Class 6

# Answer Key

DigiCode AI (Ver. 2.1)

## 1. Safeguarding your Computer

### TECH SET GO (Page no. 7)

1, 2 and 4

### 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. Adware 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 malicious program. 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. Spyware: A spyware steals important information and data on the device, such as account passwords or bank details. It observes the user's activity without their knowledge.



IMPRINT 1

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. A worm is similar to virus but it can copy itself and spread rapidly to any device attached. A worm does not need any program to activate it.

### 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



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## BYTE QUEST (Page no. 35)

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 ($)

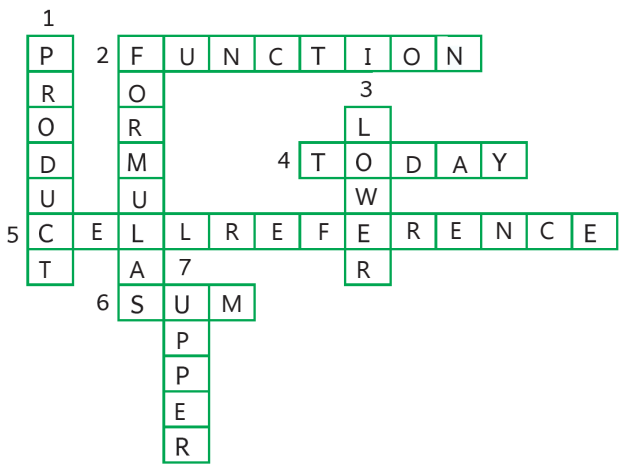
**C.** 1. T 2. F 3. T

**D.** 1. NOW(): It returns the current system date and time.
TODAY(): It returns the current date.

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. =NOW()



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# 3. More on 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. (iv)

**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. 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 button.

Step 4: Select the desired 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. Pie Chart



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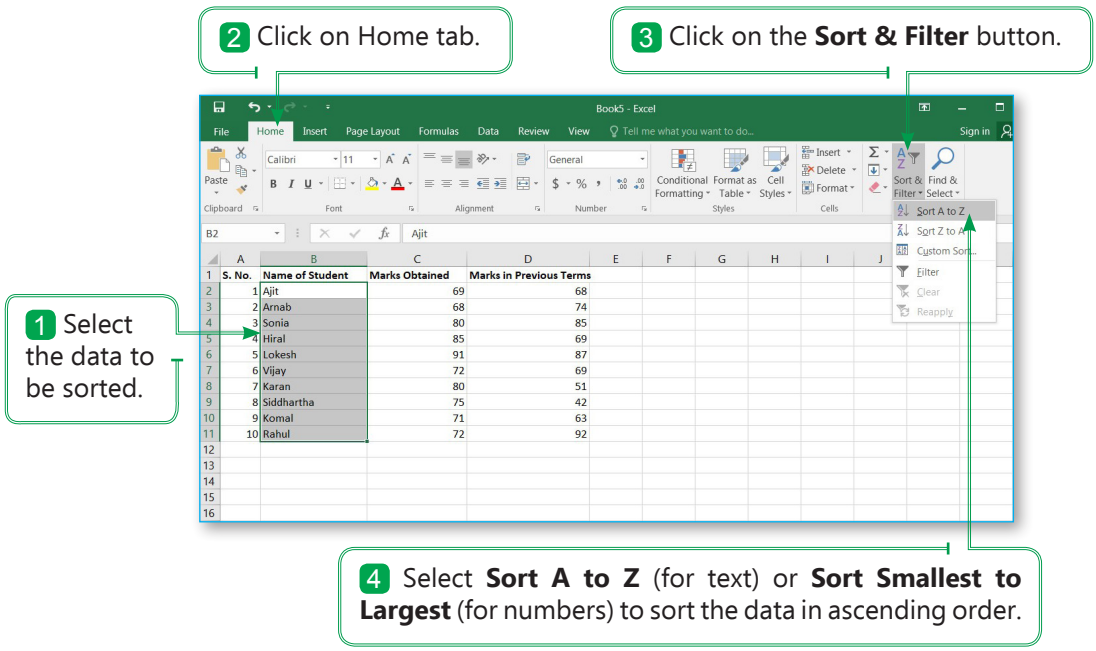
# Periodic Assessment 1

(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. Line chart 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.

**D.** 1. It returns the specified number of characters from the right side of the text string.

2. It checks whether the given condition is met, and returns value1 if the condition evaluates to true, and value2 if the condition evaluates to false.

# 4. Advanced Features of PowerPoint 2016

## TECH SET GO (Page no. 49)

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

## BYTE QUEST (Page no. 54)

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



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## BYTE QUEST (Page no. 60)

1. AIFF Audio (.aiff), AU Audio (.au)
2. (iv) .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 button.

   Step 3: Choose the desired option.

   Step 4: Select the folder.

   Step 5: Select the file.

   Step 6: Click on the Insert button.

   Step 7: Click on Play/Pause button to play or pause the audio.

