

1. Computer Networking

Checkpoint



- A.** 1. a 2. c 3. b 4. b 5. a
- B.** 1. Protocol 2. SMTP 3. Router 4. Mesh 5. NIC
- C.** 1. F 2. T 3. T 4. T
- D.** 1. Networking cable, also known as Ethernet cable is a transmission medium that allows to transport information from one place to other place.
2. Various components needed for a computer system are:
a. Sender b. Receiver c. Transmission Medium d. Message e. Protocol
3. A server is also called host computer. It controls the access to the hardware and software on the network. It provides a centralised storage area for the programs, data and information.
A client is a computer which depends on the server for specific resources.
4. Topology refers to the geometric arrangement of computers or nodes in a network.
- E.** 1. A computer network is a group of interconnected computer systems and other computing devices.
The advantages of computer network are:
(i) The information can be easily shared by people. (ii) It reduces the cost of hardware.
(iii) Store information in one centralised location. (iv) Reduction in installation cost.
(v) User authentication process to secure the data.
2. LAN is a short form of Local Area Network. This network interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km. This type of network is usually preferred for a smaller area such as a residence, school, laboratory, university campus or office building. MAN is a short form of Metropolitan Area network. This network consist of two or more LAN together that usually spans several buildings in the same city or town.
3. A single digital page on the World Wide Web (WWW) that contains information and links of another pages is called a web page.
A website is a collection of web pages which are interlinked to each other.

4. A sender is a computer that wants to send information to other computer connected to the network.

A receiver is a computer which is expecting the data from other computer on the network.

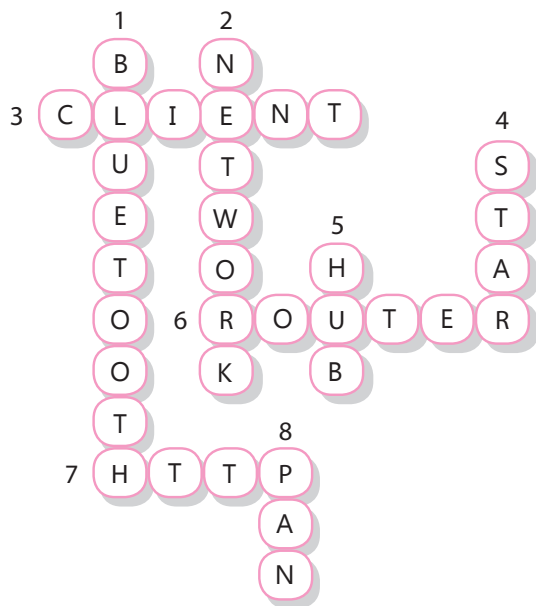
5. An Internet Protocol (IP) address is a unique identification number assigned to a computer connected to a network. It has two main functions: host or network interface identification and location addressing. IP addresses are written and displayed in human-readable notations, such as 172.16.254.1.

Mind Boggler



A. 1. Ring Topology 2. Network Server

B.



2. Introduction to LibreOffice Base

Checkpoint



- A. 1. d 2. a 3 a 4 b 5 c
- B. 1. table 2. field 3. primary 4. field type 5. preview
- C. 1. T 2. F 3. F 4. F
- D. 1. Primary Key is a unique field by which the records are uniquely identified in a table.
2. Report is the final result of the manipulated data that comes from tables or queries in DBMS.



3. A query is the most powerful feature of database which helps you to retrieve information from a table based on some criteria or condition.
4. When a query runs, the database system retrieves the information from the table and makes it available to the user through form.

- E.**
1. Flat File Database is a type of database that contains records having small number of fields without any structured relationship between them.
 2. Table Data View is the default view of the table. In this view, the records are visible. On the other hand, In Table Design View, the records are not visible.

- F.**
1. Advantages of Database Management System are:
 - a. It minimizes the redundancy of data by integrating and sharing the data files.
 - b. It saves the storage space.
 - c. All the users are provided with some access rights or privileges and permissions.
 - d. The files can be easily updated whenever changes are being made.
 2. There are two types of views in LibreOffice Base—Table Data View and Table Design View.

Table Data View: Table Data View is the default view of the table. It shows all the fields and the records as entered by the user. In this view, you can edit the contents of the table.

Table Design View: In Table Design View, the records are not visible. It shows the field names along with their data types. You can add or delete a field name.

3. The rules for writing a field name in a database are:
 - a. The field name cannot include a double quotation mark (").
 - b. No two fields can have the same field name.

Mind Boggler



- A.** 1. Table Design View 2. Primary Key

B.

