color Model: Used to specify the number of colors that can appear in the image. You can choose RGB, Grayscale, CMYK and Lab color modes.

Content: This tab contains the settings related to the file. The common options under this tab are:

Name: Used to specify the new name for the Krita file. By default, the name given to the file is 'Unnamed'.

Layers: Used to specify the number of layers in the file. The layers can be added or deleted while working on the file also.

Background Color: Used to specify the initial background color of the new file.

Background Opacity: Used to specify the intensity of the background color.

2. To add objects as a new layer, follow the given steps:

Step 1: Click on the Layer menu.

Step 2: Place the mouse pointer over the Import/Export option.

Step 3: Click on the Import Layer option.

Step 4: Locate and select the image file to be added as a new layer.

Step 5: Click on the Open button.



Test Sheet–1

(Based on chapters 1 to 4)

- A.** 1. b. 2. a. 3. b. 4. b. 5. b. 6. b.
7. a. 8. b. 9. d. 10. a. 11. b. 12. a.
- C.** 1. × 2. ✓ 3. ✓ 4. × 5. ✓ 6. ×
7. ✓ 8. ×
- D.** 1. A number system is a systematic way of representing numbers to describe quantities. There are many number systems in existence. Consider a digital clock. Digital clocks have 24 hours, each hour has 60 minutes. Each minute is in turn has 60 seconds. When you learnt to count, you used the numbers, like 1, 2, 3, etc. Similarly, computers also have their own number system, known as the binary number system. The digital computer represents all kinds of data and information like audio, graphics, video, text and numbers in binary form.
2. To convert a decimal number into a binary number, follow these steps:
Step 1: Divide the decimal number by 2 (the base of the binary number system).
Step 2: Note down the quotient and the remainder.
Step 3: Divide the quotient obtained again by 2 and note down the resulting quotient and remainder.
Step 4: Repeat the procedure till you reach a quotient less than 2.
Step 5: Firstly, list the last quotient and all the remainders (moving from bottom to top). You will get your binary number.
3. Sorting of data means to organise the data in ascending or descending order, whereas Filter is used to separate unwanted material from a mixture.
4. To apply conditional formatting to a series of data, follow these steps:
Step 1: Select the data and click on the Conditional Formatting command.
Step 2: Select the desired conditional formatting.
Step 3: Now select the desired option to apply on the selected cell range.
5. To move a layer, follow the given steps:
Step 1: Select the layer in the Layers docker.
Step 2: Click on the Move layer or mask up or Move layer or mask down button at the bottom of the Layers docker.
6. To add a new layer in Krita, follow the given step:
• Click on the Add Layer button at the bottom left corner of the Layers docker. When you click on this button, a new layer is added.
7. Keyframes are special frames where some change is defined in the properties of an object. This change can be as change in size, shape, colour, position, etc.
8. To switch to Animation mode, follow these steps:
Step 1: Click on the Choose workspace icon on the top right side of the Toolbar.
Step 2: Click on the Animation option from the list.



5. Google Apps



Take Off

1. Facebook (United States)
2. WhatsApp (United States)
3. Twitter (United States)
4. Instagram (United States)



Double Tap

Yes, there are several differences between Google Slides and PowerPoint. One difference is that Google Slides is a web-based application that is fully integrated with Google Drive, whereas PowerPoint is a desktop application that is part of the Microsoft Office suite.



Choose the correct option.

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



Fill in the blanks with the correct words.

1. Sundar Pichai
2. Google Docs
3. Share
4. Street View, Satellite, Terrain
5. saved



Answer the following questions:

1. Google Drive is a cloud-based storage service. The synchronisation feature allows you to download and upload files to the remote server.
2. Google mail or Gmail is one of the best and free mailing apps accessible through a web browser over the Internet. Your Gmail account is used to access other apps of Google.
3. Google Maps is a digital navigation tool that offers detailed maps, satellite imagery, street views, and route planning for users worldwide. It was launched on February 8, 2005, and became available on the Play Store in December 2012. The default view of the Google Maps is Map view.
4. Following are the features of Google Sheets:
 - Multiple users can work on the same spreadsheet simultaneously.
 - It works on any device including iOS and Android.



Scratch Your Brain.

