Class 6

Answer key

Digicode AI

1. Safeguarding your Computer

TECH SET GO (Page no. 7)

2

BYTE QUEST (Page no. 16)

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

TECH READY

A. 1. (iii) 2. (i) 3. (ii) 4. (iii) 5. (ii) 6. (i)

B. 1. Malware 2. Biometric 3. Disk Cleanup 4. Retina biometrics
5. Password

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

D. 1. Authentication is the process of verifying a user's identity before granting him or her access to a computer system. In private and public computer networks (including the Internet), authentication is commonly done through the use of login passwords. Some of the authentication procedures as follows:

i. Password Protection
ii. Biometric Authentication
iii. Voice Recognition

2. A computer virus is a program that is able to copy itself when it is run. It gets activated each time the program or file to which it is attached is opened or executed. It is the most common type of malware. It can spread itself by infecting other programs or files.

3. a. Trojan Horse: A trojan horse is a dangerous virus. It represents itself as helpful software program. Once the user clicks on it to agree to run it, it gains access to sensitive data and then modifies, blocks, or deletes the data.

IMPRINT 1

b. Adware: An adware tracks user's browser and download history and keeps popping advertisements on the screen.

4. An infected computer system will:
   i. start displaying unusual messages on the screen
   ii. take more time to load the programs

5. Ways to protect our computer:
   i. Download only legal software
   ii. Use the original version of Windows
   iii. Scan Pen drive, CD and any other external storage device for viruses before opening in computer

6. Different malwares will affect your computer in different ways:
   i. They can crash your hard disk.
   ii. They can destroy all or some of your data.
   iii. They decrease the processing speed of the computer.
   iv. They can reduce or block the memory of the computer or hard disk.

TECH TWISTER

A. 1. AVG 2. Norton 3. McAfee

B.

Competency-based/Application-based questions

1. He should scan the pen drive before using it, to protect his computer.

2. I'll suggest him to neither open these emails nor reply to them.

2. Formulas and Functions in Excel

TECH SET GO (Page no. 21)

Total marks obtained = 95 + 85 + 90 = 270
Maximum marks can be obtained = 100 + 100 + 100 = 300
Average marks = 270/3 = 90
Percentage = (270/300) x 100 = 90%

BYTE QUEST (Page no. 28)

1. -500 2. 1250 3. 2400 4. 2

BYTE QUEST (Page no. 34)

1. 5 2. Comp 3. 7 4. 5 5. 3

TECH READY

A. 1. (i) 2. (i) 3. (ii) 4. (iii)

B. 1. Functions 2. Equal to 3. square root 4. Dollar ($)

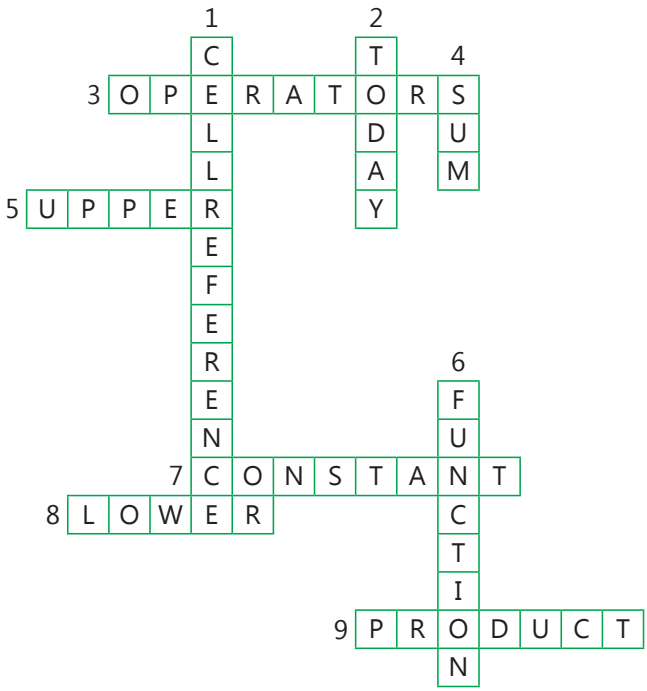
C. 1. F 2. F 3. F

D. 1. A cell reference is a cell address that can be used in a formula to denote a specific cell.

2. It returns the length of the text string. Example:
   Input: =LEN("Touch")
   Output: 5

3. Rules for using functions are:
   (i) All Excel functions must begin with = sign
   (ii) Function name must be a valid name.
   (iii) Function must be followed by opening and closing parenthesis.