P	A	B	E	A	U	T	B	D	E	Z	L
R	S	N	L	S	O	M	E	M	N	D	O
I	M	O	O	Z	N	L	A	D	F	A	R
M	T	Q	U	E	R	Y	L	M	L	T	Q
A	L	M	S	F	E	T	O	M	Q	A	B
R	Z	Y	U	L	P	M	T	A	Q	B	F
Y	X	L	N	M	O	S	A	L	A	A	M
K	S	U	V	P	R	T	B	M	R	S	Z
E	L	L	O	P	T	S	L	N	F	E	A
Y	M	N	F	O	R	M	E	L	Z	Y	B

3. More on LibreOffice Base

Checkpoint



- A.** 1. b 2. a 3. c 4. c
- B.** 1. design, layout 2. select query 3. relationship 4. edit
- C.** 1. F 2. F 3. T 4. F 5. T
- D.** 1. c 2. a 3. d 4. b
- E.** 1. Forms are used to add, edit and display data from the tables in a user-friendly manner.
2. A report in LibreOffice Base is a feature which allows you to organise and present your data in a user-friendly format so that it can be printed.
3. The two main views in which the form the form can be displayed are:
 a. Design View b. Layout View
- F.** 1. Query helps to search or compile data from one or more tables in a database by giving specific search conditions so that exact data can be viewed. On the other hand, A report allows you to organize and present data in a user-friendly format so That it can be printed.
2. The Different Types of Queries in LibreOffice Base are:
- Select Query: A Select query retrieves specific data based on conditions, displaying chosen fields from one or more tables.
 - Parameter Query: A Parameter query is a type of select query that prompts you for input before it runs. The query then uses the input as the criteria that controls the result.
 - Action Query: An Action query creates a new table or alters your data by adding, deleting, updating, and appending data from it.
 - Crosstab Query: A Crosstab query organises data into a table where rows and columns show different categories.
 - Aggregate Query: An Aggregate query is used to perform calculations on a group of data. It allows you to summarise or analyse data by applying functions such as SUM, AVG, COUNT, MIN, and MAX to selected fields.
3. A Foreign Key is a column in one table that must match the Primary Key of another table.
To define relationship between the two tables, follow these steps:
- Step 1:** Click on the Relationships option from the Tools menu. The Add Tables dialog box will open.



Step 2: Select the table and click on the Add button. The selected table will appear in the Relation Design window. Repeat clicking Add button to add more tables in the Relation Design window. When all the required tables have been added, click on the Close button.

Step 3: Press and hold the left mouse button on the Primary Key field of one table.

Step 4: Drag the mouse pointer to the common field in the other table and release the mouse button.

This will create a line or relationship between the related fields of the two tables.

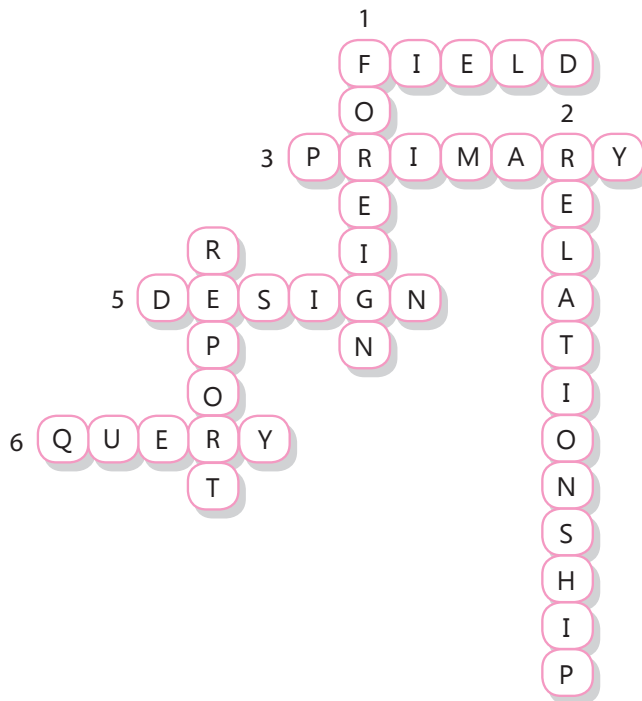


Mind Boggler



- A.**
1. Sahil can use the Form in LibreOffice Base to display stored in a table in a user.
 2. Anisha wants to use a Select Query to compile data from three tables stored in a database..

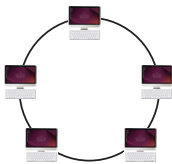
B.



