1. Number System

Checkpoint ✓

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

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

C. 1. 0   2. 2   3. decimal number   4. 10   5. 8   6. binary

D 1. An Octal number system is a number system which has digits from 0 to 7.

2. There are 4 bits in 1 nibble.

3. Base is the total number of digits used in any number system.

E. 1. A number system is method of counting. We have Decimal number system in mathematics where 10 digits are used (0 to 9). Using these 10 digits we create all numbers. In computers we work in binary number system where only 2 digits 0 and 1 are used.

2. To convert a decimal number into a binary number, follow these steps:

Step 1: Divide the decimal number by 2.

Step 2: Note down the quotient and the remainder.

Step 3: Divide the quotient obtained again by 2 and note down the resulting quotient and remainder.

Step 4: Repeat the procedure till you reach a quotient less than 2.

Step 5: List the last quotient and all the remainders (moving from bottom to top).

3. In binary subtraction, binary number of lower value is subtracted from the binary number of higher value. If Y is greater than X, then 1 is borrowed from the next position. When the binary digit 0 borrows 1 from the next most significant digit, it becomes 10.

F. 1. (0)(10)   ------ Borrow

$$\begin{array}{r} 1\ 00\ 1\ 1\ 0 \\ 1\ 1\ 0\ 1 \\ \hline 1 \end{array}$$

2. a
$$1000$$
$$\underline{100}$$
$$1101$$

b
$$1011$$
$$\underline{101}$$
$$10000$$

c
$$1001$$
$$\underline{101}$$
$$1110$$

d
$$1111$$
$$\underline{1111}$$
$$11110$$

e
$$11001$$
$$\underline{10101}$$
$$101110$$
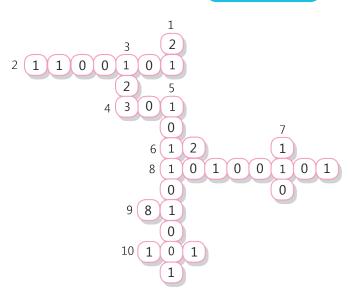
3. a. $(100111)_2$ b. $(1001000)_2$ c. $(1000000)_2$ d. $(110111)_2$ e. $(10101101)_2$

Mind Boggler

2. More on Calc

Checkpoint

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

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

C. 1. multiple sort   2. Format   3. condition   4. filters   5. goal seek

D.
1. Calc can arrange the selected data in ascending or descending order. This is called sorting of data.

2. Steps to remove filters:

   Step 1: Select the range of columns from where filters are to be removed.

   Step 2: Click on the Data menu.

   Step 3: Select the AutoFilter option.

3. We need to sort data to arrange them in a order.
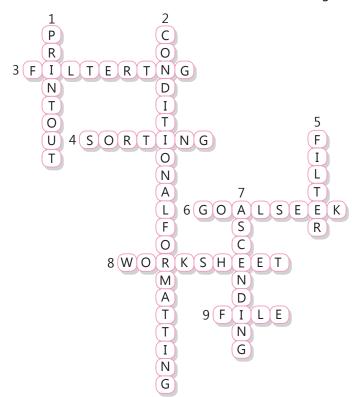
4. Goal Seek feature helps in obtaining a result by recalculating and changing data in a cell defined by the user.

E. 1. To apply Multiple Sort, follow these steps:

Step 1: Select the range of columns to be sorted.

Step 2: Select the Sort option from Data menu.

Step 3: Check the Range contains column labels check box under the Options tab.

Step 4: Click on the Sort Key 1 box to open list of column headers under the Sort Criteria tab.

Step 5: Click on the Ascending radio button for Sort Key 1.

Step 6: Repeat steps 4 and 5 to sort 'Marks in Previous Term' column in descending order under Sort Key 2.

Step 7: Click on the OK button.

2. Sorting is arranging the data in ascending or descending order. But Filtering data is used when we want to show only required information to user.