TECH TWISTER



Competency-based/Application-based questions

1. =SUM(range)

2. **(This question was printed incorrectly in the book. Please correct it in your textbook.)**

   Question: Your friend Alisha was using Excel and wants to add the current date and time in it. She doesn't know how to do this. Tell her the appropriate function she can use to do so.

   Ans. =NOW()

3. Charts in Excel

TECH SET GO (Page no. 38)

1. Deepak 2. Anurag

BYTE QUEST (Page no. 43)

1. Column Chart 2. Pie Chart 3. Area Chart 4. Line Chart

TECH READY

A. 1. (ii) 2. (i) 3. (iii)

B. 1. column 2. Scatter charts 3. Plot area

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

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

E. 1. a. Data series is related to the set of values. It is represented by the bars or slices that represent the data values.

b. Legend is a key which shows the meanings of symbols and colours used in the chart.

2. Excel can arrange the selected data in either ascending or descending order. This is called sorting of data.

Custom Sorting is used when more than one column is to be sorted in such a way that the first column is in ascending order and if some data is the same for more than one row, then the second column of such rows gets sorted in descending order.

3. To create a chart, follow the given steps:

Step 1: Select the range of cells.

Step 2: Click on the Insert tab.

Step 3: Click on the Insert Column or Bar Chart command.

Step 4: Select the 2-D Column Chart option.

