

Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## GOOGLE APPS

### A. Write the names of any four Google apps.

1. ....
2. ....
3. ....
4. ....

### B. Fill in the blanks.

1. In December 2019, Sundar Pichai became the CEO of .....
2. Encryption is the process of ..... a message or file so that it can only be accessed by authorized people.
3. The ..... icon allows you to save a copy of the file on your device.
4. .... allows multiple users to work on the same document in real time.
5. Changes made to the Google Docs are ..... automatically when working online.

### C. Guess who am I?

1. I am an online version of Microsoft PowerPoint developed by Google in 2006. ....
2. I am a video sharing application where users can upload their videos, share, comment, watch and like other videos. ....
3. I am a spreadsheet application introduced by Google on March 9, 2006. ....
4. I am a cloud-based storage service that can store all types of files such as photos, videos, PDFs, Microsoft Office files and many more. ....

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## GOOGLE APPS

### A. Tick (✓) the correct option.

1. Which of the following apps is used to make presentation?

a. Gmail

☐

b. YouTube

☐

c. Slides

☐

d. Sheets

☐

2. Which of the following is a type of social media application?

a. Facebook

☐

b. YouTube

☐

c. Slides

☐

d. Sheets

☐

3. Which of the following is not a Google app?

a. Slides

☐

b. Facebook

☐

c. YouTube

☐

d. None of these

☐

4. We use Set Permissions option in Google Sheets to .....

a. Protect Sheets

☐

b. Delete Sheets

☐

c. Withdraw Protection

☐

d. All of these

☐

5. Which of the following actions cannot be performed on YouTube?

a. Video uploading

☐

b. Watching video

☐

c. Sending an email

☐

d. Saving a video

☐

### B. Answer the following questions:

1. State two uses of Google maps.

.....

2. What is Gmail?

.....

3. State any two benefits of Google Docs.

.....

Name: \_\_\_\_\_

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## ANIMATION IN KRITA

### A. Fill in the blanks.

1. You can add animation controls to the workspace by selecting the ..... option from the Workspaces panel.
2. A ..... is special frames that enables you define some changes to an object's properties.
3. You can add new blank frames in the .....
4. All the layers are available in the ..... panel.
5. To run the animation, you can click on the ..... button.

### B. Write 'T' for true and 'F' for false.

1. You can only create drawings with Krita. ....
2. Krita is used for creating 3D animation. ....
3. The stage is an area where you can create animation. ....
4. Krita is a free and open-source painting and animation program. ....
5. The panel that contains drawing tools is called Toolbox. ....

### C. Answer the following in one word:

1. It sets the speed at which animation plays in the preview mode.....
2. It sets the speed at which animation plays in other apps. ....
3. Name the tool that is used for adding blank frames. ....
4. Name the panel that holds all the layers of the animation. ....

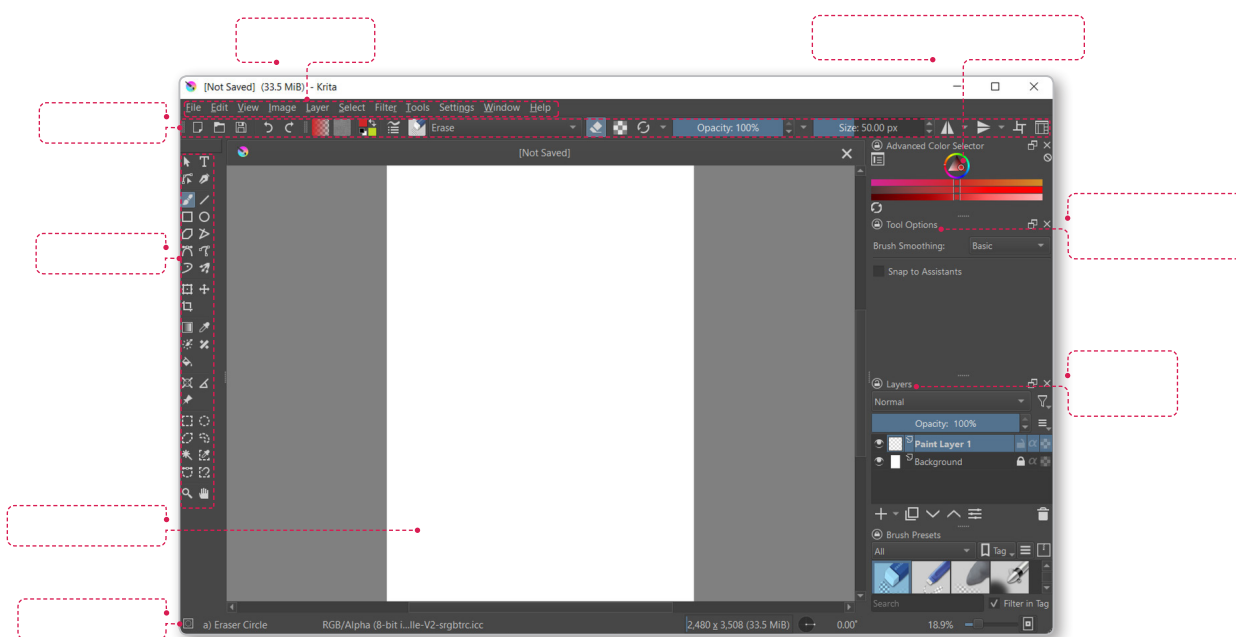
Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## ANIMATION IN KRITA