3. The criteria on the basis of which conditional formatting can be applied in Excel are:

a. Condition   b. Colour Scale   c. Data Bars   d. Icon Sets   e. Date

Mind Boggler

A. 1. Standard Filters   2. Conditional Formatting

B.

```
1                2
P                C
R                O
3 F I L T E R T N G
N                D
T                I
O                T        5
U  4 S O R T I N G       F
T                O        I
                 N        L
                 A        T
                 L  6 G O A L S E E K
                 F        S        R
                 O        C
       8 W O R K S H E E T
                 M        N
                 A        D
                 T   9 F I L E
                 T        N
                 I        G
                 N
                 G
```

Periodic Assessment-1

(Based on chapters 1 & 2)

A. 1. The total number of digits used in a number system is called its radix.

2. Number system is method of counting.

3. Arranging data in ascending or descending order.

4. Filtering means a process used to filter unwanted data from set of data.

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

C. 1.   SORT ASCENDING

2.   AUTOFILTER

3.   CONDITIONAL FORMATTING

4.   SORT DESCENDING

5.   SORT

3. Using Tools in Tupi 2D

Checkpoint

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

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

C. 1. Pencil   2. Fill colour   3. Node selection   4. Brush properties   5. Ink

D. 1. Cap option is used to choose line patterns.

2. The Fill tool works like a Paint Bucket tool. which allows users to fill the different color in the objects they have drawn.

3. + button is used to add the objects in the library.

E. 1. Object Selection tool helps the user to modify, flip or group objects as per their requirements. On the other hand, Node Selection helps to reorder the nodes which were created while drawing an object.

2. Polyline tool is used to draw closed diagrams or shapes. On the other hand, Line tool is used to draw free-hand lines.

A. 1. Polyline   2. Ellipse   3. Object Selection

B.

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

4. Animations in Tupi 2D

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

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

C. 1. Library   2. colors   3. play   4. 6   5. Motion

D. 1. Tween helps us to make animation process easier and faster.

2. Motion tween helps to move an object. Rotation tween helps to rotate an object clockwise and anti-clockwise.

3. Play button is used to preview tween.

E. 1. Tweening is a feature that helps us to make animation process easier and faster. Different types of tween options are:

a. Motion Tween: Position tween helps to move an object.

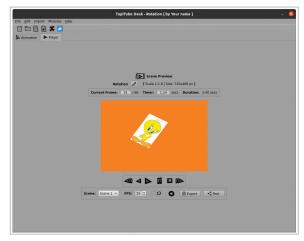b. Rotation Tween: Rotation tween helps to rotate an object clockwise and anti-clockwise.

c. Scale Tween: Scale tween helps to give zooming effect to an object.

d. Shear Tween: Shear tween changes the object's horizontal and vertical shear.

e. Opacity Tween: Opacity tween controls the opacity level of the object from starting to ending at two different points.

f. COLORING: Coloring tween changes the color from the beginning frame to the ending frame.

2. Steps to create opacity tween are:

Step 1: Draw a rectangle using a Brushes tool.

Step 2: Click on the Tweening tool and select the Opacity tween.

Step 3: Enter a name for the animation and click on the button.

Step 4: Now, click on the object and then click on Set Properties.

Step 5: Now, set the properties such as Starting at frame, Ending at frame, Initial Opacity, Ending Opacity, Iteration and Loop.

Step 6: Save the animation and play the animation through Play button.

3. If we have to move an object clockwise and anti-clockwise then Rotation tween is useful. If you have imported an image of a cartoon in the workspace area from library and you want to rotate the cartoon to anti-clockwise. The Rotation tween automatically rotates the object as per the specification given.

Mind Boggler

A. 1. Shear Tween   2. She can add the image from Library option

B.

1. Rotation   2. Library   3. Clockwise

5. Introduction to GIMP

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

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

C. 1. Toolbox   2. workspace   3. Fuzzy Select   4. Text   5. gradient

D. 1 Fuzzy Select tool is used to detect the edges of the image automatically on the basis of colour codes and do the selection quickly.

2. Free Select tool is used to select an object or a section of an image by drawing a freehand border around it.

3. Zoom tool is used to magnify an image.

E. 1. GIMP is a free and open-source graphics editor software used for image retouching and editing, free-form drawing, cropping, converting between different image formats and more. GIMP is an acronym for GNU Image Manipulation Program. Features of GIMP are:

(i) User friendly interface

(ii) Image manipulation can be done quickly.

(iii) Powerful tools are used to change the color of an image by adjusting brightness, contrast, color balance, hue and saturation levels.

(iv) Create graphics for web applications with reduced file size, thus helping to load websites faster

2. Paintbrush tool is used to draw brush strokes to give an effect of painting to the image.

Steps to use paintbrush tool:

Step 1: Choose a colour for your Paintbrush by adjusting the gradient sliders.

Step 2: Choose the type of Brush from the Brushes tab.

Step 3: Click on the workspace and drag to draw the flow of brush.

3. Rectangle Select tool is used to select a rectangular portion of an image.

On the other hand, Ellipse Select tool is used when you want to select an oval or circular portion of an image.

A. 1. Fuzzy select tool   2. Paintbrush tool

B.

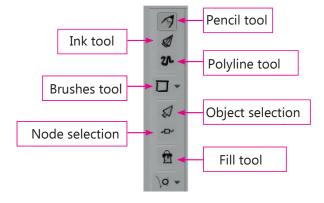1. Paintbrush tool   2. Text tool   3. Gradient Fill tool

Periodic Assessment-2
(Based on chapters 3 to 5)

A. 1. An attribute is a property that provides some additional information about a tag.

2. The CELL SPACING attribute is used to define the minimum distance between two adjacent cells in a table.

3. Pencil tool is used to draw free hand drawings.

4. Tweening is a feature that helps us to make animation process easier and faster.

B. 1. Zoom tool is used to magnify a desired part of an image. **To increase the magnification**, click on the Zoom tool and then click on the part of the image you want to magnify.

2. Paintbrush tool is used to draw brush strokes to give an effect of painting to the image. GIMP has several types of brushes.

3. Looping is the simple and short animatiosn made with the help of GIMP.

4. It is a unique tool that takes an input layer or image, applies a mathematical algorithm to it, and provides a layer or image in a modified format.

C.

Test Sheet-1

(Based on chapters 1 to 5)

Section A

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

    7. c   8. a

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

C. 1. 2   2. filters   3. <B>   4. list items   5. Pencil   6. 6

Section B

A.
1. The octal number system consists of eight digits from 0 to 7.
2. Goal Seek feature helps in obtaining a result by recalculating and changing data in a cell defined by the user.
3. Fuzzy Select tool is used to detect the edges of the image automatically on the basis of colour codes and do the selection quickly.
4. Description list is a list in which description of each term is defined.
5. The Fill tool works like a Paint Bucket tool. which allows users to fill the different color in the objects they have drawn.
6. Play button is used to preview tween.

B.
1. In binary subtraction, binary number of lower value is subtracted from the binary number of higher value. If Y is greater than X, then 1 is borrowed from the next position. When the binary digit 0 borrows 1 from the next most significant digit, it becomes 10.
2. Sorting is arranging the data in ascending or descending order. But Filtering data is used when we want to show only required information to user.
3.

  tag	<HR> tag
(i) Line Break tag	(i) Horizontal Rule tag
(ii) It is used when a new line is started.	(ii) It is used when web page is divided into sections.

4. Text tool is used to type text on the image or blank workspace.

   Font: This drop-down list is used to select the face of font.

   Size: This drop-down list is used to choose the size of text.

   Color: This opens a Color box to choose a colour.
5. Polyline tool is used to draw closed diagrams or shapes. On the other hand, Line tool is used to draw free-hand lines.
6. Tweening is a feature that helps us to make animation process easier and faster. Different types of tween options are:

   a. Motion Tween: Position tween helps to move an object.

   b. Rotation Tween: Rotation tween helps to rotate an object clockwise and anti-clockwise.

   c. Scale Tween: Scale tween helps to give zooming effect to an object.

d. Shear Tween: Shear tween changes the object's horizontal and vertical shear.

e. Opacity Tween: Opacity tween controls the opacity level of the object from starting to ending at two different points.

f. COLORING: Coloring tween changes the color from the beginning frame to the ending frame.

6. Internet and E-mail

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

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

C. 1. Bcc   2. To   3. Cc   4. Attachment   5. Website

D. 1. The Internet is a computer network that connects hosts and end systems throughout the world.

2. HTTP is a protocol used to access web pages.

3. Every Web page has a unique address, called a Uniform Resource Locator, or URL. URLs are the key to navigating the Web.

4. An Electronic mail or e-mail can be defined as the process of exchanging messages electronically through a communications network by using computer.

E. 1. The World Wide Web (www) is a large information system where you can surf and get information. It consists of several public and private websites which may be interlinked and accessible over the Internet worldwide. WWW is also known as Web.

The Web is a service (a system for accessing information) that is supported by the Internet, a system of interconnected networks.

2. Advantages of E-mail are:

(i) An e-mail can be sent anytime and from anywhere in the world.

(ii) An e-mail can be sent to many people at a time.

(iii) An e-mail can be easily forwarded to anyone without typing it again.

(iv) Sending an e-mail is fast in comparison to traditional mails.

