ANSWER KEY

Touchpad PLUS Ver 1.0

Class-8

1. Computer Networking

One Touch Learn

A. 1. (a) 2. (c) 3. (b) 4. (c) 5. (c) 6. (d)

B. 1. T 2. T 3. T 4. T 5. T 6. T

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

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

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.

IMPRINT 1

(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.

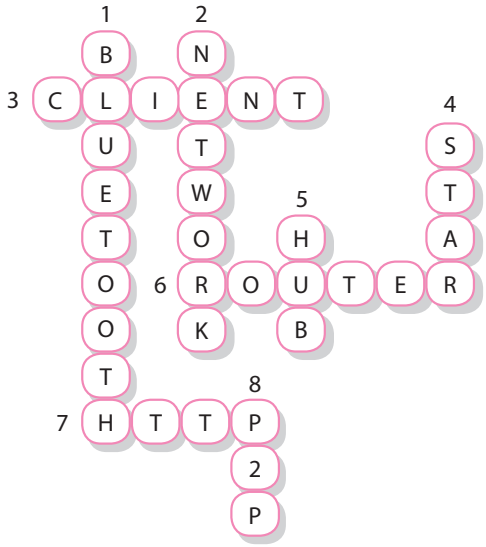
2. LAN is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km.

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 From is a window on which the data is displayed.

B.

1. To add a record:

   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:

   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. T 6. T

C. 1. title, logo 2. select query 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:

   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.

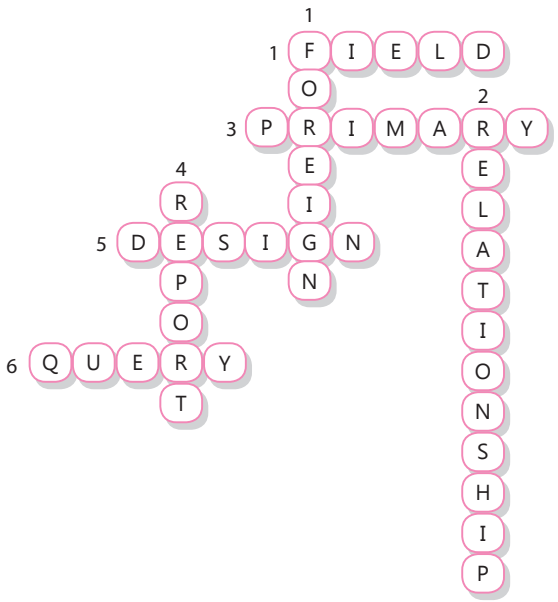
   Step 4 Drag the mouse pointer to the common field in the other table and release the mouse button.

   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
3. Crosstab Query

B.



FUN in LAB

Do yourself.