1. a. Google Slides
d. Google Drive
- b. YouTube
e. Gmail
- c. Google Maps
f. Map view



2. Do it Yourself.
3. **Competency-based/Application-based questions:**
 - a. She can use preview option to change the view of files.
 - b. Google Map

6. App Development



Take Off

1. Camera
2. Gallery
3. Clock
4. Calculator
5. Messages



Double Tap

Pinterest
Camera



Choose the correct option.

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



Fill in the blanks with the correct words.

1. hybrid
2. Mobile
3. Android
4. gaming
5. install



Answer the following questions:

1. The application that is mainly developed for computer or laptop is called a desktop application. This type of application depends on the hardware and operating system on which it runs.
2. The application program that is stored on a remote server and accessed over the Internet through a Web browser interface is called a Web application.
3. In MIT App Inventor, Viewer pane is located to the right of the palette is the white area where we can view and arrange added components.
4. E-commerce means to buy or sell products or services over the Internet. E-commerce apps allow us to buy or sell products while sitting at home or any other place.
Amazon is the leading online marketplace which provides an excellent shopping experience to their users. Some other examples of the E-commerce apps are Flipkart and Blinkit.



10

Plus (Ver. 4.0)-VII (Answer Key)



5. To change the display name of a button, follow the given steps:

Step 1: Click on the button in the Viewer pane.

Step 2: Type a new name for the button in the Text box.

6. Educational apps provide a platform for children to learn from anywhere and anytime. These apps use advance methodologies and new concepts to make the learning easier. Some of the educational apps help teachers to support their teaching process. Some of the most commonly used educational apps are Khan Academy, Vedantu, and Grammar EN.



Scratch Your Brain.

1.
 - a. Workspace
 - b. Components Pane
 - c. Gaming Apps
 - d. Educational Apps
 - e. Social Networking Apps
 - f. Hybrid Apps
2. Do it yourself
3. Competency-based/Application-based questions:
 - a. Gaming apps
 - b. App Inventor

7. More on HTML5



Take Off

1. What You See Is What You Get
2. Hyperlink
3. HTML5



Double Tap

Text-align property is used to align the text. Its different values are: left, right, center, justify.



Choose the correct option.

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



Fill in the blanks with the correct words.

1. markup
2. margin
3. <P>
4. <SUB>
5. <SUP>





Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✗

2. ✗

3. ✗

4. ✗

5. ✗



Answer the following questions:

- The <HR> tag is used when you want to divide your web page into different sections.
- Text-indent property is used for indentation in HTML5.
- To insert an image as the background for the <P> tag using CSS, you can use the following code:

```
p {
  background-image: url("image_path.jpg");
  background-size: cover; /* Optional: ensures the image covers the entire area */
  background-position: center; /* Optional: positions the image in the center */
  background-repeat: no-repeat; /* Optional: prevents the image from repeating */
}
```
- The text-decoration property in CSS is used to apply decoration styles to text, such as underlining, overlining, strikethrough, or none. It allows you to control the appearance of text in terms of decoration.
 For example,

```
h1 {
  text-decoration: underline; /* Applies an underline to the text */
}
```
- By using CSS, you can change the font face, colour, style and size. CSS provides various properties like font-family to change the font face, color to change the colour of font, font-style to make the text italic, font-weight to make the text bold, text-decoration to make the text underline or overline and font-size to change the size of font.
- The <SUP> tag is used to turn the enclosed text into a superscript, whereas the <SUB> tag is used to turn the enclosed text into a subscript.
 - Text-align specifies the alignment of the text, whereas text-indent specifies the indentation of the first line of the text.



Scratch Your Brain.

- Do it yourself
- Do it yourself
- Competency-based/Application-based questions:
 - He can use margin properties.
 - She can use Font properties.



12

Plus (Ver. 4.0)-VII (Answer Key)



8. Lists and Tables in HTML5



Take Off

<BODY>

The chemical formula of Sulfuric Acid is $H₂SO₄$.

The formula of Pythagoras theorem is $a² + b² = c²$.

Where a, b and c are three sides of a right triangle.