(v) Music, images or any other computer file can be shared with anyone by using e-mail.

3. Steps to signing in of a gmail account:

Step 1: Double-click on the Web browser icon.

Step 2: Type www.gmail.com in the address bar of the browser window and press Enter key.

Step 3: Click on Sign in button.

Step 4: Enter username and click on Next button.

Step 5: Enter the password and click on next button.

Steps to sign out a gmail account:

Step 1: Click on the icon on the top right corner of your browser window.

Step 2: Click on Sign out button.

Mind Boggler

A. 1. He can send by using attach files button   2. TO and CC

B.

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

7. Computer Safety and Security

Checkpoint

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

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

C. 1. malware   2. biometric   3. decryption   4. encryption   5. zombie

D. 1. Authentication is the process of verifying a user's identity before granting him or her access to a computer system. Authentication are two types: Password Protection and Biometric Authentication.

2. The term 'trojan' is derived from the Trojan Horse story in Greek mythology, which explains how the Greeks were able to enter the fortified city of Troy by hiding their soldiers in a big wooden horse given to the Trojans as a gift.

3. An antivirus program is a software which can detect the presence of a virus on a computer and remove the virus.

E. 1. Cleaning the computer means cleaning different parts of the computer system like:

(i) Cleaning the Keyboard   (ii) Cleaning the Mouse   (iii) Cleaning the Monitor

2. Malware refers to software programs designed to damage or carryout other unwanted actions on a computer system. In Spanish, 'mal' is a prefix that means 'bad,' making the term 'badware,' which is a good way to remember it. The different types of malware are virus, worm, trojan horse, spyware, zombies, ramsomware, rootkit and backdoor.

3. A computer virus is a 'piece of code' or program developed to corrupt the data or program files stored on the computer system.

On the other hand, A computer worm is a type of malware that has the capability to replicate itself without any human interaction.

Mind Boggler

A. 1. Worms   2. Trojans Horses   3. Spyware   4. Ransomware

B.

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

8. HTML—An Introduction

Checkpoint

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

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

C. 1. markup   2. <head>   3. <b>   4. <p>   5. <sub>

D. 1. HTML stands for Hypertext Markup Language. It is a markup language that describes the structure of the web page.

2. The tags that have both opening and closing tags are called Container Tags.

3. (i) Webpage is a single digital page on the World Wide Web that contains information and links of another pages.

(ii) Website is collection of webpages.

E. 1. The <HTML> tag tells the web browser that the text contained between <HTML> and </HTML> is a web page and can be viewed using a web browser.

The <BODY> tag tells the web browser that the text contained between <BODY> and </BODY> tags is to be shown on the web page.

2. Rules for writing HTML tags:

(i) Container tags should always be closed properly.

(ii) Values given to the attributes should be enclosed within the double quotes.

(iii) Tag name should not contain spaces.

(iv) There should be no spaces between < and > in a tag.

(v) Tags must be nested correctly.

3.
 tag   <HR> tag

(i) Line Break tag   (i) Horizontal Rule tag

(ii) It is used when a new line is started.   (ii) It is used when web page is divided into sections.
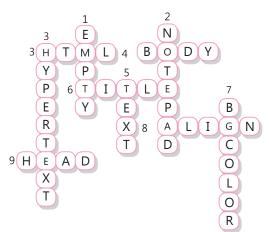
Mind Boggler

A. 1. <HR>   2. <U>   3.
      4. <HTML>   5. <BODY>   6. <H1>

B.

```
              1                2
      3       E                N
  3 H T M L 4 B O D Y
      Y     P        5         T
      P   6 T I T L E          7
      E     Y     E   P        B
      R           X 8 A L I G N
      T           T   D        C
  9 H E A D                    O
      X                        L
      T                        O
                               R
```

9. Lists and Tables in HTML

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

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

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

D. 1. A list is a collection of related items that can be used to represent information in pointed form.

     2. Tables represent the data in the form of rows and columns.

     3. Description list is a list in which description of each term is defined.

E. 1. An ordered list is also called the numbered list. This type of list is used to display the items in a sequential manner.

     On the other hand, an unordered list is also called bulleted list. This type of list is generally used to display random items which never require to place in a sequential manner.

     2. Four attributes of <TABLE> tag are:

     (i) BORDER   (ii) BORDERCOLOR

     (iii) BGCOLOR   (iv) FRAMES

     3. ROWSPAN: The ROWSPAN attribute applies when a single cell is extended for more than a single row, that is, the cell spans for 2 or more rows instead of 1 as shown in below table.