### A. Label the components of Krita screen.



### B. Answer the following questions:

1. Explain any two settings related to the file under Dimensions tab.

.....

.....

2. What is the difference between Background Color and Background Opacity?

.....

.....

### C. Competency-based/Application-based question.

Kashish has created a drawing in Krita and she wants to import some objects from other files as a separate layer. How can she do this?

.....

Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## TRENDING TECHNOLOGIES

### A. Tick (✓) the correct option.

- Which of the following technology that creates a complete virtual world that users can interact with?
 

a. Augmented Reality	<input type="checkbox"/>	b. Virtual Reality	<input type="checkbox"/>
c. 3D Printing	<input type="checkbox"/>	d. Robotics	<input type="checkbox"/>
- Which of the following robot provides emergency services in rescue operations?
 





a. Aibo	<input type="checkbox"/>	b. ASIMO	<input type="checkbox"/>
c. Ameca	<input type="checkbox"/>	d. Atlas	<input type="checkbox"/>
- Which of the following uses techniques such as machine learning and artificial intelligence to extract meaningful information?
 

a. Data Science	<input type="checkbox"/>	b. Augmented Reality	<input type="checkbox"/>
c. Internet of Things	<input type="checkbox"/>	d. Robotics	<input type="checkbox"/>

### B. Write 'T' for true and 'F' for false.

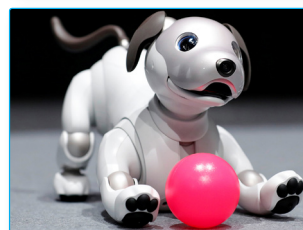
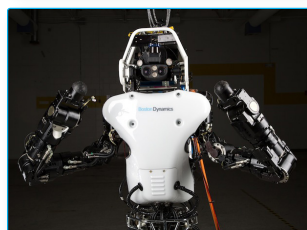
- AI is used as image recognition for face unlock in smartphones. ....
- Pepper is a robotic dog. ....
- Nao is a small humanoid robot, packed with sensors. ....
- Edge computing keeps computer data close to the user. ....

### C. Match the following:

- |                                                                                        |                    |
|----------------------------------------------------------------------------------------|--------------------|
| 1.  | a. Google Maps     |
| 2.  | b. Snapchat        |
| 3.  | c. Google Earth VR |
| 4.  | d. Matterport      |

## TRENDING TECHNOLOGIES

### A. Write the name of the following popular Robots:



### B. Answer the following questions:

1. What is Machine learning?

.....

.....

2. Explain Edge computing.

.....

.....

3. Write the examples of AR & VR applications.

.....

.....

### C. Competency-based/Application-based question.

Samar's friend was watching a 3D movie, a technology creating an imaginary world for the purpose of entertainment. Samar doesn't know that which technology is this. Tell him the name of the technology.