TECH TWISTER

A. Do it yourself.

B. 1. Bar Chart 2. Sorting 3. Ascending Order

Competency-based/Application-based questions

1. Sorting data

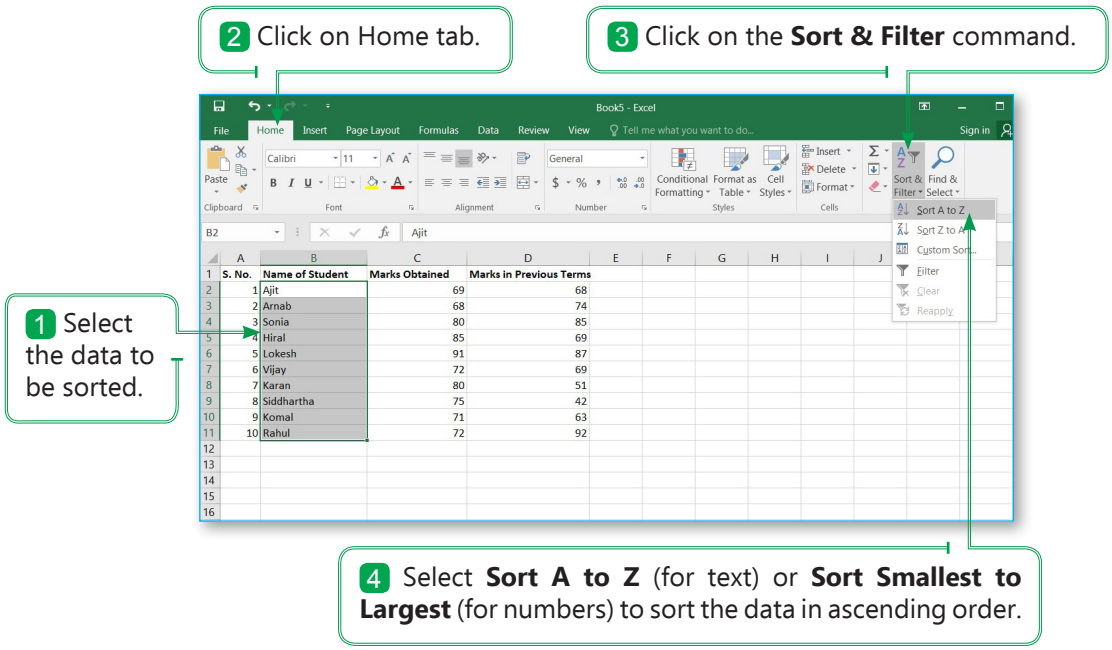
2. Sort A to Z

Periodic Assessment 1

(Based on chapters 1 to 3)

A. 1. Code Red Worm 2. Zeus 3. Emotet 4. Pegasus

B.



S. No.	Name of Student	Marks Obtained	Marks in Previous Terms
1	Ajit	69	68
2	Arnab	68	74
3	Sonia	80	85
4	Hiral	85	69
5	Lokesh	91	87
6	Vijay	72	69
7	Karan	80	51
8	Siddhartha	75	42
9	Komal	71	63
10	Rahul	72	92

C.

1. It is used to show trends over a period of time. It is similar to plotting a graph on graph paper with its values on the X and Y axes.
2. The bar chart displays the data in the form of long rectangular rods, also called bars. These bars can be placed horizontally on the chart area.
3. It is used to display the quantitative magnitude of the data graphically. These charts are based on the features of the line chart.
4. Scatter charts are also known as XY scatter plot charts. They show the correlation between the two sets of values.
5. It is a circular chart divided into sectors where each sector shows the relative size of each value. It always shows only one data series.

4. Advanced Features of PowerPoint 2016

TECH SET GO (Page no. 49)

1. From Beginning
2. Present Online
3. Shapes
4. WordArt

CODE QUEST (Page no. 54)

1. Normal View
2. Slide Sorter View
3. Notes Page View
4. Reading View

IMPRINT 1

CODE QUEST (Page no. 60)

1. AIFF Audio (.aiff), AU Audio (.au)
2. (This question was printed incorrectly in the book. Please correct it in your textbook.)

   Question: Find the odd one out.

   i. .mpeg ii. .swf iii. .asf iv. .mp3

   Ans. iii. .mp3

TECH READY

A. 1. (ii) 2. (iv) 3. (iii) 4. (iii) 5. (ii)

B. 1. Insert 2. Slide 3. Text 4. object

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

D.

1. Slide Show view allows to view the presentation in full screen mode.
2. Slide transition determines how presentation moves from one slide to next whereas Animation is the addition of special visual/sound effects to the text and graphics in a slide.
3. To insert an audio file, follow the given steps:

   Step 1: Click on the Insert tab.

   Step 2: Click on the Audio command.

   Step 3: Choose the desired option.

   Step 4: Select the file.

   Step 5: Click on the Insert button.

   Step 6: Click on Play/Pause button to play or pause the audio.
4. An action button can be used to move from one slide to another and play media files.
5. Four views in PowerPoint are:

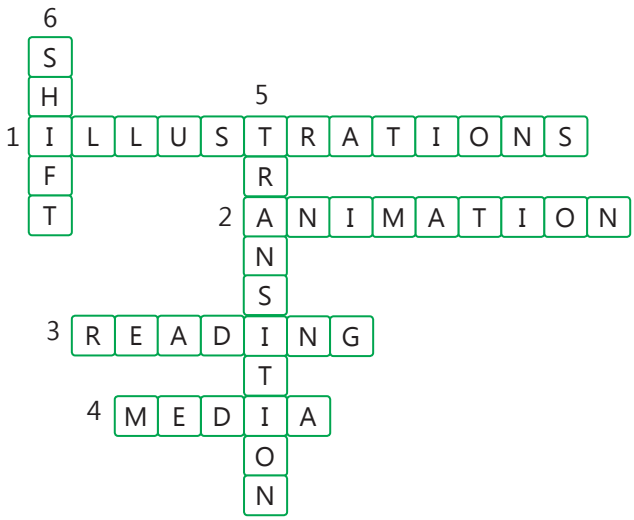
   a. Normal View

   b. Slide Sorter View

   c. Notes Page View

   d. Reading View

TECH TWISTER



Competency-based/Application-based questions

1. He can add Action buttons to do so.

2. She can apply Animation to do so.

5. Algorithmic Intelligence

TECH SET GO (Page no. 66)