Category	Types
Sports	Badminton
	Football
	Basketball
Martial Arts	Judo
	Karate

     On the other hand, The COLSPAN attribute applies when a single cell is extended to more than a single column, that is, the cell spans for 2 or more columns instead of 1 as shown in table below:

Roll No.	Name		Marks	Grade
	First	Last		

A. 1. <OL>

2. <TABLE>

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

Periodic Assessment-3

(Based on chapters 6 to 9)

A. Do it Yourself.

B. 1. A hyperlink is simply a part of the Web page that is linked to a URL. A hyperlink can appear as text, an image, or a navigational tool such as a button or an arrow.

2. Acronym is a word formed from the initial letters of a multi-word name. It may be in the form of an abbreviation like HTML (Hyper Text Markup Language) or more than one letter from some words like COBOL (COmmon Business Oriented Language).

3. Face recognition is the process to identify an individual by using his/her facial features. Biometric machine captures the facial image or video of person's face.

4. Variables are memory reference points where we store values which can be accessed or changed later. The names given to the variables are known as identifiers.

C. 1. Rootkits   2. Trojan Horses   3. BGCOLOR   4. Definition List

10. Conditional and Looping Statements in BASIC-256

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

B. 1. control statement   2. WHILE   3. startNumber, endNumber   4. counter

     5. infinite

C. 1. T   2. T   3. F   4. T   5. T   6. F

D. 1. The IF-THEN-ELSE statement is used when we have to check for a condition.

     2. Syntax of IF-THEN:

```
IF <condition> THEN
      Statements to be executed
END IF
```

     Syntax of IF-THEN-ELSE:

```
IF <condition> THEN
      Statements to be executed
ELSE
Statements to be executed
END IF
```
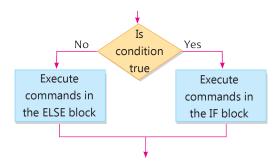
     3. a. 10   b. 145

E. 1. Flow chart of IT-ELSE:

     2. When a set of instructions are repeated for a fixed number of times or until a condition is satisfied. This process is called Looping.

     Two looping statements in BASIC- 256 are:

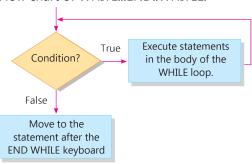   a. FOR...NEXT Statement   b. WHILE...END...while Statement

3. syntax of the WHILE...END...WHILE loop is as follows:

```
WHILE (condition is true)
      Statements to Repeat
END WHILE
```

Flow chart of WHITE...END..WHITLE:

A. 1. Loop 2. FOR Loop

B. 1. I had 1 slice of pizza
   I had 2 slices of pizza
   I had 3 slices of pizza
   I had 4 slices of pizza
   I had 5 slices of pizza
   I had 6 slices of pizza
   I had 7 slices of pizza
   I had 8 slices of pizza
   I had 9 slices of pizza
   I had 10 slices of pizza

   2. I had 1 slices of pizza
   I had 2 slices of pizza
   I had 3 slices of pizza
   I had 4 slices of pizza
   I had 5 slices of pizza
   I had 6 slices of pizza
   I had 7 slices of pizza
   I had 8 slices of pizza

I had 9 slices of pizza

I had 10 slices of pizza

3. 190

4. 1

   4

   7

11. Introduction to Python

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

B. 1. Guido van Rossum   2. assignment   3. string

   4. input( )   5. false

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

D. 1. It will assign & value to variable a.

2. Variables are used to store values which can be accessed or changed later.

3. A data type specifies the type of value a variable can contains.

4. Precedence of operators determines the order in which the operators are executed.

5. IDLE stands for Integrated Development and Learning Environment.

E. 1. List of relational operators:

Operator	Name	Example (x=8 and y=6)	Output
==	Equal	x == y	FALSE
!=	Not equal	x != y	TRUE
>	Greater than	x > y	TRUE
<	Less than	x < y	FALSE
>=	Greater than or equal to	x >= y	TRUE
<=	Less than or equal to	x <= y	FALSE

2. Comments in Python can be used to explain parts of the code. It can also be used to hide the code as well. Comments enable us to understand the way a program works. In python, any statement starting with # symbol is known as a comment.

Python supports two types of comments: Single line comment and Multiline comment.