Periodic Assessment 1

(Based on chapters 1 to 3)

A.



1. RING



2. TREE

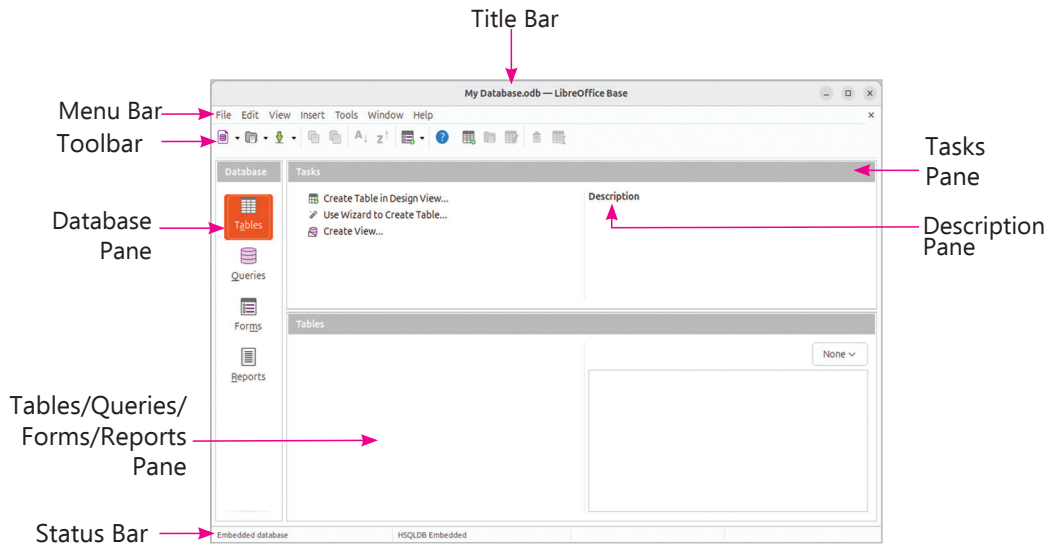


3. BUS



4. STAR

B.



C.

1. It is a unique field by which the records are uniquely identified in a table.
2. Design View allows users to define and modify the structure of a table, including field types, properties, etc.
3. Form wizard helps user to create forms.
4. Navigation bar is present at the bottom of the Form window which helps in scrolling between the records.
5. Crosstab Query is a query that organise data into a table where rows and columns show different categories.



4. More on GIMP

Checkpoint



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

B. 1. Smudge 2. Sharpen 3. Clone

C. 1. F 2. F 3. F

D. 1.



Healing Tool



Clone Tool



Blur/Sharpen Tool



Smudge Tool



Dodge/Burn Tool

2. Dodge/Burn Tool is used to lighten or darken the colours of the image.
3. Smudge Tool is used to show the image as the wet paint on the image has been spread by a finger.

E. 1. To use Clone tool, follow these steps:

Step 1: Open the image and then click on Clone Tool.

Step 2: Select the brush size and hardness.

Step 3: Press and hold the Ctrl key and click on the image to be cloned.

Step 4: Click and drag the mouse at the place where the clone is to be created.

Step 5: Release the mouse button when clone completed.

2. To use Blur feature of this tool, follow these steps:

Step 1: Open an image.

Step 2: Click on Blur/Sharpen Tool from the Toolbox.

Step 3: Select the brush size and hardness from the Tool Options.

Step 4: Click and drag the mouse pointer over the area that you want to blur.

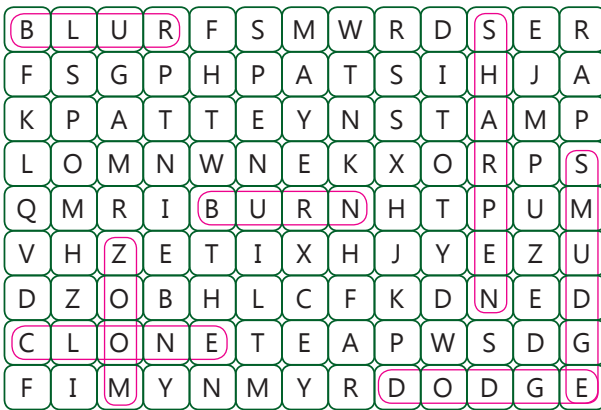
Mind Boggler



- A. 1. Gunjan can use Healing Tool to remove moles on her face from photograph.
2. Rakshit can use Clone tool to duplicate the car in his right hand.



B.



5. Layers and Filters in GIMP

Checkpoint



- A.** 1. a 2. b 3. b 4. b
- B.** 1. Eye 2. Tab 3. Copying, Pasting 4. Filters
- C.** 1. F 2. F 3. F 4. T
- D.** 1. Layers are transparent sheets which are stacked on top of each other so that individual objects of an image can be edited without affecting other objects.
2. Filters are tools which are used to modify an image in a variety of ways.
3. Hiding a layer means to make the layer temporarily invisible.
4. Lock button contains Lock Pixels, Lock Position and Size, and Lock Alpha Channel buttons. The Lock Pixel button prevents edits directly to the pixel data on the layer.
- E.** 1. You can combine all the layers of an image to make one layer by flattening layers.
- To flatten layers, follow these steps:
- Step 1:** Right-click anywhere in the Layers palette. A pop-up menu appears.
- Step 2:** Select the Flatten Image option. All the layers are combined into one layer.
2. To delete a layer, follow these steps:
- Step 1:** Select the layer from the Layers palette.
- Step 2:** Click on the Delete layer button at the bottom of the Layers palette.
3. To apply Gaussian Blur filter to an image, follow these steps:
- Step 1:** Open an image in GIMP.
- Step 2:** Select the part of the image where you want to apply the filter.
- Selected part of the image



Step 3: Click on the Filters menu from the Menu bar. A drop-down menu appears.

Step 4: Select the Blur option from the drop-down menu. A submenu appears.

Step 5: Click on Gaussian Blur from the submenu. The Gaussian Blur dialog box appears.

Step 6: Increase the value of the X and Y size to decrease or increase the effect of the filter.

Step 7: Click on the OK button to apply the effect.

4. To change the on-screen size of an image, follow the given steps:

Step 1: Click on Image menu from the Menu bar.

Step 2: Select the Scale Image option.

The Scale Image dialog box appears.

Step 3: Change the unit of measurement from px (pixel) to inches or centimeters.

Step 4: Type a new image size in the Width and Height box.

Step 5: Click on the Scale button. Click on Changing on-screen size.

The on-screen size of an image gets changed.

Mind Boggler



A. 1. Ankita should click on the Eye icon in the Layers palette to temporarily hide the layer.

2. Shaurya should follow the steps to merge two images in GIMP:

Step 1: Open an image in GIMP. In this case, we have opened a Flower2.png.

Step 2: Open another image. In this case, we have opened a Flower1.png.

Adding image Adding another image

Step 3: Use any Selection Tool from the Toolbox to select the area you want to copy.

Step 4: Press Edit → Copy option from the Menu bar to copy the selected portion of the image.

Step 5: Click on the Flower2.png image.

Step 6: Press Edit → Paste option from the Menu bar to paste the copied selection.

When you paste an image, a temporary layer, called floating layer is added to the Layers palette.

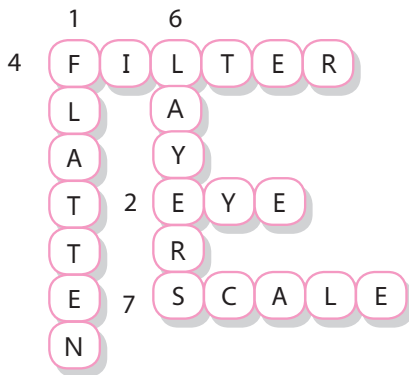
Step 7: Move the pasted image anywhere in the Flower 2.png image layer by using the Move tool.

Step 8: Click on Anchor the floating layer button at the bottom of the Layers palette to merge the floating layer to the layers palette.

This action merges the floating selection into the active layer of the first image.



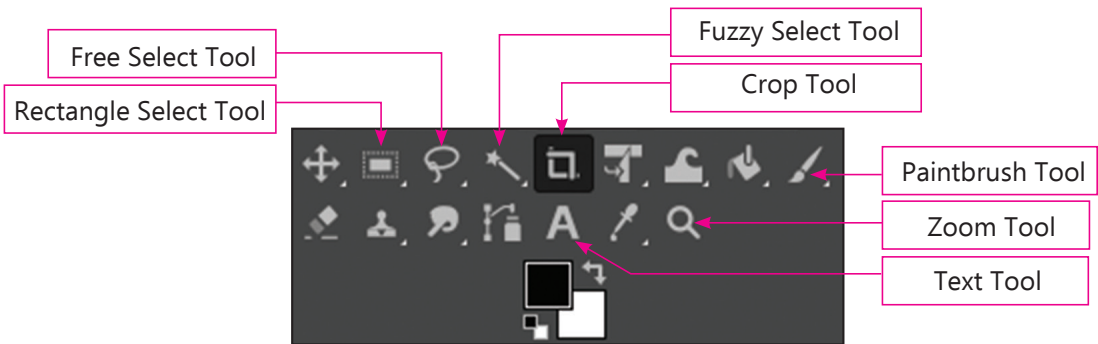
B.