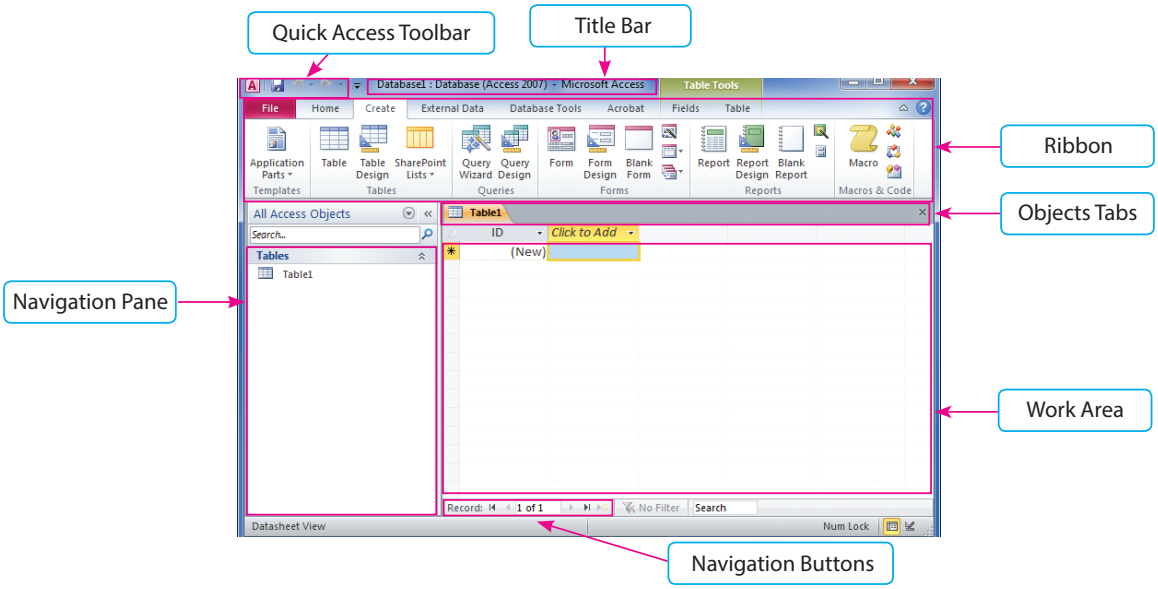
Periodic Assessment-1

(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. Lists and Tables in HTML

One Touch Learn

A. 1. (b) 2. (a) 3. (b) 4. (???) 5. (???) 6. (???)

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

C. 1. ordered list 2. list item 3. <UL> 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 and unordered list displays items in an non-sequential manner.

2. The attributes of the <TABLE> tag are BORDER, BORDERCOLOR, FRAMES, BGCOLOR, BACKGROUND, HEIGHT, WIDTH, CELLSPACING and CELLPADDING.
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

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

B.

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

FUN in LAB

Do yourself.

5. More on HTML

One Touch Learn

A. 1. (c) 2. (b) 3. (b) 4. (b) 5. (c)

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

C. 1. internal link 2. <A> 3. DIRECTION

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

Let's Do It

A.

1. Some of the image formats supported by HTML are Joint Photographic Experts Group (JPEG), Graphics Interchange Format (GIF) and Portable Network Graphics (PNG).
2. ALINK stands for Active Link and VLINK stands for Visited Link.
3. Frames are the different sections or parts of a web page.
4. GIF stands for Graphics Interchange Format.
5. The ROWS attribute of the <TABLE> tag is used to divide the window horizontally.

B.

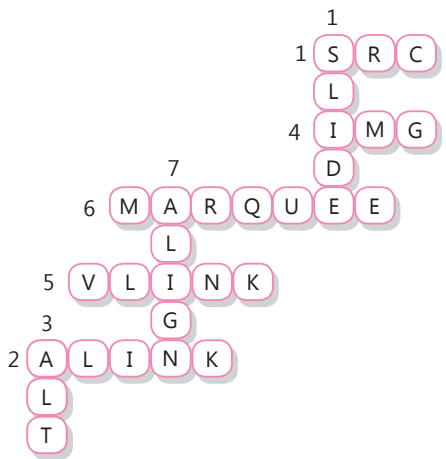
1.
   a. The SCROLLAMOUNT attribute is used to specify the speed of the moving object in a marquee.
   b. The HREF means Hyperlink Reference which gives reference to the address of the web page.
   c. The ALT attribute specifies the alternate text to be displayed in the web browser, if the provided image is not found.
2. Attributes used with <IMG> tag are SRC, WIDTH, HEIGHT, ALIGN, BORDER and ALT.
3. Frames are used to display more than one web pages on a single screen of the web browser. Frames are the different sections or parts of a web page. The <FRAMESET> tag is used to divide the web page into different sections or partitions.
4. The attributes of the <FRAME> tag are:
   (i) **FRAMEBORDER:** This attribute is used to define whether a border is to be created around the frame or not.
   (ii) **NORESIZE:** This attribute is used to restrict the user to resize the frame on the web page.
   (iii) **SRC:** This attribute is used to define the URL or path of the web page which is to be linked to the frame.

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 & 5)

A.

1. The <TD> tag. It is used to fill the data in the table cells.
2. The <DL> tag is used to create a definition list.
3. The VLINK is used to specify the color of visited links.
4. The <A> tag is used for creating links in the HTML web pages.
5. The <MARQUEE> tag is used to add a moving text or image on the Web page.