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## ALGORITHMIC INTELLIGENCE

A. Write the result for the following conditions if num1 is 500 and num2 is 400:

If (num1 > 250) **OR**  
(num2 > 250)  
**Then**  
Write "BURGER"  
**Else**  
Write "PIZZA"

If (num1 > 250) **AND**  
(num2 > 250)  
**Then**  
Write "BURGER"  
**Else**  
Write "PIZZA"

If (num1 < 250)  
**Then**  
Write "BURGER"  
**Else**  
Write "PIZZA"

B. Write the output of the following programs:

1. Repeat 2 times  
{  
Enter num  
}  
If num1 < num2  
Then  
Print "num2 is greater"  
Else  
Print "num1 is greater"

2. Repeat 4  
{  
Read marks  
If marks is > 33  
Then  
Display Pass  
Else  
Print Fail  
}  
}

3. Repeat 5 times  
(  
write "8"  
Move 1 step left  
)

Marks	40	32	31	50	33
Results					53

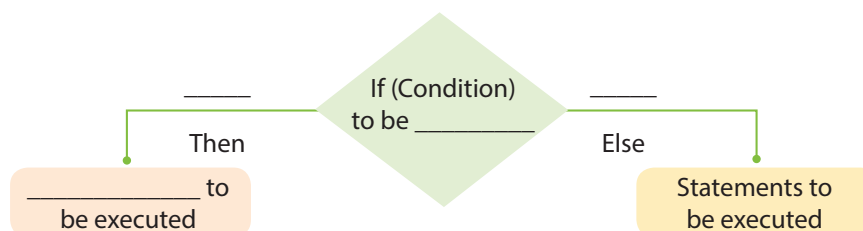

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## ALGORITHMIC INTELLIGENCE

### A. Complete the given conditional statement structure.



### B. Answer the following questions:

1. Write an if condition to display "Yes" or "No" if it is a weekend today or your office.

.....

.....

2. Write a program to check whether a given number is odd or even. If the number is even, then print "Even number". If the number is odd, then print "Odd number".

.....

.....

### C. Competency-based/Application-based question:

Your sister Vaishali wants to display "Yes" or "No" if the numbers from 1 to 50 is divisible by 5, also include first and the last number in calculation.

.....

.....

.....

.....

.....

.....

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## ADVANCED MAKECODE ARCADE

### A. Tick (✓) the correct option.

- Which statement checks another condition if previous is false?
 

a. if-else	<input type="checkbox"/>	b. else-if	<input type="checkbox"/>
c. for	<input type="checkbox"/>	d. while	<input type="checkbox"/>
- Which statement is used to exit a loop early when a specific condition is met?
 

a. continue	<input type="checkbox"/>	b. break	<input type="checkbox"/>
c. for	<input type="checkbox"/>	d. while	<input type="checkbox"/>
- What do function arguments contain?
 

a. Return values	<input type="checkbox"/>	b. Parameters	<input type="checkbox"/>
c. Variables	<input type="checkbox"/>	d. Passed values	<input type="checkbox"/>
- How are array elements accessed in Python?
 

a. Indexing	<input type="checkbox"/>	b. Sorting	<input type="checkbox"/>
c. Searching	<input type="checkbox"/>	d. Grouping	<input type="checkbox"/>
- What does sorting arrange?
 

a. Strings	<input type="checkbox"/>	b. Numbers	<input type="checkbox"/>
c. Items	<input type="checkbox"/>	d. Objects	<input type="checkbox"/>

### B. Fill in the blanks.

- ..... adds conditional logic in programming.
- Else-if checks alternate ..... when earlier ones are false.
- ..... operators combine multiple logical conditions.
- Function ..... are names in function definition.
- ..... is the process of arranging items.
- Array elements have ..... starting from 0.

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## ADVANCED MAKECODE ARCADE

### A. Match the following:

- |             |                        |
|-------------|------------------------|
| 1. If       | a. Condition checking  |
| 2. Else     | b. Alternate execution |
| 3. AND      | c. Logical operator    |
| 4. Function | d. Reusable code block |
| 5. Array    | e. Ordered collection  |
| 6. Sorting  | f. Arranging items     |
| 7. Sequence | g. Ordered steps       |
| 8. Bug      | h. Program error       |

### B. Answer the following questions:

1. What is the purpose of control structures in programming?

.....

2. What does the else block contain in if-else statement?

.....

3. What do relational operators allow comparing?

.....

4. What is the difference between parameters and arguments?

.....