</BODY>



Double Tap

- I. <HTML>
<HEAD> <TITLE> Nesting of Lists </TITLE> </HEAD>
<BODY>
<OL TYPE = "I">
 Office
<UL TYPE = "Disc">
 Word
 Excel
 PowerPoint

II. Adobe Software
<UL TYPE = "Disc">
 Animate CC
 Photoshop CC

</BODY>
</HTML>



Double Tap

- | | |
|--------------------------|----------------------------|
| 1. Border Property | 2. Border-style Property |
| 3. Border-color Property | 4. Border-spacing Property |





Choose the correct option.

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



Fill in the blanks with the correct words.

1. ordered list 2. list item 3. 4. list-style-type 5. <CAPTION>



Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✓ 2. ✗ 3. ✗ 4. ✗ 5. ✓



Answer the following questions:

1. A list is a collection of related items that can be used to represent information in pointed form.
2. Tables represent the data in the form of rows and columns. In HTML5, a table is created by using the <TABLE> tag.
3. The definition list is also known as description list. The description list is created by using the <DL> tag in conjunction with <DD> and <dt> tags.
4. An ordered list is also called the numbered list. This type of list is used to display the items in a sequential manner, whereas an unordered list is also called bulleted list. This type of list is generally used to display random items which never require to place in a sequential manner. The tag is used to define an unordered list.
5. The border-style property is used to apply outline style of border of the table or any other element. To use this property, it is necessary to use the border property. CSS provides different types of border styles which are Dotted, Dashed, Solid, Double, Groove, Ridge, Inset, Outset, None and Hidden. You can use any one of these styles at a time. If you use the None style, the border will not appear. For example:

```
<style>
table, th, td {border:2px; border-style:solid;}
</style>
```
6. The Rowspan attribute applies when a single cell is extended for more than a single row, that is, the cell spans for 2 or more rows instead of 1, whereas the Colspan attribute applies when a single cell is extended to more than a single column, that is, the cell spans for 2 or more columns instead of 1.





Scratch Your Brain.

1.

K	P	C	R	M	U	B	N	G	R
C	H	A	O	Q	T	A	B	L	E
Q	P	P	W	C	P	Z	I	N	M
Y	N	T	S	C	W	R	Q	A	K
T	L	I	P	O	Q	Q	N	B	A
I	H	O	A	L	E	S	E	I	H
V	Z	N	N	S	K	D	A	Y	Z
T	U	Z	K	P	Y	C	L	Y	E
X	D	S	T	A	R	T	A	J	S
Z	G	Z	I	N	Y	P	P	O	R

2. **Competency-based/Application-based questions:**
- He can Create table using <TABLE> tag.
 - She can use <COLSPAN> tag.

Periodic Assessment–3

(Based on chapters 6 to 8)

- A.

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



- B.** 1. Google Assistant 2. Camera 3. YouTube
 4. Facebook 5. Flipkart
- C.** 1. The Rowspan attribute applies when a single cell is extended for more than a single row, that is, the cell spans for 2 or more rows instead of 1.
 2. The font-family specifies the font to be used.
 3. The background-image specifies the image to be used in the background on the web page.
 4. Google Drive is a cloud-based storage service. The synchronisation feature allows you to download and upload files into the remote server.
 5. The border-spacing property is used to specify the space between the borders of adjacent cells.

9. Algorithmic Intelligence



Take Off

1. AA2	BB4	CC3	DD8
2. AB	DF	GH	JK
3. 1234	6789	2354	4567
4. 0001	1002	0101	0111



Double Tap

Do it yourself.



Choose the correct option.

1. b. 2. a. 3. b



Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✓ 2. ✓ 3. ✓ 4. ✗ 5. ✓



Answer the following questions:

1. Information processing involves acquiring, storing, analyzing, retrieving and displaying of information.



2. An algorithm is a set of step-by-step instructions in a sequential manner to solve a problem.
3. Computers store and processes data and information using binary code in the form of digital 1s and 0s inside the (CPU) and RAM.
4. The program executes the statements written after 'if' when the condition is true. If it is false, the statements written after 'else' will be executed.