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.

```
<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>Neha</TD>
<TD>Batra</TD>
<TD>81</TD>
<TD>A</TD>
</TR>
<TR ALIGN="Center">
<TD>2.</TD>
<TD>Ankush</TD>
<TD>Gupta</TD>
<TD>85</TD>
<TD>A+</TD>
</TR>
<TR ALIGN="Center">
<TD>3.</TD>
<TD>Aman</TD>
<TD>Arora</TD>
<TD>72</TD>
<TD>B</TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

Test Sheet-1

(Based on chapters 1 to 5)

Section A

A.

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

B.

1. SMTP	2. Router	3. Table	4. Sorting	5. Query
6. Run	7. Disc	8. <TABLE>	9. <A>	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. A list is a collection of related items.
5. ALINK stands for Active Link and VLINK stands for Visited Link.

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. Attributes of the <TD> tag are ALIGN, BGCOLOR, WIDTH, ROWSPAN, COLSPAN and VALIGN.
5. Frames are used to display more than one web pages on a single screen of the web browser. Frames are the different sections or parts of a web page. The <FRAMESET> tag is used to divide the web page into different sections or partitions.

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>

6. More on Photoshop CS6

One Touch Learn

A. 1. (b) 2. (a) 3. (d) 4. (d) 5. (c) 6. (d)

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

7. Internet Services and Cyber Crime

One Touch Learn

A. 1. (d) 2. (a) 3. (c) 4. (a)
5. (c) 6. (d) 7. (c)

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

C. 1. carding 2. blogs 3. chat 4. Cyber crime 5. E-Banking

Let's Do It

A.
1. Phreaking is a cyber crime committed against telephone companies by using computers.
2. A newsgroup is a discussion group that focuses on a particular topic.
3. No, because these services are generally considered as a source of distraction from education for students.
4. Computer hacking is the practice of modifying computer hardware and software to accomplish a goal outside of the creator's original purpose.
5. Cloud storage is a service where the users are able to store and manage data on remote server in place of their local computer.

B. 1. To upload a file on Google Drive, follow these steps:

Step 1 Visit www.google.com/drive/ web page.

Step 2 Click on Go to Google Drive button.

Step 3 Enter your Gmail account's username and then click on Next button.

Step 4 Enter password and then click on Next button.

Step 5 Click on My Drive option. This will open a drop-down list.

Step 6 Click on Upload Files to upload and store your file on the remote server.

2. Blogs are generally like a detailed explanation on a subject or sometimes also as a Diary of Events. It is a discussion platform where the readers of the blog can add their comments and suggestions. These posts are displayed in descending order of time, which means the latest post is shown at the top.

3. Different types of communication techniques are:

(i) **E-mail:** E-mail stands for electronic mail. You can send messages and files from your computer to your friend's computer and vice-versa using e-mail service.

(ii) **Video Conferencing:** It is a technique of watching the person whom you are talking.

(iii) **Voice-over-Internet Protocol (VoIP):** It is a technology which gives calling facility over the Internet.

(iv) **Chatting:** Refers to a communication in the form of small messages among the computers over the Internet, just like SMS service on mobiles.

(v) **Social Networking:** It is a platform where people with common interest or activities can connect with each other.

4. To register on Skype, follow these steps:

Step 1 Download the Skype from the www.skype.com website and install it on your computer.

Step 2 Double click on Skype icon to start Skype.

Step 3 Click on Sign in or Create button to create an account on Skype.

Step 4 Click on Create one! link. The Create account screen appears.

Step 5 Enter your email and click on Next button.

Step 6 Enter a password and click on Next button.

Step 7 The Skype asks you about your personal details. Then, click on Continue button.

Step 8 Skype further asks you for checking your microphone and webcam. Click on Continue button each time.

5. Some of the cyber crimes are:

(i) **Data Diddling:** Refers to the process of changing the data going into or out of a computer.

(ii) **Phreaking:** Refers to the crime that is committed against telephone companies.

(iii) **Cloning:** Refers to a fraud in which scanners are used to steal the electronic serial numbers of cellular phones, which may used for billing purposes and making broadcast calls.

(iv) **Carding:** Refers to the process of stealing credit card numbers online, to be resold or used to charge merchandise against victim's account.

Crack The Code

A. 1. Popular blogging websites are Blogger, Wordpress, Tumblr, etc.

2. By uploading the files on cloud storage services, Alia can carry her back-up.

B.

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

FUN in LAB

Do yourself.

Periodic Assessment-3

(Based on chapters 6 & 7)

A. 1. Clone Stamp Tool and Pattern Stamp Tool

2. E-banking and Social Networking
3. Blur Tool and Sharpen Tool
4. Cloning and Carding
5. Facebook and Twitter

B. 1. 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.

2. E-banking, also known as Internet banking, is an electronic payment system.
3. Computer hacking is the practice of modifying computer hardware and software to accomplish a goal outside of the creator's original purpose.

C. 1. Photoshop 2. Chatting 3. pirated
4. E-mail service provides 5. Retouching 6. Layers
7. duplicate 8. cyber security

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

8. Control Structures in Python

One Touch Learn

A. 1. (b) 2. (d) 3. (c) 4. (a)
5. (b) 6. (d) 7. (d)

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

C. 1. break 2. if 3. continue 4. print ( ) 5. input ( )

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

Let's Do It

A. 1. The print( ) function is used to display the output on the screen.
2. To change the default flow of a program, we use conditional statements.
3. We use jump statements to transfer the control of the program outside the loop.

B. 1. The if statement allows you to test a condition before executing the statements and the if....else statement is used to execute either of the block of statements from if or else statements.

2. The break statement terminates the loop within which it lies. It skips rest of the statements in the loop and jumps over to the statement following the loop. For example,

```
for x in [10, 15, 20, 25]:
    if(x == 20):
        break
    print("the value of x is", x)
print("Thank You!")
```

In the preceding code, loop stops executing when the value of x becomes 20.

3. The for loop is designed to process the items of any sequence one by one. The syntax of the for loop is:

```
for <variable> in <set of values>:
    [statements to repeat]
```

The variable is a loop variable that controls the iterations of the for loop. The set of values written after the in keyword is the sequence of elements from where the variable will derive its value while repeating the statements written in the body of the for loop. For example,

```
for x in [10, 15, 20, 25]:
    print("the value of x is", x)
print("Thank You!")
```

Crack The Code

A. 1. (a) 10
20
30
40
50

(b) 3
4
5
6

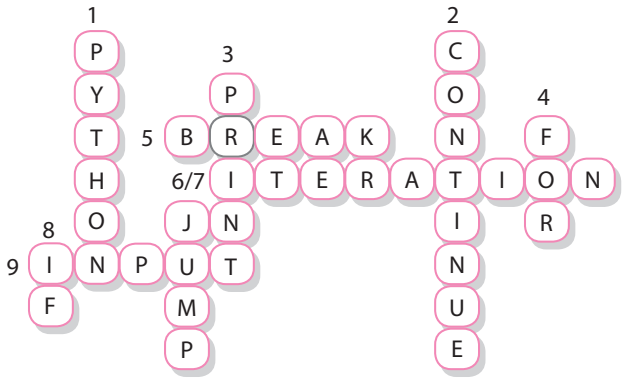
(c) Python

(d) b is not greater than a

(e) First number is greater than second number

2. (a) Syntax Error (b) Indentation error (c) Syntax error

B.



FUN in LAB

✶
```
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
if(num1%num2==0):
  print("First number is divisible by second number")
else:
  print("First number is not divisible by second number")
```

✶
```
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
num3 = int(input("Enter third number: "))
```

```
if (num1 >= num2) and (num1 >= num3):
  print(num1, "is the largest number")
elif (num2 >= num1) and (num2 >= num3):
  print(num2, "is the largest number")
else:
  print(num3, "is the largest number")
```

✶
```
age = int(input("Enter your age: "))
if(age>=18):
  print("You are eligible to vote")
else:
  print("You are not eligible to vote")
```

✶
```
sum = 0
for i in range (1,11,1):
  sum += i
print("Sum of first 10 natural numbers is:", sum)
```

✶
```
num1 = int(input("Enter a number: "))
if(num1 < 0):
  print("Entered number is negative")
elif(num1 == 0):
  print("Entered number is zero")
else:
  print("Entered number is positive")
```

9. Artificial Intelligence

One Touch Learn

A. 1. (a) 2. (b) 3. (a)

B. 1. T 2. F 3. T

C. 1. brain 2. carthy 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. (a)

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 8 to 10)

A.
1. The if...elif...else statement
2. The for loop
3. The break statement
4. The continue statement

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

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")
```

Test Sheet-2

(Based on chapters 6 to 10)

Section A

A. 1. (c) 2. (d) 3. (c) 4. (b) 5. (c)
6. (d) 7. (b) 8. (a) 9. (b) 10. (c)

B. 1. Spot Healing Brush Tool 2. Smudge Tool 3. video conferencing
4. Social networking 5. print() 6. if 7. brain 8. artificial intelligence
9. Integrated Circuit 10. Dante II

Section B

A. 1. 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.

2. Phreaking is a cyber crime committed against telephone companies by using computers.

3. The input( ) function is used to display the output on the screen.

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. To use Clone Stamp Tool:

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. Computer hacking is the practice of modifying computer hardware and software to accomplish a goal outside of the creator's original purpose and cracking is the same practice though with criminal intention.

3. The if statement allows you to test a condition before executing the statements and the if....else statement is used to execute either of the block of statements from if or else statements.

4. 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.

5. 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.

C.

```
circumference = float(input("Enter circumference of a circle: "))
radius = circumference/(2*3.14)
print("Radius of circle is:", radius)
```