Periodic Assessment 2

(Based on chapters 4 & 5)

A.



- B.**
1. Layers are transparent sheets which are stacked on top of each other so that individual objects of an image can be edited without affecting other objects.
 2. The Lock button contains Lock Pixels, Lock Position and Size, and Lock Alpha Channel options. The Lock Pixels button prevents edits directly to the pixel data of the layer. The Lock Position and Size button prevents accidental movement or resizing of the layer. The Lock Alpha Channel button protects the transparency information of the layer.
 3. A Toggle Button is a user interface control which is used to display ON or OFF states.
 4. Clone tool is used to duplicate part of an image. It involves setting the sampling point in the image to be cloned.
 5. Filters are tools which are used to modify an image in a variety of ways.



Test Sheet-1

(Based on chapters 1 to 5)

Section A

- A.** 1. (iii) 2. (ii) 3. (i) 4. (ii) 5. (ii)
6. (iii) 7. (ii) 8. (ii) 9. (ii)
- B.** 1. Protocol 2. SMTP 3. Primary 4. Data type 5. Select query
6. Run 7. clone 8. eye
- C.** 1. F 2. T 3. T 4. F 5. T 6. F
7. F 8. F

Section B

- A.** 1. A client is a computer which depends on the server for specific resources.
A server is also called host computer. It controls the access to the hardware and software on the network. It provides a centralised storage area for the programs, data and information.
2. There are two types of views in LibreOffice Base—Table Data View and Table Design View.
Table Data View: Table Data View is the default view of the table. It shows all the fields and the records as entered by the user. In this view, you can edit the contents of the table.
Table Design View: In Table Design View, the records are not visible. It shows the field names along with their data types. You can add or delete a field name.
3. A report in LibreOffice Base is a feature which allows you to organize and present your data in a user-friendly format so that it can be printed.
4. Smudge tool is used to show the image as the wet paint on the image has been spread by a finger.
5. Layers are transparent sheets which are stacked on top of each other so that individual objects of an image can be edited without affecting other objects.
- B.** 1. A single digital page on the World Wide Web (WWW) that contains information and links of another pages is called a web page.
A website is a collection of web pages which are interlinked to each other.
2. The rules for writing a field name in a database are:
a. The field name cannot include a double quotation mark ("").
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Step 3: Press and hold the left mouse button on the Primary Key field of one table.

Step 4: Drag the mouse pointer to the common field in the other table and release the mouse button.

This will create a line or relationship between the related fields of the two tables.

4. To use Blur feature of this tool, follow these steps:

Step 1: Open an image.

Step 2: Click on Blur/Sharpen Tool from the Toolbox.

Step 3: Select the brush size and hardness from the Tool Options.

Step 4: Click and drag the mouse pointer over the area that you want to blur.

5. To delete a layer, follow these steps:

Step 1: Select the layer from the Layers palette.

Step 2: Click on the Delete layer button at the bottom of the Layers palette.

6. More on HTML

Checkpoint



- A.** 1. c 2. b 3. b 4. a 5. b
- B.** 1. Internal link 2. <A> 3. TARGET 4. Purple
- C.** 1. F 2. F 3. F 4. T 5. T 6. T
- D.** 1. HREF stands for Hypertext Reference.
2. SRC attribute specifies the source location or URL of the image to be inserted in the web page.
3. Frames is a feature which is used to display more than one web page on a single screen of the web browser.
4. External linking is used to connect a page on one website to a page on a different website.
- E.** 1. Two attributes used with the tag are:
- a. SRC: It specifies the source or URL of the image that has to be inserted in the web page. For example,



b. WIDTH: It specifies the width of the image in the web page. For example,

```
<IMG SRC="lily.jpg" WIDTH="50%">
```

2. Display

3. The attributes of the <IFRAME> tag are:

- SRC: It is used to specify the URL of the web page which you want to display in the frame.
- HEIGHT: It is used to specify the height of the frame.
- WIDTH: It is used to specify the width of the frame.
- NAME: It is used to specify the name of the frame. This name can be used in the TARGET attribute of the <A> tag.

Mind Boggler



- A.** 1. Sunil can use the <IFRAME> tag to divide his web page into three columns.
2. Divya should use tag to add images on the web page.

B.