3. Python has two basic programming modes—Script Mode and Interactive Mode. Interactive Mode is a command line shell which gives immediate result for each command. In Script mode, we type one command at a time. Python executes the given command and gives the output.

1. 2.0   2. 12   3. 10 20 30   4. 6   5. 4

12. AI for Sustainable Development Goals

Checkpoint

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

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

C.   1. SDG   2. 70%   3. 17.2   4. marine pollution

D.   1. AI goals include learning, reasoning and creating awareness. AI is being used by many industries which also includes finance and healthcare.

2. AI can help in achieving this goal by increasing the ability of healthcare professionals to analyse huge data sets, providing better feedback and finding accurately the cause of diseases to discover the cure.

3. This SDG aims to guarantee justice and freedom for all people by 2030.

E.   1. It aims to ensure equal opportunities and end discrimination by eliminating discriminatory laws, policies and practices. AI may help in improving industrial growth thereby improving the global financial market and institutions.

2. AI for climate action has the potential to reduce global greenhouse gas emissions by up to 4 percent. Using AI and data from NASA, researchers are able to identify patterns and monitor changes of land surfaces such as decreasing sea area, ice cap surfaces, etc.

3. AI in education can be used to achieve Quality Education goals by developing smart content, providing personalized guidance, round the clock assistance, virtual learning environment and creating more secured online exams.

Mind Boggler

Do it Yourself.

Periodic Assessment-4

(Based on chapters 10 to 12)

A. Do it yourself

B. Do it yourself

c. Do it yourself

Test Sheet-2

(Based on chapters 7 to 12)

Section A

A.	1. c	2. c	3. c	4. b	5. c	6. a	7. a
B.	1. T	2. T	3. F	4. F	5. T	6. T	
C.	1. Free select	2. WHILE	3. To	4. Biometric	5. assignment		

Section B

A. 1 This aims to use products and services in a manner that is socially beneficial, economically feasible and environment friendly during their whole life cycle.

2. The IF-THEN-ELSE statement is used when we have to check for a condition.

3. Every Web page has a unique address, called a Uniform Resource Locator, or URL. URLs are the key to navigating the Web.

4. The term 'trojan' is derived from the Trojan Horse story in Greek mythology, which explains how the Greeks were able to enter the fortified city of Troy by hiding their soldiers in a big wooden horse given to the Trojans as a gift.

5. It will assign & value to variable a.

B. 1. SDG1: Eradicating extreme poverty and reducing poverty by at least by 50% is the target to achieve. Worldwide, approximately 17.2 percent people are struggling to fulfill the most basic needs like health, education and access to clean water and sanitation.

SDG2: SDG 2 aims to end hunger issues by 2030 and ensure access to nutritious food for all children.

SDG3: This goal focuses on the well-being and good health for all. It aims to end epidemics like Cholera, Tuberculosis, Malaria and other communicable diseases.

SDG4: Education is one of the most basic public services. It enables people to develop all of their attributes and skills to achieve their potential as human beings and members of the society. Quality Education provides the foundation for equity in society and helps to reach gender equality.

SDG5: For sustainable development, it's necessary that we end all forms of discrimination against women. This is a basic human right. We need to provide equal access to resources,

opportunities, power and property to women in the world.

2. When a set of instructions are repeated for a fixed number of times or until a condition is satisfied this process is called looping.

   Two looping statements in basic- 256 are;

   a. `FOR.............. NEXT statement`

   b. `WHILE.....END.....while statement`

3.
```
a=int(input("enter a number "))
b=int(input("enter another number "))
sum = 0
product = 1
for n in range((a+1), (b), 1):
    sum = sum+n
    product = product*n
print("Sum of numbers ", sum )
print("Product of numbers ", product )
```

4. Advantages of E-mail are:

   (i) An e-mail can be sent anytime and from anywhere in the world.

   (ii) An e-mail can be sent to many people at a time.

   (iii) An e-mail can be easily forwarded to anyone without typing it again.

   (iv) Sending an e-mail is fast in comparison to traditional mails.

   (v) Music, images or any other computer file can be shared with anyone by using e-mail.

5. A computer virus is a 'piece of code' or program developed to corrupt the data or program files stored on the computer system.

   On the other hand, A computer worm is a type of malware that has the capability to replicate itself without any human interaction.

6. Python has two basic programming modes—Script Mode and Interactive Mode. Interactive Mode is a command line shell which gives immediate result for each command. In Script mode, we type one command at a time. Python executes the given command and gives the output.