1	12	5	18	20	27	13	1	10	15	18	27	3	25	3	12	15	14	5
A	L	E	R	T		M	A	J	O	R		C	Y	C	L	O	N	E

CODE QUEST (Page no. 68)

3. web browser
4. www.google
5. who developed first code?
6. Enter key

CODE QUEST (Page no. 71)

Step 1: Start

Step 2: Take triangle's height and base

Step 3: Calculate, area of triangle = 1/2(Base x Height)

Step 4: Print area of triangle

Step 5: Stop

TECH READY

A. 1. (iii) 2. (ii) 3. (iv)

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

C. 1. An algorithm is a set of steps in a sequential manner to solve a problem or to complete a task.

2. A Mind Map is a also a problem-solving technique that allows us to organise ideas, thoughts or concepts and their relationship in a graphical manner.

3. Two symbols used in flowchart are:
   a. Oval- It is used to show the start and stop points of the flowchart. It usually contains the words 'Start' or 'Stop'.
   b. Rectangle- It shows a process or action step.

4. Step 1: Start

   Step 2: Select the paragraph that you want to copy in Word.

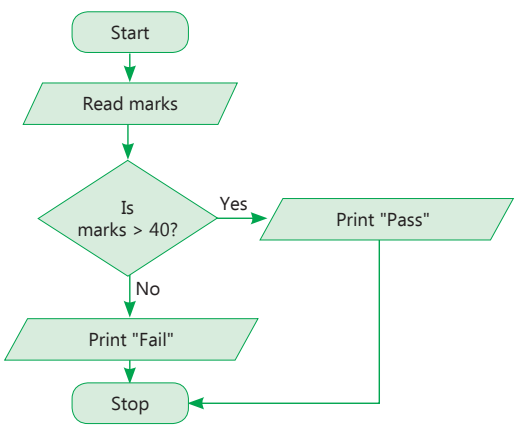
   Step 3: Click on the Copy command from the Home tab.

   Step 4: Click the mouse where you want to paste the selected paragraph.

   Step 5: Click on the Paste command from the Home tab.

   Step 6: End

TECH TWISTER



Competency-based/Application-based questions

1. (i) Parallelogram (ii) Rectangle (iii) Parallelogram

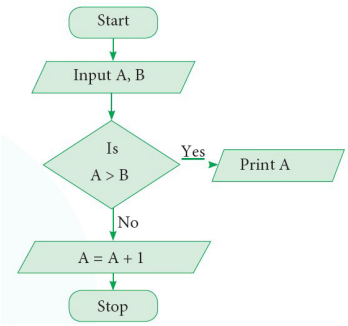
2. She should write an algorithm before making a flowchart.

Periodic Assessment 2

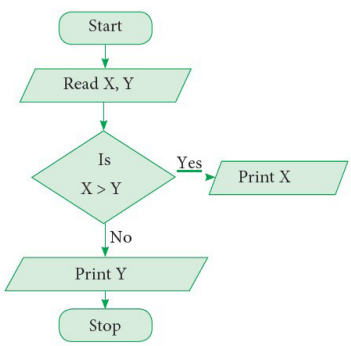
(Based on chapters 4 & 5)

A. 1. Insert tab 2. Animations tab 3. Transitions tab 4. Slide Show tab 5. View tab

B.



C.