### C. Write 'T' for true and 'F' for false.

- If-else statements check code conditions. ....
- AND logical operator returns true if any condition is false. ....
- Arrays allow storing data of different data types. ....

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## LOOPING STATEMENTS IN PYTHON

### A. Tick (✓) the correct option.

- Which of the following is a conditional statement in Python?
 

a. for statement	<input type="checkbox"/>	b. while statement	<input type="checkbox"/>
c. if statement	<input type="checkbox"/>	d. break statement	<input type="checkbox"/>
- Which of the following statements are used when the number of repetitions are known?
 

a. for statement	<input type="checkbox"/>	b. while statement	<input type="checkbox"/>
c. if...else statement	<input type="checkbox"/>	d. continue statement	<input type="checkbox"/>
- Which of the following statements skips the current iteration of a loop?
 

a. if	<input type="checkbox"/>	b. for	<input type="checkbox"/>
c. break	<input type="checkbox"/>	d. continue	<input type="checkbox"/>

### B. Write the output of the following programs:

1. `i = 0`  
`while i < 3:`  
     `print (i)`  
     `i += 1`  
`else:`  
     `print (0)`

2. `i = 0`  
`while i < 3:`  
     `print (i)`  
     `i += 1`  
`else:`  
     `print (0)`

3. `i = 2`  
`while i < 10:`  
     `print(i)`  
     `if i == 8:`  
         `break`  
     `i += 2`

4. `number = ["fifty", "hundred", "thousand"]`  
`for x in number:`  
     `print(x)`  
     `if x == "hundred":`  
         `break`

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## LOOPING STATEMENTS IN PYTHON

### A. Fill in the blanks.

1. The ..... statement executes a set of statements repeatedly, until the logical expression remains true.
2. Any ..... value in the while loop indicates an always true condition whereas zero indicates ..... condition.
3. The ..... loop never ends.
4. The ..... and ..... are the jump statements in Python.

### B. Write 'T' for true and 'F' for false.

1. We cannot use do-while loop in Python. ....
2. The break statement breaks the loops one by one. ....
3. The continue keyword skips the current iteration of a loop and continues with the next iteration. ....
4. A single break statement will skip the current iteration of loops. ....
5. The break statement is used to terminate the loop completely when a condition is met. ....

### C. Answer the following questions:

1. What are jump statements?  
.....
2. Write the syntax of the 'for loop'.  
.....
3. Demonstrate the use of the while loop using else statement.  
.....

Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## FUNCTIONS IN PYTHON

### A. Tick (✓) the correct option.

- Which of the following methods add more than one element to the end of the existing list?
 

a. remove()	<input type="checkbox"/>	b. index()	<input type="checkbox"/>
c. count()	<input type="checkbox"/>	d. extend()	<input type="checkbox"/>
- Which of the following returns the smallest element from the given list?
 

a. extend()	<input type="checkbox"/>	b. len(list)	<input type="checkbox"/>
c. min(list)	<input type="checkbox"/>	d. max(list)	<input type="checkbox"/>
- Which of the following does negative indexing mean?
 

a. Index of -0 refers to the last elements of the list	<input type="checkbox"/>
b. Index of -1 refers to the last elements of the list	<input type="checkbox"/>
c. Index of -2 refers to the last elements of the list	<input type="checkbox"/>
d. Index of -3 refers to the last elements of the list	<input type="checkbox"/>

### B. Fill in the blanks.

- Python uses lists to store the ..... order of different kinds of data.
- An empty list is a list that does not contain the ..... in it.
- Various ways to ..... a list are indexing, negative indexing and slicing.
- Nested list can be traversed by using the ..... operator.

### C. Explain the following methods:

- sort() .....
- copy() .....
- count() .....
- index() .....

Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## FUNCTIONS IN PYTHON

### A. Fill in the blanks.

1. A function name should be ..... and easy to correlate with the task it will perform.
2. The ..... and ..... belong to the category of built-in functions.
3. .... may include a letter, number, special characters or a backslash.
4. A ..... string in Python begins and ends with either three single quotes or three double quotes.
5. .... means visiting each element and processing it as required by the program.