5. Read Day

If day = Sunday

Display Picnic

Else

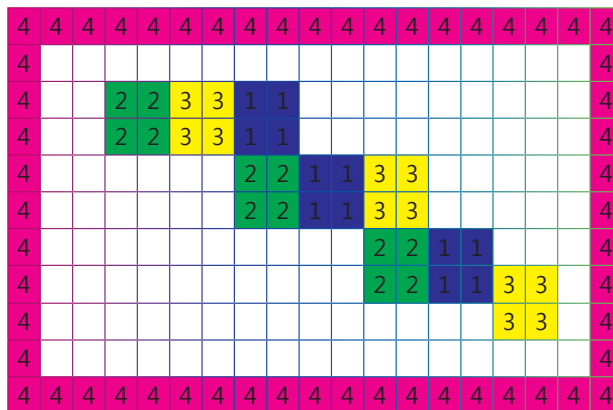
Display School



Scratch Your Brain.

1.

If (number is 1) then colour Blue
 If (number is 2) then colour Green
 If (number is 3) then colour Yellow
 If (number is 4) then colour Purple
 If (number is 0) then do not colour



2. **If**

Number is divisible by 3

Then

Print "The number is ODD"

Else

Print "The number is EVEN"

3. **Competency-based/Application-based questions:**

a. **If**

world which electricity

Then

Life will be impossible

b. **It**

my friend has changed into a cartoon character

Then

I will be glad to see him & will play with him.



10. Conditional Statements in Python



Take Off

1. True 2. 84 3. 8 2 20 4. True 5. 22



Double Tap

```
if(age > 18):  
    print('You are eligible to vote')  
else:  
    print('Not eligible to vote')
```



Choose the correct option.

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



Fill in the blanks with the correct words.

1. if 2. true 3. false 4. else



Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✓ 2. ✗ 3. ✓ 4. ✗ 5. ✓

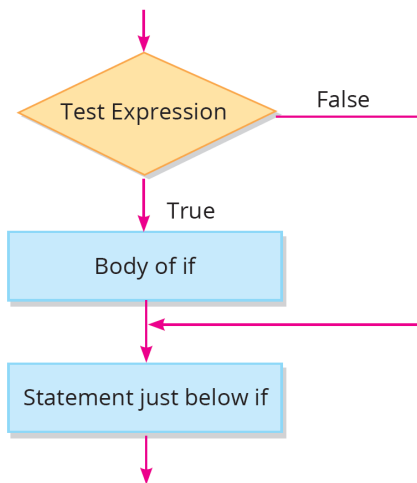


Answer the following questions:

- Conditional statements, also known as decision-making or control flow statements, are used in programming to execute different blocks of code based on certain conditions.
- if (Test Expressions_1):
 Indented block 1
elif (Test Expression_2):
 Indented block 2
elif (Test Expression_3):
 Indented block 3
else:
 Indented block



3.



4. The if statement is the simplest conditional statement. In case of the if statement, a statement or a collection of statements within the if block is executed only if a certain condition or expression evaluates to True. If the condition evaluates to False, then the control of execution is passed to the next statement after the if block.

The if...else statement checks for a condition. If the condition evaluates to True, the indented block following the if statement is executed, otherwise the indented block after the else statement is executed.



Scratch Your Brain.

1.
 - a. b is not greater than a
 - b. x is greater than 5
y is greater than 2
 - c. Positive number
 - d. Above ten
and also above 20!
2.
 - a.

```
num = int(input("Enter a Number: "))
if num > 5:
    print("Number greater than five")
elif num < 5:
    print("Number less than five")
else:
    print("Number is equal to five")
```
 - b.

```
marks = int(input("Enter the Marks: "))
if marks < 33:
    print("Fail")
```



```
else:  
    print("Pass")
```

3. Competency-based/Application-based questions:

- a. Design makes statement.
- b. If ...elif ...else

11. Concept of Smart Living



Take Off

Do it yourself.



Double Tap

1. T
2. F



Choose the correct option.

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



Tick (✓) the correct statements and cross (✗) the wrong ones.

1. ✗
2. ✓
3. ✓
4. ✓
5. ✓



Answer the following questions:

1. It has a built-in camera to watch and a microphone to talk to the visitor through the intercom.
2. Smart Smoke Detectors device sounds an alarm when smoke is detected. It can warn you if there is a fire at your home.
3. Smart Homes are homes that use internet connected devices to empower remote monitoring and management of appliances and devices such as for lighting and heating.
4. Smart Lighting
Smart Cameras
Video Doorbells





Scratch Your Brain.

1. Do it yourself.
2. Do it yourself.
3. Competency-based/Application-based questions:
 - a. Smart Smoke Detectors
 - b. Smart Lighting

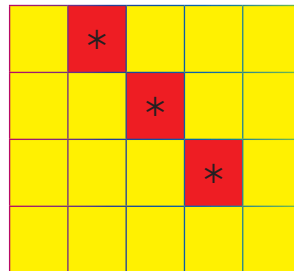
Periodic Assessment-4

(Based on chapters 9 to 11)

A. Congratulations!!!
You have passed the exam

B. if (Test Expressions_1):
 Indented block 1
elif (Test Expression_2):
 Indented block 2
elif (Test Expression_3):
 Indented block 3
else:
 Indented block

C. If (box has *)
 then
 colour it red
 else
 colour it yellow



- D.** 1. Smart Cameras 2. Smart Smoke Detectors 3. Smart Speakers

Test Sheet-2

(Based on chapters 5 to 11)

- | | | | | | |
|-----------------|-------|-------|--------|--------|--------|
| A. 1. a. | 2. c. | 3. a. | 4. a. | 5. d. | 6. a. |
| 7. d. | 8. a. | 9. a. | 10. b. | 11. b. | 12. b. |
| B. 1. x | 2. x | 3. x | 4. ✓ | 5. x | 6. ✓ |
| 7. x | 8. ✓ | | | | |



- C. 1. Web apps are different from websites. The major difference is that a web app can be a small part of a website which provides a particular functionality. On the other hand, a website can contain many web apps.
2. a. Gaming Apps: These apps allow us to improve our cognitive skills such as attention and focus. Some of the gaming apps allow children to learn while playing. These apps also allow us to play games with other friends and share scores on social media. The most commonly used gaming apps are Call of Duty, Candy Crush Saga, and Angry Birds.
- b. Productivity Apps: These apps are also known as business apps used by businessmen to perform several complex tasks. These apps allow businessmen do their work more effectively. The most commonly used productive apps are Google Calendar, Evernote and Dropbox.
- c. E-Commerce Apps: E-commerce means to buy or sell products on an online service over the Internet. E-commerce apps allow us to buy or sell products while sitting at home or any other place. The most commonly used apps are Amazon, Flipkart and Blinkit.
3. The <SUP> tag is frequently used to write algebraic formulas.
4. The <HR> tag is used when you want to divide your web page into different sections. It is also used when you want to draw a line between two paragraphs. The <HR> tag has width, size, and color attributes to modify the horizontal ruler (line).
5. Information processing involves acquiring, storing, analyzing, retrieving and displaying of information.
6. Smart Homes are homes that use internet connected devices to empower remote monitoring and management of appliances and devices such as for lighting and heating.
- a. Smart Homes are great at saving power. For example, people often forget to switch off their lights when they go to sleep. Smart Homes can detect when the user is asleep and accordingly switch off the lights.
- b. They are installed with smart security devices which helps in protecting the home and its belongings.
- c. They are connected to multiple devices and all of those devices can be accessed easily all at once with the help of a smartphone.
- d. They are installed with gadgets that can be accessed remotely and can control various functions.
- For example, a person can control the temperature of the Smart Home.
7. <TR>: This tag is used for defining table rows.
- <TD>: This tag is used for defining table data, that is, the data of the cells.
- <CAPTION>: This tag is used for defining the title of the table.
- <TH>: This tag is used for defining table headings.
8. The Rowspan attribute applies when a single cell is extended for more than a single row, that is, the cell spans for 2 or more rows instead of 1, whereas the Colspan attribute applies when a single cell is extended to more than a single column, that is, the cell spans for 2 or more columns instead of 1.
9. An algorithm is a step-by-step instructions in a sequential manner to solve a problem.



10. The syntax of if...elif...else ladder is shown below:

```
if (Test Expressions_1):
```

```
    Indented block 1
```

```
elif (Test Expression_2):
```

```
    Indented block 2
```

```
elif (Test Expression_3):
```

```
    Indented block 3
```

```
else:
```

```
    Indented block
```