Test Sheet 1

(Based on chapters 1 to 5)

A. 1. (ii) 2. (iii) 3. (iv) 4. (iv) 5. (i) 6. (iii) 7. (ii) 8. (ii)

B. 1. column 2. Slide 3. text 4. Biometric 5. Dollar
6. Scatter charts 7. Plot area 8. object

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

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

IMPRINT 1

E. 1. Ways to protect our computer:

i. Download only legal software

ii. Use the original version of Windows

iii. Scan Pen drive, CD and any other external storage device for viruses before opening in computer

2. To create a chart, follow the given steps:

Step 1: Select the range of cells.

Step 2: Click on the Insert tab.

Step 3: Click on the Insert Column or Bar Chart command.

Step 4: Select the 2-D Column Chart option.

3. An action button can be used to move from one slide to another and play media files.

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Step 3: Click on the Copy command from the Home tab.

Step 4: Click the mouse where you want to paste the selected paragraph.

Step 5: Click on the Paste command from the Home tab.

Step 6: End

5. a. Trojan Horse: A trojan horse is a dangerous virus. It represents itself as helpful software program. Once the user clicks on it to agree to run it, it gains access to sensitive data and then modifies, blocks, or deletes the data.

b. Adware: An adware tracks user's browser and download history and keeps popping advertisements on the screen.

6. It returns the length of the text string. Example:

Input: =LEN("Touch")

Output: 5

7. To insert an audio file, follow the given steps:

Step 1: Click on the Insert tab.

Step 2: Click on the Audio command.

Step 3: Choose the desired option.

Step 4: Select the file.

Step 5: Click on the Insert button.

Step 6: Click on Play/Pause button to play or pause the audio.

6. Using MakeCode Arcade

TECH SET GO (Page no. 78)

Step 1: Start

Step 2: Take first alphabet of the name of the book

Step 3: Go to the that alphabetical section of the library

Step 4: Search the book in that section and take it out

Step 5: Stop

CODE QUEST (Page no. 81)

1. Syntax
2. Coding

CODE QUEST (Page no. 84)

(This question was printed incorrectly in the book. Please correct it in your textbook.)

Question:

Answer the following questions:

1. Which book contains words and phrases in an alphabetical order, with their meanings?
2. What is used to describe the steps of an algorithm in a human-understandable language?

Ans.

1. Dictionary
2. Pseudocode

CODE QUEST (Page no. 100)

1. AND operator 2. NOT operator 3. Continue statement 4. Break statement

TECH READY

A.	1. (ii)	2. (i)	3. (i)	4. (iv)	
B.	1. instruct	2. dictionary	3. true	4. nesting	
C.	1. T	2. F	3. T	4. F	
D.	1. (c)	2. (e)	3. (b)	4. (a)	5. (d)

IMPRINT 1

E.

1. Python, Java
2. Bar code scanner, Thermostat
3. Pseudocode is used to describe the steps of an algorithm in a human-understandable language. It has no syntax and can be easily understood by a layman.
4. AND operator is used to check if two or more conditions are TRUE or Yes whereas NOT operator is used to reverse or negate a condition.
5. • Equal to (==) operator is used to check whether two values are equal.
   • Less than (<) operator is used to check whether left operand is less than right operand or not.

TECH TWISTER

1. Pencil 2. Eraser 3. Rectangle 4. Fill
5. Circle 6. Line

Competency-based/Application-based questions

1. By creating a sprite using the image editor.

2. NOT operator

7. Introduction to Python

TECH SET GO (Page no. 104)

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

CODE QUEST (Page no. 110)

1. Python 2. Interactive Mode 3. Script Mode 4. Save option
5. Run Module option

CODE QUEST (Page no. 111)

Roll no = 201

Student Name = "Chirag"

Section = 'A'

TECH READY

A. 1. (iv) 2. (iv) 3. (ii) 4. (i)

B. 1. Prompt 2. Guido van Rossum 3. Variables 4. print( ) 5. line by line

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

D. 1. The Features of Python are:
   a. Open Source
   b. Object-oriented
   c. Easy to code

2. On execution, a Python code is immediately converted into an intermediate form. This is known as byte code.

3. (This question was printed incorrectly in the book. Please correct it in your textbook.)
   Question: Write an example of declaring and initializing a variable.
   Ans. a = 10
   b = 20
   print ("a=", a)
   print ("b=", b)

4. Four variable naming conventions are:
   - A variable name must start with a letter or underscore character.
   - A variable name cannot start with a number.
   - A variable name can only contain alphanumeric characters (all the letters of the alphabet and numbers) and underscores (_).
   - Variable names are case-sensitive.

5. There are two components of Python IDLE window:
   - Menu Bar: The Menu Bar of Python IDLE window is similar to the Menu Bar of other programs. It has various menus such as File, Edit, Shell, Debug, Options, Window and Help.
   - Prompt: You will see a blinking cursor after the symbol (>>>) in the window. This is known as the Prompt. The Prompt allows the user to enter commands directly into Python and get an output instantly by pressing the Enter key.

6. The input( ) function takes the user's input while a program executes. On the other hand, the print( ) function prints or sends the output to the standard output device, which is usually a monitor.

TECH TWISTER

1. 2.0 2. 12 3. 10 20 30

IMPRINT 1

Competency-based/Application-based questions

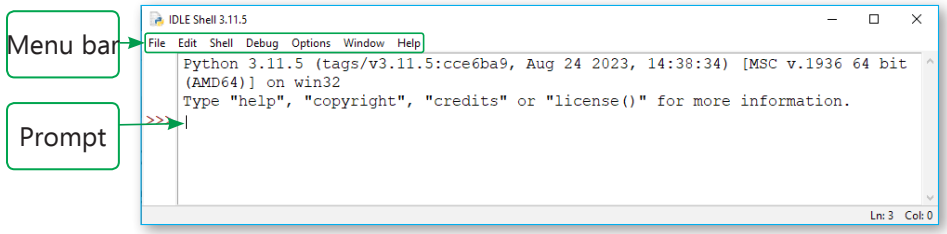
1. Script Mode
2. Interactive Mode

Periodic Assessment 3

(Based on chapters 6 & 7)

A. 1. Bar code scanner 2. Booking tickets 3. Printer

B.



C. 1. Sum of 2 and 3 is 5

2. Student Name: Shikha

   Subject: Computer

   Marks obtained: 86

8. Human vs Machine Intelligence

TECH SET GO (Page no. 115)

Do it yourself.

CODE QUEST (Page no. 117)

1. The ability to understand and use spoken and written language.
2. Emotions, self-awareness, passion and motivation enable us to accomplish complex cognitive tasks.

TECH READY

A. 1. (iii) 2. (ii) 3. (iv)

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

C. 1.

S.No.	Human Intelligence	Artificial Intelligence
1.	Created by nature	Created by human intelligence
2.	Processes information slower	Process information with high speed

2. Two capabilities of human brain are as follows:

- Learn from different experiences
- Understand complex concepts

TECH TWISTER

Do it yourself.

Competency-based/Application-based questions

1. Do it yourself.
2. Do it yourself.

9. AI Technologies

TECH SET GO (Page no. 121)

Do it yourself.

AI QUEST (Page no. 124)

Siri, Alexa

TECH READY

A. 1. (ii) 2. (iv) 3. (i)

4. (This question was printed incorrectly in the book. Please correct it in your textbook.)

Question: Which of the following does not uses the speech recognition technology?

(i) Google Assistant (ii) Cortana

(iii) Siri (iv) None of these

Ans. (iv)

B. 1. Voice 2. Google Assistant 3. Speech recognition
4. Face recognition

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

D. 1. It is used in criminal identification, in phones to unlock them.

2. Two areas where AI-powered OCR is being used are as follows:
   - Document are scanned using OCR.
   - Robots use OCR to scan barcodes in the warehouses and find stock.

3. Face recognition is a technology which is used to identify an individual's face.

4. Two benefits of AI-powered speech recognition systems are as follows:
   - They can capture speech much faster than we type.
   - They save time and effort as the user needs to spend less time in typing.