### B. Write 'T' for true and 'F' for false.

1. We cannot call a function as many times as required. ....
2. User-defined functions are created by the user according to the need of the program. ....
3. Function blocks begin with the keyword followed by the function name and parentheses. ....
4. We cannot create our own functions in Python. ....
5. Strings can be created by enclosing characters inside single or double brackets. ....

### C. Answer the following questions:

1. What is the difference between built-in functions and user-defined functions?  
.....
2. Write two ways to traverse a string.  
.....

Name: \_\_\_\_\_

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Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## PARTS OF ROBOTS

### A. Fill in the blanks.

1. \_\_\_\_\_ are organic entities.
2. There are \_\_\_\_\_ widespread types of Locomotive devices.
3. \_\_\_\_\_ use laser light to detect objects in the pathway.
4. \_\_\_\_\_ are used to measure the distance of any object from a robot.
5. \_\_\_\_\_ use high-capacity batteries.

### B. Answer the following questions:

1. What is robotics?

.....

.....

2. What is gripper?

.....

.....

3. What do you mean by controller of a robot?

.....

.....

4. What is Strong Sensory Controller?

.....

.....

5. What are sensors in robots?

.....

.....

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## PARTS OF ROBOTS

### A. Match the following:

- |                        |                                                                  |
|------------------------|------------------------------------------------------------------|
| 1. Pressure sensors    | a. are used to detect sounds.                                    |
| 2. Temperature sensors | b. use high-frequency sounds to detect objects                   |
| 3. Microphones         | c. are used to detect changes in position, velocity, force, etc. |
| 4. Contact sensors     | d. sense temperature.                                            |
| 5. Sound sensors.      | e. sense pressure.                                               |

### B. Write 'T' for true and 'F' for false.

- Robots cannot do anything by themselves. ....
- Humans can handle only specialised tasks. ....
- End effectors are attached to the robot's wrist and controlled through a computer. ....
- Robots use muscles to give movements to their arms, palms and fingers. ....
- Pre-Programmed robots are insensitive to their changing environment. ....

### C. Define the following terms:

- Manipulator  
.....
- End effector  
.....
- Simple Controller  
.....

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

### DOMAINS OF AI

#### A. Tick (✓) the correct option.

1. Which of the following is a domain of AI?

a. Big data

☐

b. NLP

☐

c. Computer Vision

☐

d. All of these

☐

2. Which of the following is a subfield of AI which helps in communication between human and computer in natural language?

a. Big data

☐

b. NLP

☐

c. Computer vision

☐

d. None of these

☐

3. Which of the following fields use computer vision?

a. Self-driving cars

☐

b. Drones

☐

c. Healthcare industry

☐

d. All of these

☐

4. Which domain of AI is used to identify spam or junk mails?

a. Big data

☐

b. NLP

☐

c. Computer vision

☐

d. None of these

☐

5. AI's ability to work so well with data analytics is because of its use of .....

a. Big data

☐

b. NLP

☐

c. Computer vision

☐

d. None of these

☐

#### B. Define the following:

1. Natural Language Processing

.....

2. Big data

.....

3. Computer vision

.....



Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## DOMAINS OF AI

### A. Fill in the blanks.

- ..... enables a computer to read and understand data by mimicking human natural language.
- ..... is a very popular field of AI that trains a computer to understand and interpret the visual world.
- ..... cars use computer vision to examine their surroundings and plan its path.
- In healthcare industry, ..... can be used to check the patient's image and determine the ailment.
- ..... checks the sender of the email and categorises the mails as spam or junk.

### B. State whether these statements are true or false.

- Big data subfield of AI is used for a variety of tasks such as email filters. ....
- There are different approaches or domains to achieve Artificial Intelligence. ....
- NLP also finds its use in the auto complete and spell check feature of word processors. ....
- Big data has become a valuable commodity. ....
- Social media accounts, online profiles, product reviews, tagged interest, shared content, almost every information adds value to the big data pool. ....

### C. Assertion and reasoning based question.

**Assertion (A):** AI's ability to work so well with data analytics is because of its use of big data.

**Reason(R):** Using data from many sources, AI can build a store house of knowledge that ultimately leads to accurate predictions about a consumer.

- Both A and R are correct and R is the correct explanation of A.
- Both A and R are correct but R is NOT the correct explanation of A.
- A is correct but R is not correct.
- A is not correct but R is correct.