4. Importing data from files, such as media files or objects created in Microsoft Office applications, enhances the understanding of a presentation. It also helps explain our views more effectively than text alone.

5. Four views in PowerPoint are:

   a. Normal View

   b. Slide Sorter View

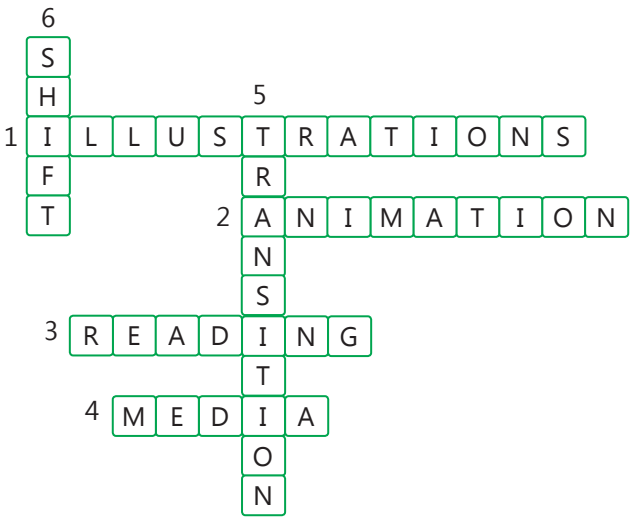
   c. Notes Page View

   d. Reading View



IMPRINT 1

## 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



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## 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 problem-solving technique that allows us to organise ideas, thoughts or concepts and their relationship in a graphical manner.

3. Rectangle- It shows a process or action step.

4. Step 1: Start

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

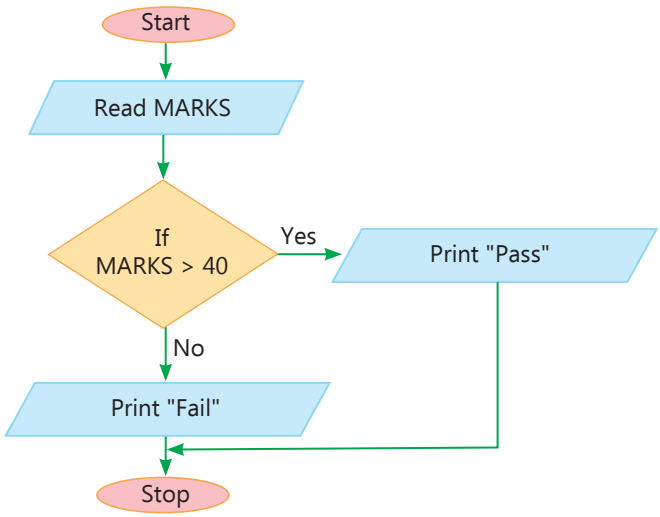
   Step 3: Click on the Copy command from the Home tab.

   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.

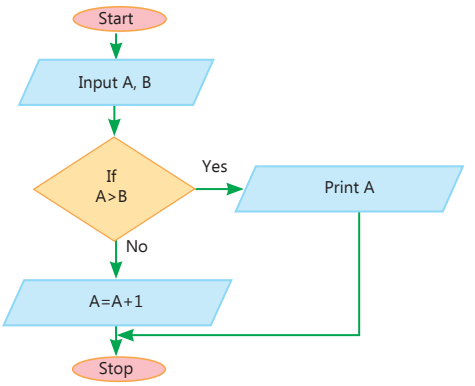
# Periodic Assessment 2

(Based on chapters 4 & 5)

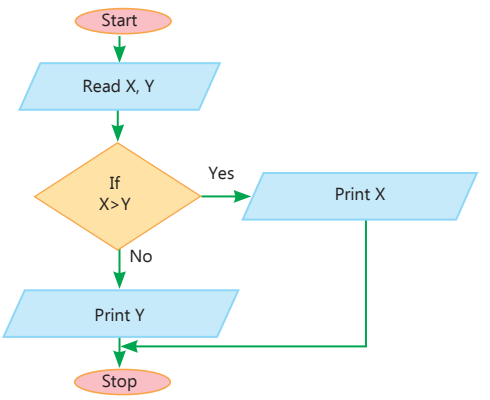
**A.** 1. Insert tab 2. Animations tab 3. Transitions tab

4. Slide Show tab

**B.**




**C.**




# Test Sheet 1

(Based on chapters 1 to 5)

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

**B.** 1. Column 2. Slide 3. Text 4. Biometric 5. Dollar
6. Scatter charts 7. Plot area 8. Object



IMPRINT 1

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

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

**E.** 1. Ways to protect our computer:

- Download only legal software
- Use the original version of Windows
- 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 button.

   Step 4: Select the desired Chart option.

3. Action buttons help other people using our presentation in navigating from one slide to another. We can also assign a particular task to be done when the viewer of the presentation clicks on an action button.

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

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 button.
   Step 3: Choose the desired option.
   Step 4: Select the folder.
   Step 5: Select the file.



IMPRINT 1

Step 6: Click on the Insert button.
Step 7: 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. Programming language

## CODE QUEST (Page no. 84)

1. Dictionary
2. Pseudocode

## CODE QUEST (Page no. 100)

1. Event 2. Event Handler

## TECH READY

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

**B.** 1. Pseudocode 2. dictionary 3. say 4. MakeCode Arcade 5. Event handler

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

**D.**
1. The block toolbox is your source for all the necessary code elements to create your game. These elements are neatly categorised in drawers based on their functions and methods.
2. Integrated Development Environment
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.


IMPRINT 1

4. The splash block in MakeCode displays a message on the screen for a specified duration. Splash block will get execute when you click on 'start the simulator' button. In this 'start the simulator' button is an event handler.
5. A bug is an unexpected problem in your program. You follow a defined sequence to write a program, from which you expect to return a specific output. Any change in the expected and actual output of the program is said to be the result of a bug.
6. The **pause** block in MakeCode temporarily stops program execution for a specified duration in milliseconds, allowing for timed delays between actions.

### 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. Pause Block

# 7. Introduction to Python

### TECH SET GO (Page no. 104)

1. 48 2. 8.4 3. 1 4. -190 5. 38

### CODE QUEST (Page no. 111)

1. Python 2. Interactive Mode 3. Script Mode

### CODE QUEST (Page no. 112)

Roll no = 201

Student Name = "Chirag"

Section = 'A'

### TECH READY

**A.** 1. (iv) 2. (i) 3. (iii) 4. (i)

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



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

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

2. Prompt is a blinking cursor after the symbol (>>>), which indicates the Python interpreter is ready to accept commands.

3. a = 10
b = 20
print ("a=", a)
print ("b=", b)

4. Two variable naming conventions are:
- A variable name must start with a letter (a-z, A-Z), or an underscore (_).
- A variable name cannot start with digits(0-9).

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. Sanjay 2. 10 10 3. 10 20 30

**Competency-based/Application-based questions**

1. Script Mode
2. float()

# Periodic Assessment 3

(Based on chapters 6 & 7)

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



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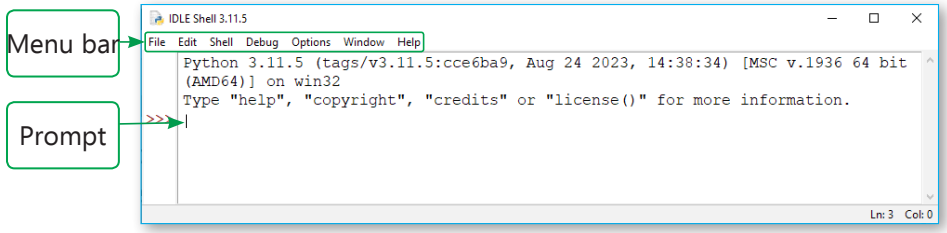
**B.**




**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. 116)

Do it yourself.

## AI QUEST (Page no. 118)

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. Human Intelligence

# 9. AI Technologies

## TECH SET GO (Page no. 122)

Do it yourself.

## AI QUEST (Page no. 125)

Siri, Alexa

## TECH READY

**A.** 1. (ii) 2. (iv) 3. (i) 4. (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. Two areas where face recognition is used are as follows:
- It is used in phones to unlock them.
- It is used on social media websites to spot faces when you upload a photo.

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. Google Assistant 2. Siri 3. Alexa

**Competency-based/Application-based questions**

1. Optical Character Recognition (OCR)
2. Face Recognition

# 10. Types of Robots

## TECH SET GO (Page no. 130)

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. 138)

**A.** 1. Kitchen Robots and Ironing Robots
2. A-PUFFER and 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. (ii) 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.

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. Robots in the medical industry enhance precision in surgeries, assist in rehabilitation, and ensure cleanliness through disinfection.

5. Two 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 eat or sleep. Hence, they can work for long hours.

| 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. BRUIE

# Periodic Assessment 4

(Based on chapters 8 to 10)

**A.**

| S.No. | Human Intelligence | Artificial Intelligence |
|---|---|---|
| 1. | Created by nature | Created by human intelligence |
| 2. | Processes information slower | Process information with high speed |
| 3. | Less accurate | More accurate |
| 4. | Capable of adapting changes | Can't easily adapt changes |
| 5. | Has the capacity of multi-tasking | Performs single task more efficiently |
| 6. | Has social skills | Lack social skills |

**B.** 1. Optical Character Recognition 2. Speech Recognition 3. Face Recognition

**C.** 1. Face Mask Detection Robot 2. Knightscope 3. Aibo 4. Humanoid



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# Test Sheet 2

(Based on chapters 6 to 10)

## Section A

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

**B.** 1. Speech recognition 2. Face recognition 3. marimba-playing
4. Humanoid 5. Guido van Rossum 6. Event handler
7. Pseudocode 8. Prompt

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

**D.** 1. 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.

4. Two 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 eat or sleep. Hence, they can work for long hours.

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. The **pause** block in MakeCode temporarily stops program execution for a specified duration in milliseconds, allowing for timed delays between actions.

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.



IMPRINT 1