



DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2024-25
MONDAY TEST

CLASS: IX
SUBJECT: AI & ROBOTICS

FULL MARKS: 40
DATE: 17.05.24

Instruction:

Attempt all questions. The paper consists of *two* pages

Question 1.

Choose the correct option: -

[6 x 1 = 6]

- i. Which of the following is the correct way of creating string?
a. name=Jiya b. name='Jiya' c. name="Jiya" d. Both b and c
- ii. Tokens of Python, which have special meaning and are reserved for specific functionality are called _____.
a. Identifier b. Functions c. Keywords d. Literals
- iii. Assertion (A): - A SnakeBot can navigate in different ways including slithering and rolling.
Reason(R): - It can be controlled remotely and has a small footprint.
a. Both (A) and (R) are true and (R) is the correct explanation for (A).
b. Both (A) and (R) are true but (R) is not the correct explanation for (A).
c. (A) is true and (R) is false.
d. (A) is false and (R) is true.
- iv. Which of the following cannot be considered as a parameter that increases the quality of Robots?
a. Human Safety b. Testing c. Traceability d. Accuracy
- v. Which of the following is an aerial robot?
a. ONERA b. ATLAS c. TURTLEBOT d. ROOMBA
- vi. Statement A: The identifiers in Python can begin with an underscore.
Statement B: _ is a valid identifier name
a. Only A is true c. Both are true
b. Only B is true d. Both are false

Question 2.

- i. Write corresponding Python statements: [2+2+2]
 - a. Assign 10 to variable length and 20 to variable breadth
 - b. Assign the average of values of variables length and breadth to a variable sum.
 - c. To identify the datatype of variable sum with reference to the previous subpart and mention the output.

Question 3.

- i. Identify the types of following literals: [2]
 - a. 23.789 b. "India" c. 23789 d. False

- ii. Which of the following identifier names are invalid and state why? [5]
 a. Serial_no. b. 1st_room c. total-marks d. Total marks
 e. True
- iii. Mention the type of bio-inspired robot and mention any two of its applications.



a. [3]



b. [3]

Question 4.

- i. Solve the following expressions using correct operator hierarchy: - [6]
 a. $(5 // 2 + 16 / 4) - 2 ** 2$
 b. $25 - (9 \% 3 * 5) + 3 * 3$
 c. $7 / 2 + 3 ** 4 - 1$
- ii. Go thru the given Case Study and answer the following questions: -
In an Industrial scenario, a robot is working at a conveyor belt to identify faulty packaging. During the automated task a rabbit jumps on the conveyor belt.
- a. What will be the ideal response of the robot? [1]
 b. Mention and State the Law that is implemented here. [2]
 c. Who gave the Laws of Robotics? [1]
 d. Give an example of an industrial robot. [1]

Question 5.

- i. How is programmability and durability accounted as characteristics of Robot? [2]
- ii. Classify the robots on the basis of Control. Give an example each. [2]