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

7. Google Apps

Checkpoint



- A.** 1. b 2. a 3. c 4. a 5. b
B. 1. Sundai Pichai 2. encryption 3. share 4. Map, Satellite, Terrain
5. saved

- C.**
1. Google Drive is a cloud-based storage service.
 2. Google Slides is an online version of Microsoft PowerPoint developed by Google in 2006.
 3. Google Maps is a digital navigation program that provides detailed information about the geographical regions of any particular area.
 4. Gmail is one of the best and free mailing apps accessible through a web browser over the Internet.
 5. Google Docs is a free online word processing program.
- D.**
1. To open a new document, follow the given steps:
Step 1: Click on the Google apps button. A drop-down menu appears.
Step 2: Click on the Docs icon from the drop-down menu. The Start a new document page appears.
Step 3: Click on the Blank document template.
 2. Some of the few features of YouTube are:
 - Users can search for any particular keyword and watch videos.
 - Users can create a personal YouTube channel.
 - Users can upload videos to their channel.
 - Users can like, comment on, and share other YouTube videos.
 3. YouTube is the best way to share views, videos with others. Viewers can give their feedback to creators at any time. Videos can be shared in any language according to requirement of users.
 4. Google introduced Google Sheets, a spreadsheet application on March 9, 2006. It works like any other spreadsheet tool, but since it is an online app, it offers much more than just the spreadsheet tools.
To share a file, follow these steps:
Step 1: Click on the Share button from the top-right corner of the spreadsheet. The Share dialog box opens.
Step 2: Enter the email address(es) of the people with whom you want to share the spreadsheet in the box.
Step 3: Click on the down-arrow to give permission. A drop-down list appears with the Editor, Viewer or Commenter options.
Step 4: Select the desired option from the drop-down list. In our case, we have selected Editor.
Step 5: Type a message for the receiver in the Message box.
Step 6: Click on the Send button to share the file.



This spreadsheet will be shared with the specified people.

To protect a spreadsheet, follow these steps:

Step 1: Click on the Data menu.

Step 2: Select the Protected sheets and ranges option. The Protected sheets & ranges pane appears.

Step 3: Type the description of the spreadsheet.

Step 4: Specify the sheet address or cell address with the sheet address.

Step 5: Click on the Set permissions button.

Step 6: Select the desired radio button to specify the edit permission.

Step 7: Click on the Done button after setting permission.

The spreadsheet will be protected.

Mind Boggler



- A.** 1. Anjali should use the Grid layout icon.
2. Lakshya should use Google Maps.
- B.** 1. Google Slides 2. YouTube 3. Google Sheets 4. Broadcast Yourself
5. Google Docs 6. Google Drive 7. Gmail 8. Map view
9. Google

8. App Development

Checkpoint



- A.** 1. a 2. a 3. a 4. b 5. b
- B.** 1. hybrid 2. Mobile 3. Educational 4. gaming 5. install
- C.** 1. F 2. T 3. F 4. F 5. F
- D.** 1. An app is a software program primarily developed for hand-held smart devices such as mobile and tablet.
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. Native apps are platform dependent which means that these apps are primarily developed for a specific platform.
Three social networking apps are Facebook, LinkedIn, and WhatsApp.

- E.**
- Desktop Applications are mainly developed for computers or laptops and are called desktop applications.
 - Mobile Applications are developed for hand-held devices such as smartphones and tablets and are called mobile applications.
 - Web Apps are stored on a remote server and accessed over the Internet through a web browser interface and are called web applications.
2. Native apps are platform-dependent which means that these apps are primarily developed for a specific platform. camera, microphone.
- Web apps are actually web applications which give a user with experience similar to native apps. OLX, Flipkart.
3. Educational apps provide a platform for children to learn from anywhere and anytime.
- Some of the most used educational apps are Khan Academy, Vedantu, and Learn English Grammar.
4. To download and install an app on an Android device, follow these steps:
- Step 1:** Tap on the Play Store icon on your Android mobile. The home screen of the Google Play Store appears.
- Step 2:** Tap on the Search button.
- Step 3:** Type the name of the app or related keyword in the Search for apps & games box at the top. In our case, we have typed learning English grammar as keywords. A list of related apps appears.
- Step 4:** Tap on the app you want to install. In our case, we have tapped Learn English Grammar app. The App info screen appears.
- Step 5:** Tap on the Install button.
- Step 6:** Tap on the Open button to use the app. In case you want to uninstall the app, then tap on the Uninstall button.

Mind Boggler



- A.**
1. Netflix is an entertainment application.
 2. Amazon is an e-commerce application.
- B.**
1. Mobile Applications
 2. Play Store
 3. iOS
 4. Web Application
 5. App Store



Periodic Assessment 3

(Based on chapters 6 to 8)

- A.** 1. b 2. d 3. a 4. e 5. c
- B.** 1. Google Drive is a cloud-based storage service.
2. YouTube is a video-sharing application where users can upload their videos, share, comment, watch, and like other videos.
3. Native apps are platform-dependent, which means that these apps are primarily developed for a specific platform.
4. Web-based apps on mobiles are applications that are accessed through a mobile device's web browser rather than being downloaded and installed from an app store.
5. A hybrid app is an app that combines the features of a native app and a web app.
- C.** 1. Play Store 2. iOS 3. Hybrid App 4. Gaming Apps

9. Algorithmic Intelligence

Checkpoint



- A.** 1. b 2. c 3. c 4. a
- B.** 1. condition 2. if 3. else 4. conditional
- C.** 1. Conditional statements are used in a program to instruct the computer to make a decision. The result of the condition will always be either true or false.
2. AND: Results in true only if both the conditions are true. If any one condition is false, the result will be false.
 OR: Results in true if at least one of the conditions is true. If both are false, the result will be false.
3. A loop allows a set of instructions or a block of code to be executed repeatedly.
- D.** 1. Loops help in automating repetitive tasks and makes the code more efficient by avoiding the need to write the same instructions multiple times.
2.

```
today = "Sunday"
match = "yes"
IF today = "Sunday" AND match = "yes"
THEN
    PRINT "We have a match on Sunday"
```

ELSE

PRINT "No match on Sunday"

3. day = "Saturday"

exam = "yes"

IF day != "Saturday" AND day != "Sunday" OR exam = "yes"

THEN

PRINT "Exam today"

ELSE

PRINT "No exam on weekend"

E.

1.

Num1	4	7	87	45	22
Num2	7	5	34	32	90
Print	Num 2 is greater	Num 1 is greater	Num 1 is greater	Num 1 is greater	Num 2 is greater

2.

Marks	45	40	55	49	85
Result	Fail	Fail	Pass	Fail	Pass

3. Start

X	✓				
	x	✓			
		x	✓		
			x	✓	
				x	✓

F.

1.



2. Start

X					
	X				
		X			
			X		
				X	
					X





A. 1. Lokesh can use a loop in his program.

2. READ year

IF year % 400 = 0

THEN

PRINT "Yes"

ELSE

PRINT "No"

B. 1. testing...

passing the value 4

the function returns 4

2. Enter number2

Raise to power3

2 raise to power 3 is 8

10. Loops In Python



A. 1. a 2. a 3. a 4. c

B. 1. One 2. Non-zero, False 3. Infinite 4. Break, Continue

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

D. 1. In Python, the statements that are used to repeat a set of instructions are called iterative or looping statements.

2. The syntax of for loop is as follows:

for <counter variable> in range(start, stop, step_size):

statements

3. Jump statements is used to change the flow of control in loops.

E. 1. If the condition given in a loop never becomes false, then the loop will never terminate and run indefinitely. This type of loops is called an infinite loop.

2. The while statement executes a set of statements repeatedly, until the logical expression evaluates to true. When the condition becomes false, the control comes out of the loop.



For example,

```
#Program to demonstrate the use of a while loop
# Initialize a variable
count = 1
#test expression
while count < 5:
    print("Count is:", count)
    count += 1
```

3. The break is a keyword in Python which is used for bringing the program control out of the loop. The break statement halts the execution of a loop and program flow switches to the statement after the loop.

The continue statement is used inside loops. When a continue statement is encountered inside a loop, control of the program jumps to the beginning of the loop for next iteration, skipping the execution of rest of the statements of the loop for the current iteration.

- F.** 1. 55
2. 2
4

Mind Boggler



1. continue
2. Infinite loop

11. Latest Technological Developments

Checkpoint



- A.** 1. a 2. a 3. c 4. c 5. b
B. 1. Google Glass 2. Augment 3. Dog 4. Machine learning
5. Cloud computing
C. 1. T 2. T 3. F 4. F 5. F
D. 1. Artificial Intelligence (AI) is a branch of computer science that aims to create computers and machines that are as intelligent as human beings.



2. Robotics is a branch of engineering that uses technologies such as Artificial Intelligence and Machine Learning. It deals with the design, construction, operation and application of robots.
 3. Two domains where machine learning is applicable are social media services and email spam.
 4. Blockchain is a decentralised system of recording information that makes it nearly impossible to alter, hack, or cheat the system.
- E.**
1. The virtual world is a computer-created environment that lets users interact digitally, while the real world is the physical world we experience daily. In the virtual world, experiences are simulated, whereas in the real world, they are natural and tangible.
Example: In the real world, people visit museums physically to see exhibits. In the virtual world, users can take a virtual tour of a museum using a VR headset or a computer, experiencing the exhibits from home without being there physically.
 2. Robotic Process Automation (RPA) is a software robot running on a physical or virtual machine that mimics human actions. With RPA, software users create software robots that can learn, mimic, and then execute rule-based business processes. The goal of RPA is to transfer the process execution from humans to robots.
 3. Edge computing is a complimentary approach to cloud computing. Edge computing keeps computer data close to the user. Edge computing is used in technologies such as autonomous vehicles, video conferencing, and augmented reality. Edge computing, for example, reduces the delay of waiting for a server in the cloud to respond when an autonomous car makes a split-second choice to brake and avoid a collision.
 4. Three applications where Machine Learning is used are:
 - Email spam filtering – automatically detects and filters spam messages.
 - Voice assistants – like Google Assistant or Siri that understand and respond to voice commands.
 - Online recommendations – such as movie or product suggestions on platforms like Netflix or Amazon.

Mind Boggler



- A.**
1. Radika can keep an AI-powered robotic pet like Aibo, a robotic dog. It behaves like a real pet, can respond to commands, and doesn't cause allergies or require physical care, solving both her problems.
 2. The "View 3D Try On" feature by Lenskart falls under Augmented Reality (AR), as it superimposes virtual glasses onto the user's real face using a camera.



B.

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

Periodic Assessment-4

(Based on chapters 9 to 11)

A. 1. 1

2

Found a number divisible by 3: 3

2. 1

4

7

10

B. 1. d

2. a

3. e

4. b

5. c

C. Repeat 4 times

(Move 1 down and Fill Colour)

Repeat 2 times

(Move 1 right and Fill Colour)

Test Sheet-2

(Based on chapters 6 to 11)

Section A

A. 1. (ii)

2. (iii)

3. (ii)

4. (iii)

5. (i)

6. (i)

7. (i)

8. (iii)



- B.** 1. target 2. Encryption 3. gaming 4. conditional
5. break, continue 6. Machine learning
- C.** 1. F 2. T 3. T 4. T

Section B

- A.** 1. External linking is used to connect a page on one website to a page on a different website.
2. Google Drive is a cloud-based storage service.
3. Native apps are platform dependent which means that these apps are primarily developed for a specific platform.
4. AND: Results in true only if both the conditions are true. If any one condition is false, the result will be false.
OR: Results in true if at least one of the conditions is true. If both are false, the result will be false.
5. In Python, the statements that are used to repeat a set of instructions are called iterative or looping statements.
6. Blockchain is a decentralised system of recording information that makes it nearly impossible to alter, hack, or cheat the system.
- B.** 1. The attributes of the <IFRAME> tag are:
- SRC: It is used to specify the URL of the web page which you want to display in the frame.
 - HEIGHT: It is used to specify the height of the frame.
 - WIDTH: It is used to specify the width of the frame.
 - NAME: It is used to specify the name of the frame. This name can be used in the TARGET attribute of the <A> tag.
2. Some of the few features of YouTube are:
- Users can search for any particular keyword and watch videos.
 - Users can create a personal YouTube channel.
 - Users can upload videos to their channel.
 - Users can like, comment on, and share other YouTube videos.
3. Native apps are platform dependent which means that these apps are primarily developed for a specific platform. camera, microphone.
Web apps are actually web applications which give a user with experience similar to native apps. OLX, Flipkart.
4. `today = "Sunday"`



```

match = "yes"
IF today = "Sunday" AND match = "yes"
THEN
    PRINT "We have a match on Sunday"
ELSE
    PRINT "No match on Sunday"

```

5. The while statement executes a set of statements repeatedly, until the logical expression evaluates to true. When the condition becomes false, the control comes out of the loop.

For example,

#Program to demonstrate the use of a while loop # Initialize a variable count = 1

```

#test expression
while count < 5:
    print("Count is:", count)
    count += 1

```

6. Edge computing is a complimentary approach to cloud computing. Edge computing keeps computer data close to the user. Edge computing is used in technologies such as autonomous vehicles, video conferencing, and augmented reality. Edge computing, for example, reduces the delay of waiting for a server in the cloud to respond when an autonomous car makes a split-second choice to brake and avoid a collision.