TECH TWISTER

1. Cortana 2. Google Assistant 3. Siri 4. Alexa

Competency-based/Application-based questions

1. Optical character recognition
2. Face recognition

10. Types of Robots

TECH SET GO (Page no. 129)

1. Zenbo: It is a low-cost robot capable of rolling around freely.
2. Z-Machines: It is a music-band.

AI QUEST (Page no. 137)

A. 1. Kitchen Robots and Ironing Robots
2. A-PUFFER and The BRUIE
3. Furby and Aibo

B. Robots are changing agriculture beyond recognition, from cobot-assisted milking to cow-herding drones, they are there to help in every steps of farming.

TECH READY

A. 1. (iii) 2. (ii) 3. (iv) 4. (i) 5. (ii)

B. 1. Marimba-playing 2. Service 3. Furby 4. Humanoid 5. Robots

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

D. 1. Industrial robots, Collaborative robots and Service robots.

2. A collaborative robot, or Cobot, is a type of robot intended to physically interact with humans in a shared workspace. These robots are supposed to work along with the humans and provide safety and flexibility.

3. Industrial robot is a robot system which used for manufacturing purposes. These robots are automated, programmable and capable of movement in three or more axes.

4. These robots either allow surgical operations to be carried out with better precision than an unaided human surgeon or allow remote surgery where a human surgeon is not physically present with the patient.

5. Some of the reasons for using Robots in space and research are as follows:

- They are sent to space because sending a robot in space is much cheaper than sending a human.
- They don't need to sleep. Hence, they can work for long hours.
- They don't need to eat. Hence, they can survive in space for many years and can be left out there for further research.
- They can withstand harsh conditions, like extreme temperatures or high levels of radiation.

TECH TWISTER

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

Competency-based/Application-based questions

1. Service robots
2. The BRUIE

Periodic Assessment 4

(Based on chapters 8 & 10)

A. 2. Process information with high speed
3. Less accurate
4. Capable of adapting changes
5. Performs single task more efficiently
6. Has social skills

B. 1. Cortana 2. Google Assistant 3. Siri 4. Alexa

C. 1. Rotimatic 2. Knightscope 3. Aibo 4. Humanoid

Test Sheet 2

(Based on chapters 6 to 10)

Section A

A. 1. (iv) 2. (iv) 3. (iv) 4. (iv) 5. (i) 6. (i) 7. (iii) 8. (iv)

B. 1. Speech recognition 2. Face recognition 3. Marimba-playing
4. Humanoid 5. Guido van Rossum 6. instruct
7. dictionary 8. Prompt

C. 1. T 2. T 3. T 4. F 5. T 6. F 7. T 8. F

D. 1. (c) 2. (e) 3. (b) 4. (a) 5. (d)

E. 1. (This question was printed incorrectly in the book. Please correct it in your textbook.)

Question: Write an example of declaring and initializing a variable.

Ans. a = 10

b = 20

print ("a=", a)

print ("b=", b)

2. Industrial robots, Collaborative robots and Service robots.

3. Two areas where AI-powered OCR is being used are as follows:
   - Document are scanned using OCR.
   - Robots use OCR to scan barcodes in the warehouses and find stock.

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   - They can withstand harsh conditions, like extreme temperatures or high levels of radiation.

5.

S.No.	Human Intelligence	Artificial Intelligence
1.	Created by nature	Created by human intelligence
2.	Processes information slower	Process information with high speed

6. Pseudocode is used to describe the steps of an algorithm in a human-understandable language. It has no syntax and can be easily understood by a layman.

7.
   - Equal to (==) operator is used to check whether two values are equal.
   - Less than (<) operator is used to check whether left operand is less than right operand or not.

8. A collaborative robot, or Cobot, is a type of robot intended to physically interact with humans in a shared workspace. These robots are supposed to work along with the humans and provide safety and flexibility.