Select the correct answer from above options.

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## SDGs

### A. Write 'T' for true and 'F' for false.

1. These days we have machines that can think and give responses close to a human being. ....
2. Goal 2 aims to seek sustainable solutions to end hunger by 2030. ....
3. Goal 14 aims to protect and restore ecosystems. ....
4. Goal 7 aims to grant women and girls with equal rights. ....
5. Goal 17 aims to protect biodiversity. ....

### B. Identify the following icons and write their names:



1. ....



2. ....



3. ....



4. ....

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

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## SDGs

### A. Answer the following questions:

1. What is the principle of SDGs?  
.....
2. What is the aim of Goal 2?  
.....
3. How does Goal 7 ensure access to affordable, reliable, sustainable and modern energy for all?  
.....
4. What is the aim of Goal 13?  
.....

### B. Match the following:

- |    |                                                                                     |            |
|----|-------------------------------------------------------------------------------------|------------|
| 1. |  | a. Goal 8  |
| 2. |  | b. Goal 16 |
| 3. |  | c. Goal 3  |
| 4. |  | d. Goal 11 |

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## POSSIBILITIES WITH AI

### A. Tick (✓) the correct option.

1. Which of the following is not soft skills?

- |                         |                          |                             |                          |
|-------------------------|--------------------------|-----------------------------|--------------------------|
| a. Collaboration Skills | <input type="checkbox"/> | b. Critical Thinking Skills | <input type="checkbox"/> |
| c. Leadership Skills    | <input type="checkbox"/> | d. Programming Skills       | <input type="checkbox"/> |

2. The ..... skills are the abilities or knowledge used for practical tasks in the field of science, technology, engineering, etc.

- |                     |                          |                  |                          |
|---------------------|--------------------------|------------------|--------------------------|
| a. Soft             | <input type="checkbox"/> | b. Technical     | <input type="checkbox"/> |
| c. Both (a) and (b) | <input type="checkbox"/> | d. None of these | <input type="checkbox"/> |

3. Which of one of these are skilled programmers who develop machines and systems that can learn and apply knowledge without precise direction from a human?

- |                              |                          |                      |                          |
|------------------------------|--------------------------|----------------------|--------------------------|
| a. Machine Learning Engineer | <input type="checkbox"/> | b. Robotics Engineer | <input type="checkbox"/> |
| c. Computer Vision Engineer  | <input type="checkbox"/> | d. Data Scientist    | <input type="checkbox"/> |

4. .... is a deep-learning software company that specializes in conversational interfaces to solve specific and high impact problems in the enterprise.

- |           |                          |               |                          |
|-----------|--------------------------|---------------|--------------------------|
| a. Doxper | <input type="checkbox"/> | b. Expertrons | <input type="checkbox"/> |
| c. Avaamo | <input type="checkbox"/> | d. Niki.ai    | <input type="checkbox"/> |

### B. Fill in the blanks.

- ..... engineers research, design, develop or test robotic applications.
- A ..... is responsible for collecting, analysing and interpreting huge amount of data.
- ..... can be defined as newly established businesses founded by some very creative people termed as entrepreneurs.

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

Class: \_\_\_\_\_ Section: \_\_\_\_\_ Date: \_\_\_\_\_

## POSSIBILITIES WITH AI

### A. Write a short note on the following:

- Machine Learning Engineer: .....
- Data Scientist: .....

### B. Consider the following statements:

- Face recognition is related to Computer Vision Engineer.
- Manufacturing plants or laboratories is related to Robotics Engineer.
- Data Visualization and Reporting is related to Aerospace Engineer.
- Niki.ai was founded by IIT Kharagpur's 4 graduates in May, 2015.

Choose the correct option:

- |                        |                          |                                 |                          |
|------------------------|--------------------------|---------------------------------|--------------------------|
| a. Only (a) is correct | <input type="checkbox"/> | b. Both (a) and (b) are correct | <input type="checkbox"/> |
| c. Only (c) is correct | <input type="checkbox"/> | d. (a), (b) and (d) are correct | <input type="checkbox"/> |

### C. Answer the following questions:

- Write the names of any two AI Start-ups in India.  
.....
- Which type of engineer is working in the following picture:

