Class 8

ANSWER KEY

Touchpad PLUS Ver 1.1

1. Computer Networking

One Touch Learn

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

B. 1. T

2. (This question is incorrect in the book please correct it in your textbook)
   Q. Bluetooth technology do not uses radio frequency to transmit data from one system to another.
   A. False

3. T

4. (This question is incorrect in the book please correct it in your textbook)
   Q. In bus topology, central node acts as a hub to which all the other nodes are connected.
   A. False

5. T

C. 1. protocol 2. SMTP 3. router 4. mesh

D. 1. Ring 2. Bus 3. Tree 4. Star

Let's Do It

A. 1. Protocol is a set of rules that governs the communication between the computers over a network.

2. The components needed for a network are:
   - Network Interface Card (NIC)
   - Hub or switch
   - Router
   - Modem
   - Networking Cable (Ethernet Cable)

3. A client is a computer which depends on the server for all the resources.
   A server controls the access to the hardware and software on the network.

IMPRINT 1

4. Topology refers to the geometric arrangement of computers or nodes in a network.

B. 1. Computer network means a system of interconnected computers. The advantages of computer network are:

(i) The information can be easily shared by the people.

(ii) It helps in reducing the cost of hardware.

(iii) Store information on one centralised location.

(iv) Reliability implies backing up of information. If a system crashes, then the information is accessible on another workstation for future use.

(v) Reduction in installation cost.

(vi) User authentication process to secure the data.

(vii) People will have the accessibility to all the information they need to get and share through e-mails and instant messaging which saves time and money in passing information.

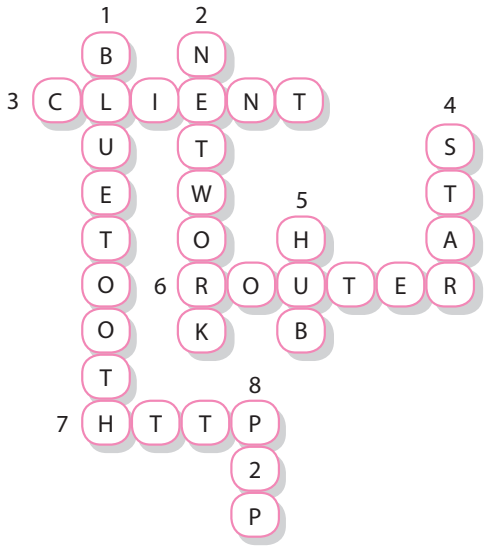
2. LAN is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km.

MAN consists of two or more local area networks or campus area networks together that usually spans several buildings in the same city or town.

Crack The Code

A. 1. Ring Topology 2. Network Server

B.



FUN in LAB

Do yourself.

2. Introduction to MS Access 2010

One Touch Learn

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

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

C. 1. table 2. field 3. primary 4. sort 5. navigation

Let's Do It

A. 1. Primary key is a unique field by which the records are identified in a table.

2. The final result of the manipulated data that comes from tables or queries in DBMS is known as the report.

3. A query is the most powerful feature of database. It helps you to retrieve information from a table based on some criteria or condition.

4. A Form is a window on which the data is displayed.

B. 1. To add a record, follow these steps:

Step 1 Open the required table in Datasheet view from the Navigation pane.

Step 2 Place the pointer where you want to add the new record.

To delete a record, follow these steps:

Step 1 Open the required table in Datasheet view.

Step 2 Select the record which you want to delete.

Step 3 Right-click and select the Delete Record option.

2. The Datasheet View shows all the fields and the records as entered by the user. In this view, you can edit the content of the table.

In Design View records are not visible. You can only see the field names along with their data types. You can add or delete a field name.

C. 1. The advantages of DBMS are:

(i) It minimizes the duplication of data by integrating and sharing the data files.

(ii) It saves the storage space.

(iii) All the users are provided with some access rights or privileges and permissions.

(iv) The files can be easily updated whenever any changes are being made.

2. There are two types of views in MS Access:

(i) **Datasheet View:** It 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 content of the table.

(ii) **Design View:** In this view, the records are not visible. You can only see the field names along with their data types. You can add or delete a field name.

3. Rules for writing field names are:

(i) The field name can be up to 64 characters long.

(ii) It can include any combination of letters, numbers, spaces, and special characters except a period (.), an exclamation mark (!), an accent grave (') and brackets ([ ]).

(iii) It cannot begin with the leading spaces.

(iv) It cannot include a double quotation mark (").

Crack The Code

A. Using Templates

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

FUN in LAB

Do yourself.

3. More on MS Access 2010

One Touch Learn

A. 1. b 2. b 3. c 4. c

B. 1. F 2. F 3. F 4. F

5. (This question is incorrect in the book please correct it in your textbook)
Q. Report allows you to organise and present your data in a user-friendly format.
A. True

C. 1. title, logo

2. (This question is incorrect in the book please correct it in your textbook)
   Q. _____command to create a query is in the Queries group on the Create tab.
   A. Query design
3. relationship 4. run

D. 1. (c) 2. (a) 3. (d) 4. (b)

Let's Do It

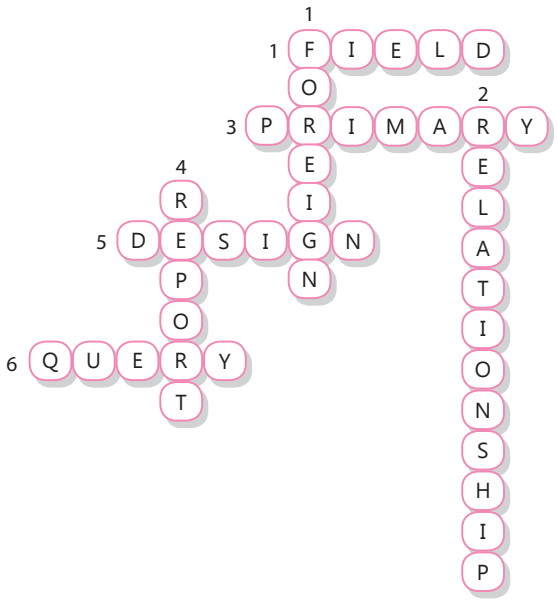
A. 1. We need a form to create, edit and display data stored in tables in a user-friendly manner.
2. Report feature allows you to organize and present your data in a user-friendly format so that it can be printed.
3. Three view are:
   (i) Form View (ii) Design View (iii) Layout View

B. 1. Using a query, you can search or compile data from one or more tables in a database by giving specific search conditions so that you are able to view the exact data that you want. On the other hand, report allows you to organize and present your data in a user-friendly format so that it can be printed.
2. A Primary Key is a unique field by which the records are uniquely identified in a table. To create a relationship, it is necessary to have a primary key in a table.
3. A Foreign Key is a column in one table that must match the Primary Key of another table.
   To establish link between Primary Key and Foreign Key, follow these steps:
   Step 1 Click on the Relationships command from Relationships group under Database Tools tab.
   Step 2 The Show Table dialog box will open. Click on the Add button. The selected table will appear in the relationship window.
   Step 3 Click and hold 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.
   Step 5 This will open Edit Relationships dialog box. Click on the Create button.

Crack The Code

A. 1. Report
2. Yes, by using Query feature

B.



FUN in LAB

Do yourself.

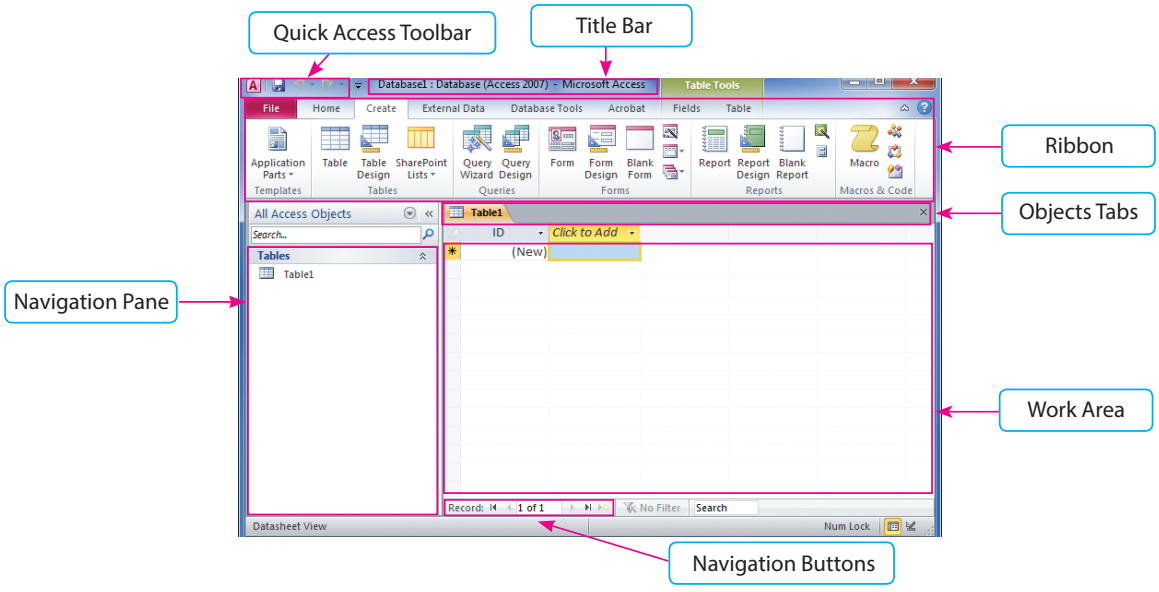
Periodic Assessment-1

(Based on chapters 1 to 3)

A. 1. Network Server 2. Mesh Topology 3. MAN
4. Datasheet View 5. Number

B. 1. Ring Topology 2. Star Topology

C.



4. More on Photoshop CS6

One Touch Learn

A. 1. (b) 2. (a)

3. (This question is incorrect in the book please correct it in your textbook)
   Q. Which tool is used to sharpen images to improve their quality?
   a. Blur tool b. Smudge tool
   c. Retouching toold. Sharpen tool
   A. d. Sharpen tool

4. (d) 5. (c) 6. (d)

B. 1. F

2. (This question is incorrect in the book please correct it in your textbook)
   Q. Pattern Stamp tool is used to duplicate a part of an image.
   A. False

3. (This question is incorrect in the book please correct it in your textbook)
   Q. Create a new layer button is present at the bottom of the Layers panel.
   A. True

4. F

C. 1. Smudge 2. Sharpen 3. Clone Stamp 4. Blur 5. Pattern Stamp

D.

1. Smudge Tool
2. Blur Tool
3. Clone Stamp Tool
4. Sharpen Tool
5. Spot Healing Brush Tool
6. Pattern Stamp Tool

Let's Do It

A.

1. The difference between Spot Healing Brush Tool and Healing Brush Tool is that the latter requires a source point.
2. Layers are transparent sheets containing objects which are stacked on top of each other so that individual properties of an object can be edited without affecting other objects.
3. The Smudge Tool is used to show the image as the wet paint on the image has been spread by finger.

B.

1. To use Clone Stamp Tool, follow these steps:

   Step 1 Open the image and then click on Clone Stamp Tool from the Toolbar.

   Step 2 Select the brush size and hardness from Options bar.

   Step 3 Press and hold the Alt 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 When you drag the mouse pointer, you will see a plus sign on the original image and a small circle on the cloned image.

   Step 6 Release the mouse button when clone completed.

2. Layers are transparent sheets containing objects which are stacked on top of each other so that individual properties of an object can be edited without affecting other objects. We can add new layers, change the position of layers, delete layers and customize layers.

Crack The Code

A.

1. Spot Healing Brush Tool
2. Clone Stamp Tool

B.

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

FUN in LAB

Do yourself.

5. Lists and Tables in HTML5

One Touch Learn

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

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

C. 1. ordered list 2. list item 3. table rows 4. disc 5. <CAPTION>

Let's Do It

A. 1. A list is a collection of related items.
2. Table represents data in the form of rows and columns.
3. The description list is a type of list in which terms with their definitions are displayed.

B. 1. The main difference between ordered list and unordered list is that the ordered list displays the items in a sequential manner whereas, unordered list displays items in an non-sequential manner.
2. CSS provides various properties which can be used with <TABLE> tag to accomplish various tasks. They are border, border-style, border-color, border-spacing, width, padding, background-color and color.
3. The ROWSPAN attribute applies when a single cell is extended for more than a single row and the COLSPAN attribute applies when a single cell is extended to more than a single column.

Crack The Code

1.<OL> Tag 2. <TABLE> Tag 3. COLSPAN

FUN in LAB

Do yourself.

6. More on HTML5

One Touch Learn

A.	1.	d	2.	c	3.	d	4.	b	5.	a
B.	1.	T	2.	F	3.	F	4.	T	5.	T
C.	1.	internal link	2.	<A>	3.	SELECT	4.	<FORM>	5.	<INPUT>

Let's Do It

A.

1. HREF stands for **Hypertext Reference.**
2. (This question is incorrect in the book please correct it in your textbook)
   Q. What is the purpose of a:link attribute?
   A. It is used to set the style for an unvisited link.
3. Frames are the different sections or parts of a web page.
4. (This question is incorrect in the book please correct it in your textbook)
   Q. What is the use of Anchor Tag?
   A. Anchor tag is used for creating hyperlinks in HTML web pages.

B.

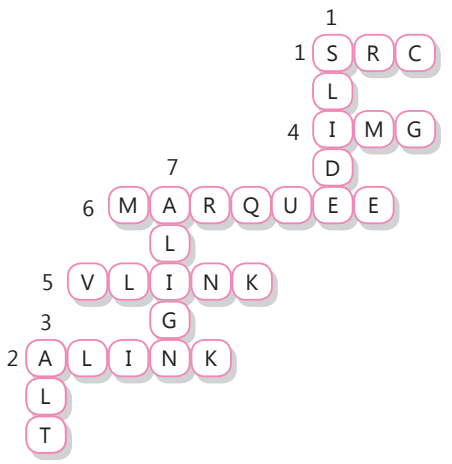
1. a. **ACTION:** This attribute is used to specify the action that will take place when we submit the form values. It takes the URL of another web page or an e-mail address to receive the information.
   b. **METHOD:** It specifies the type of method form will use to accept the values entered into form fields. The most commonly used values for this attribute are POST and GET.
   c. **TYPE:** This attribute is used to specify the type of field we want to create. It takes one of the predefined values.
2. Attributes used with <IMG> tag are SRC, WIDTH, HEIGHT, and ALT.
3. The `<IFRAME>` tag provides the following attributes:
   (i) SRC: It is used to specify the URL of the web page which you want to display in the frame.
   (ii) HEIGHT: It is used to specify the height of the frame.
   (iii) WIDTH: It is used to specify the width of the frame.
   (iv) NAME: It is used to specify the name of the frame. This name can be used in the TARGET.
4.
```
<!DOCTYPE HTML>
<HTML>
<HEAD>
<TITLE> Audio </TITLE>
</HEAD>
<BODY>
```

```
<H1 ALIGN = "CENTER"> <FONT COLOR = "Red">
Welcome to the Musical World </FONT></H1>
<P ALIGN = "CENTER">
<IMG SRC = "D:\MusicalNote.Jpg">
</P>
<AUDIO SRC = "D:\flute.mp3" AUTOPLAY CONTROLS>
</AUDIO>
</BODY>
</HTML>
```

Crack The Code

A. 1. <FRAMESET> tag 2. Yes, by using the <MARQUEE> tag

B.



FUN in LAB

Do yourself.

Periodic Assessment-2

(Based on chapters 4 to 6)

A. a. Layers panel

b. Eraser Tool c. Hand Tool d. Blur Tool

e. (This question is incorrect in the book please correct it in your textbook)
Q. I am used to repair dark spots, scratches, etc. from the image.
A. Spot Healing Brush Tool

B.

```
<HTML>
<HEAD> <TITLE> </TITLE> </HEAD>
<BODY>
<OL>
<LI> Hardware </LI>
<OL TYPE="I">
<LI> Printer
<LI> Webcam </OL>
<LI> Software
<OL TYPE="I">
<LI> MS Office
<LI> Adobe Photoshop
</OL>
</OL>
</BODY>
</HTML>
```

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

4. (This question is incorrect in the book please correct it in your textbook)
   Q. Ordered list
   A. c.

D.

```
<HTML>
<HEAD> <TITLE> </TITLE> </HEAD>
<BODY>
<TABLE BORDER="1">
<TR ALIGN="Center">
<TD>ROLL NO.</TD>
<TD COLSPAN="2">Name</TD>
<TD>Marks</TD>
<TD>Grade</TD>
</TR>
<TR ALIGN="Center">
<TD></TD>
<TD>First</TD>
<TD>Last</TD>
<TD></TD>
<TD></TD>
</TR>
<TR ALIGN="Center">
```

```
<TD>1.</TD>
<TD>Deepika</TD>
<TD>Batra</TD>
<TD>81</TD>
<TD>A</TD>
</TR>
<TR ALIGN="Center">
<TD>2.</TD>
<TD>Kiran</TD>
<TD>Gupta</TD>
<TD>85</TD>
<TD>A+ </TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

Test Sheet-1

(Based on chapters 1 to 6)

Section A

A.

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

B.

1. SMTP	2. Router	3. Table	4. Sorting	5. Query
6. Run	7. Layers	8. anchor tag	9. Adobe Photoshop	
10. internal link				

Section B

A.

1. A server is a computer that controls the access to the hardware and software on the network. A client is a computer which depends on the server for all the resources.
2. DBMS stands for Database Management System.
3. A query helps you to retrieve information from a table based on some criteria or condition.
4. The difference between Spot Healing Brush Tool and Healing Brush Tool is that the latter requires a source point.
5. **a:hover:** It is used to set the style on a link when mouse pointer moves over it.
   a:active: It is used to set the style on a link when it is clicked.

B.

1. The computer network means the system of interconnected computers. The advantages of computer network are:
   (i) The information can be easily shared by the people.
   (ii) It helps in reducing the cost of hardware.
   (iii) Store information on one centralised location.
   (iv) Reliability implies backing up of information. If a system crashes, then the information is accessible on another workstation for future use.
   (v) Reduction in installation cost.
   (vi) User authentication process to secure the data.
   (vii) People will have the accessibility to all the information they need to get and share through e-mails and instant messaging which saves time and money in passing information.
2. The Datasheet View shows all the fields and the records as entered by the user. In this view, you can edit the content of the table.
   In Design View records are not visible. You can only see the field names along with their data types. You can add or delete a field name.
3. A Primary Key is a unique field by which the records are uniquely identified in a table. To create a relationship, it is necessary to have a primary key in a table.
4. To use Spot Healing Brush Tool, follow these steps:
   Step 1 Open the image that you want to retouch.
   Step 2 Select the Spot Healing Brush Tool from the Toolbar.
   Step 3 Choose the brush size from Options bar.
   Step 4 Click on the spotted area to remove the spots.
5. HTML provides a feature to display more than one web pages on a single screen of the web browser. These web pages are actually displayed using frames. Frames are the different sections or parts of a web page.

C.

```
<HTML>
<HEAD> <TITLE> </TITLE> </HEAD>
<BODY>
<FONT COLOR="red">
<U>
<H2 ALIGN="center">
Let's Reduce Global warming!</H2>
</U>
</FONT>
We can reduce Global Warming by:
<UL TYPE="square">
<LI>Reducing our consumption of fossil fuels
<LI>Driving less. Walking, biking or carpooling
<LI>Recycling more
<LI>Using less hot water
<LI>Planting a tree
</UL>
```

</BODY>
</HTML>

7. Latest Technological Developments

One Touch Learn

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

B. 1. Augmented Reality 2. RPA 3. Shakey 4. Virtual
5. RP

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

Let's Do It

A. 1. AI is the branch of computer science that aims at creating expert and intelligent computer systems which simulate certain human qualities such as, learning, reasoning, communicating, seeing, hearing, and sensation.

2. Pattern Recognition software comprises of a camera and software which together identify repetitive patterns and establish connections between the patterns stored in the database and the perceived patterns. Facial recognition software, video surveillance cameras, fingerprint identification and automatic voice recognition software are some examples of pattern recognition software.

3. Rapid prototyping is used to create models to quickly test a new product before mass production. 3D Printing can be termed as a RP method.

4. RPA (Robotic Process Automation) refers to the process of automating certain tasks in an industry through the use of robots. The purpose of RPA is to transfer the execution of the process from humans to robots. Robotic automation uses the existing IT structure without using any complex system integrations.

5. Intelligent Apps are software written for mobile devices based on artificial intelligence and machine learning technology, aimed at making everyday tasks easier.

B. 1. a. Expert system can be defined as a communicating computer program that can solve problems which would otherwise require human assistance. These programs replicate the reasoning process of experts in certain areas. For example, PROSPECTOR

b. Natural Language processing is the study of methods by which computers can recognize and understand spoken or written human language. Speech recognition software is an example of NLP where computers translate spoken speech into text.

c. Intelligent agent is a type of computer program that has built-in intelligence which keeps a check on the work patterns, asks questions and performs tasks on the behalf of the user. The simplest example of intelligent agents is surfing the Internet.

d. Augmented Reality is the blending of Virtual Reality and real life. AR is using technology to superimpose information such as sounds, images and text on the real world that we can see. Images are created by developers within applications that blend in with content

in the real world. AR users can interact with virtual content in the real world and can also distinguish between virtual and real content.

e. Virtual Reality refers to a virtual world that the user can interact with. While in VR, the user cannot easily distinguish between what is real and what is virtual. VR provides a total immersive experience to the user.

These technologies find the greatest use in entertainment, sports/gaming, close interactive eye to eye communication and aided shopping experiences. Some examples are Oculus Rift and Google cardboard.

2. Applications of AR are:
   1. SixthSense device
   2. Google Glass
   3. Star Walk
   4. Coloring book

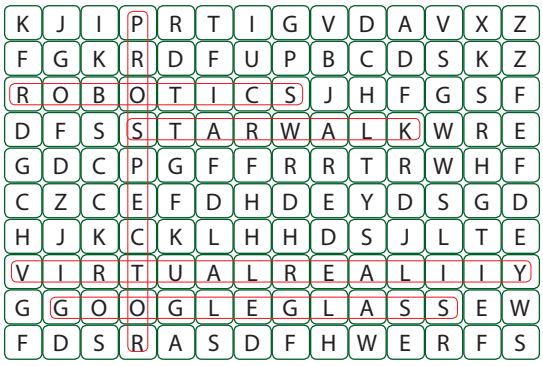
   Applications of VR are:
   1. Oculus Rift
   2. VR in education
   3. VR in medical

3. It is a system of connected computing devices, mechanical and digital machines for creating a virtual network where a monitoring center ensures that everything is working smoothly. Each connected device has a unique identifier and can transfer data over the network without any human intervention. The connected devices gather and share data about their usage and their operative environment. The devices can be your smartphones, refrigerators, televisions, washing machines, etc.

4. The applications of 3D Printing are:
   1. Education
   2. Rapid Prototyping (RP) Method
   3. Medicines
   4. Construction
   5. Art and Jewelry

5. AR stands for Augmented Reality, in this technology virtual objects are created and visualized alongside with real life objects. Whereas VR or Virtual Reality is completely virtual yet it feels real. While using the AR tech, you can partially see the real world, whereas the VR tech completely cuts you off from the real world. It takes you to a virtual world where everything is just a simulation.

Crack The Code



FUN in LAB

Do yourself.

8. Loops and Functions in Python

One Touch Learn

A. 1. (This question is incorrect in the book please correct it in your textbook)

Q. What does while loop do?

a. Repeat a chunk of code a given number of times

b. Repeat a chunk of code until a condition is true

c. Repeat a chunk of code until a condition is false

d. Repeat a chunk of code indefinitely

A. b.

2. (The option of this question was printed incorrectly in the book, please correct it in your textbook)

Which of the following is a looping statement in Python?

a. for statement b. while statement

c. both a and b d. None of these

Ans. (c)

3. (a) 4. (a) 5. (c)

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

C. 1. in-built 2. while 3. non-zero, false 4. infinite

5. break, continue

Let's Do It

A. 1. Looping refers to the process of repeating a set of statements repeatedly on the basis of a condition until the condition is falsified.

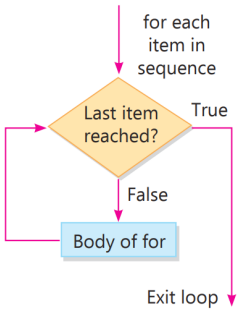
2. The syntax of for loop is:

for <variable> in <iterator>:

Statements

3. There is a situation when the control of the program needs to be transferred out of the loop body, even if all the values of the iterations of the loop have not been completed. For this purpose, jumping statements are used in Python.

B. 1.

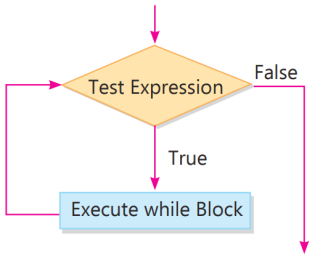


2. The while statement executes a set of statements repeatedly, until the logical expression evaluates to true. When the condition becomes false, the control comes out of the loop. The syntax of while statement is given below.

   Syntax:

   while (test expression):

   Statements



3. The break is a keyword in Python which is used for bringing the program control out of the loop. 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.

Crack The Code

A.

1. 55
2. apple
   banana
   cherry
3. 2
   4
4. 0
   0
   1
   0
   2

5. 0
   1
   2
   0

FUN in LAB 

✶
```
num = int(input("Enter a number: "))
sum = 0
temp = num
while temp > 0:
digit = temp % 10
sum += digit ** 3
temp //= 10
if num == sum:
print(num,"is an Armstrong number")
else:
print(num,"is not an Armstrong number")
```

✶
```
i = 0
for i in range(8, 90, 3):
print(i)
```

✶
```
i = 0
for i in range(100, 1, -2):
print(i)
```

✶
```
i = 0
while ( i <= 100):
i = i+1
print(i)
```

✶
```
i = 0
a = 0
while ( i < 100):
i += 1
a = i+a
print(a)
```

✶ Using While loop
```
i = 0
a = 0
b = 0
while ( i < 10):
a = a + 2
```

```
b = b + a
i = i + 1
print(b)
Using For loop
a = 0
for i in range(1, 11):
a = a + i
print(a)
```

✶
```
i = 0
a = 1
b = 0
while(i < 20):
a = a + 2
i = i + 1
b = b + a
print(b)
```

Periodic Assessment-3

(Based on chapters 7 & 8)

A.

1. (This question is incorrect in the book please correct it in your textbook)
   Q. To execute a set of statements repeatedly, until the logical expression evaluates to true.
   A. While Statement
2. The for loop
3. The break statement
4. The continue statement

B.

1. Augmented Reality is the blending of Virtual Reality and real life. AR is using technology to superimpose information such as sounds, images and text on the real world that we can see.
2. In Virtual Reality, we create a virtual world that users can interact with. In this world, the user cannot easily distinguish between what is real and what is virtual.
3. RPA (Robotic Process Automation) refers to the process of automating certain tasks in an industry through the use of robots. The purpose of RPA is to transfer the execution of the process from humans to robots. Robotic automation uses the existing IT structure without using any complex system integrations.
4. Internet of Things (IoT) has become a buzzword nowadays throughout the world. It is a system of connected computing devices, mechanical and digital machines for creating a virtual network where a monitoring center ensures that everything is working smoothly.

C.

1. 100 is <= 500
   200 is <= 500
   300 is <= 500
   Let's Break!

2. 100 is <= 500

   200 is <= 500

   300 is <= 500

   500 is <= 500

   Let us Continue!

3. 100

   The number is even

D.

```
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
if(num1 % 3 == 0):
  if(num1 % 4 == 0):
    print("First number is divisible by both 3 and 4")
  else:
    print("First number is only divisible by 3")
else:
  print("First number is not divisible by 3 and 4")
if(num2 % 3 == 0):
  if(num2 % 4 == 0):
    print("Second number is divisible by both 3 and 4")
  else:
    print("Second number is only divisible by 3")
else:
  print("Second number is not divisible by 3 and 4")
```

9. Artificial Intelligence

One Touch Learn

A. 1. a 2. b 3. a

B. 1. T 2. F 3. T

C. 1. brain 2. John McCarthy 3. deep blue 4.machine learning

Let's Do It

A.

1. Artificial Intelligence is an area where computer science and engineering emphasizing on creation of intelligent systems that can work and react like humans.
2. John McCarthy first coined the term "Artificial Intelligence" in 1956 at Dartmouth conference.
3. The assertion that machines that do so strong AI are actually thinking (not just simulating thinking) is called the strong AI hypothesis.

B.

1. Artificial Intelligence has advanced very rapidly in the past decade because of greater use of science, engineering and mathematics in experimenting and comparing approaches. Artificial Intelligence research also overlaps with tasks such as robotics, control systems, scheduling, data mining, logistics, speech & facial recognition etc.
2. Philosophers have been trying to find the answers to questions, will machines be able to act intelligently as humans? and if they did, would they have real and conscious mind? What will be the ethical implications of intelligent machines?

   Artificial Intelligence and related technologies however seems to pose some fresh problems like:

   (i) People might lose their jobs due to automation.

   (ii) People might have too much (or too little) leisure time.

   (iii) Artificial Intelligence systems might be used towards undesirable ends.

   (iv) The use of Artificial Intelligence systems might result in a loss of accountability.

   But all these threats are hypothetical and can be combated with scientists and engineers who work on Artificial Intelligence and related technologies. They should think and act in a way that is beneficial to mankind and society.
3. Artificial Intelligence is being successfully implemented in:

   (i) **Robotics Vehicles:** Driverless robotic cars outfitted with cameras, radar and laser range finders to sense the environment and software to command & control steering, brakes and accelerator and also obey the traffic rules.

   (ii) **Speech recognition:** Conversation guided by an automated speech recognition and dialog management system.

   (iii) **Game playing:** IBM's Deep Blue became the first computer program to defeat a world champion in a chess match.

   (iv) **Autonomous planning and scheduling:** NASA's Remote Agent program became the first on board autonomous planning program to control the scheduling of operations for a spacecraft.

Crack The Code

1. ROBOTICS
2. ARTIFICIAL
   INTELLEGENCE
3. MACHINE
   VISION
4. LOGISTICS
   PLANNING
5. ALAN
   TURING

FUN in LAB

Do yourself

10. Robotics

One Touch Learn

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

5. (This question is incorrect in the book please correct it in your textbook)

Q. Which of the following option is capable of delivering things automatically?

a. Sophia Robot b. Starship Technologies Delivery Robot

c. Kuri d. Tapia

A. b. Starship Technologies Delivery Robot

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

C. 1. robot 2. autonomous robots 3. integrated circuit

4. Dante II

Let's Do It

A. 1. A 'human like' machine that can do automated tasks is called a robot.

2. The field of mechanics and electronics together have given rise to a new engineering sector called Mechatronics.

3. Unmanned surgery, surgery with minimum cutting or puncturing of skin has been possible because of robots.

B. 1. There are two types of robots:

(i) Industrial robots are mainly used in manufacturing industries such as automotives industries. These robots are programmed using computers.

(ii) Service robots include domestic robots that clean the carpet or cut grass in the garden and move on their own. They are fully or semi-autonomous robots and controlled by electronic circuits.

2. Programmed robots can now track cyclones and weather conditions. With the help of computers it is possible to view images from satellites. More and more research projects aim at predicting the natural disasters in advance to avoid serious damage and protect the inhabitants of that area.

3. Robotics gained a vital place in the environmental sector. A robot developed in England can attack insects like some omnivorous plants. Also a London aquarium exhibits a robot that has been inspired by a fish.

Crack The Code

Decoded Message:

WITH THE ADVANCEMENT IN TECHNOLOGY, ROBOTS HAVE BECOME SO POWERFUL THAT IN NEAR FUTURE, THEY MAY ENSLAVE THE HUMAN RACE. TOO MUCH ADVANCEMENT MAY ALSO PROVE HARMFUL. WE MUST BE PREPARED TO FACE THE CRISIS.

FUN in LAB

Do yourself

Periodic Assessment-4

(Based on chapters 9 & 10)

A. 1. Alan Turing 2. Karel Capek
3. Issac Asimov 4. Tetsuro Mori

B. 1. Sophia Robot 2. Tapia 3. Starship Technologies Delivery Robot
4. Kuri

C. 1. Machine learning 2. deep blue 3. Human brain
4. Machine translation

Test Sheet-2

(Based on chapters 7 to 10)

Section A

A. 1. (a) 2. (b) 3. (c) 4. (d)
5. (b) 6. (a) 7. (b)
8. (The option of this question was printed incorrectly in the book, please correct it in your textbook)
Q. Which of the following statements allow to repeat a task for a fixed number of times?
a. for statement b. while statement
c. if...else statement d. continue statement
Ans. a. for statement

B. 1. Shakey 2. android 3. RP 4. Built-in 5. while
6. (This question is incorrect in the book please correct it in your textbook)
Q. The ..... loop never ends.
A. Infinite
7. brain 8. artificial intelligence 9. Integrated Circuit
10. Dante II

Section B

A.

1. It is the study of methods by which computers can recognize and understand spoken or written human language. Speech recognition software are an example of NLP where computers translate spoken speech into text.
2. Service robots include domestic robots that clean the carpet or cut grass in the garden and move on their own.
3. A function is a block of organized and reusable code used to perform a single or related action.
4. The assertion that machines that do so strong AI are actually thinking (not just simulating thinking) is called the strong AI hypothesis.
5. The branch of mechanical engineering, electrical engineering and computer science that deals with the design, construction, operation and application of robots, as well as computer systems for their control, sensory feedback and information processing is called Robotics.

B.

1. a. • Activation of Cards
   b. • Classroom and Online Learning
   c. • Ticket booking
   • Accounting
   • Checking frauds
   • Enrolment Process
   • Passenger details
2. Philosophers have been trying to find the answers to questions, will machines be able to act intelligently as humans? and if they did, would they have real and conscious mind? What will be the ethical implications of intelligent machines?

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   (iii) **Game playing:** IBM's Deep Blue became the first computer program to defeat a world champion in a chess match.
   (iv) **Autonomous planning and scheduling:** NASA's Remote Agent program became the first on board autonomous planning program to control the scheduling of operations for a spacecraft.

4. Robotics gained a vital place in the environmental sector. A robot developed in England can attack insects like some omnivorous plants. Also a London aquarium exhibits a robot that has been inspired by a fish.
5. circumference = float(input("Enter circumference of a circle: "))

   radius = circumference/(2*3.14)

   print("Radius of circle is:", radius)