ICI School, Bhosari

PERIODIC TEST :- 2 (2025-26)

Subject :- Ai & Robotics

Name :- _____ Roll.no :- _____

Std :- VIII Div :- _____ Marks Obtained :- _____

Date :- Total Marks :- 25

Subject :- AI & Robotics

Marks Obtained :	Supervisor Sign with date :
Total Marks: 25	Subject Teacher's Sign :

Q1. Tick the Correct Answer (5 Marks)

1. To make a two-wheeled robot move straight forward, the left and right wheels should rotate in:
   - ❑ The same direction
   - ❑ Opposite direction
   - ❑ Random directions
   - ❑ Only the left wheel should rotate
2. An ultrasonic sensor operates using sound frequencies typically below:
   - ❑ 20 Hz
   - ❑ 2 KHz
   - ❑ 20 KHz
   - ❑ 20MHz
3. The programming block "if-then-else" is used for :
   - ❑ Connecting to Bluetooth
   - ❑ Making decisions in the code
   - ❑ Setting the motor speed permanently
   - ❑ Measuring distance
4. In this project, the ultrasonic sensor measures distance in:
   - ❑ Meters
   - ❑ Millimeters
   - ❑ Kilometers
   - ❑ Centimeters

5. The wavelength range for the radiation used by an IR sensor is :
   - ❑ 700 meters to 1 kilometer
   - ❑ 700 nanometers to 2 millimeter
   - ❑ 10 nanometers to 100 nanometers
   - ❑ 1 millimeter to 10 millimeters

Q2. Fill in the Blanks (5 Marks)

(**Speed & Direction , Transmission & reception , 0 , electrical , Notifier**)

1. TO program a DC motor , you need to set its _____ and _____.
2. An ultrasonic sensor works by measuring the time between the _____ of a sound wave and the _____ of its echo.
3. To make a robot completely stop, the speed of both motors should be set to _____.
4. A DC motor is designed to convert _____ energy into rotational mechanical energy.
5. The _____ component is used in programming to give feedback to the user, such as "connected" notice.

Q3. True or False (5 marks)

1. A pump motor iss desined to move solid objects (_____).
2. In an "if-then-else" block, the ' else ' part runs only if the " if " condition is false (_____)
3. A robot's actions can be controlled based on data received from its sensor (_____).
4. An IR sensor measures the exact distance to an object in centimeters. (_____) .
5. When a button is pressed on an app, it triggers an event that makes the robot's code run. (_____).

Q4. Match the following (5 Marks)

1.DC Motor	❑ Select a Bluetooth device from a list
2.Pump Motor	❑ Provides user feedback like a pop-up notice
3.List Picker	❑ Detects the presence of a surface using infrared.
4.Notifier	❑ Converts electrical enrgy into rotational motion.
5.IR Sensor	❑ Uses electrical energy to move fluid.

Q5. Answer in one word (5 Marks)

(**Electromagnetism, Distance, BluetoothClient, Conditional, Pump**)

1. What principle is responsible for the working of a DC motor ? _____ .
2. What does an ultrasonic sensor measure ? _____ .
3. What software component is required to manage a Bluetooth connection _____ .
4. What type of logic allows a program to perform different actions based on a condition?_____ .
5. What type of specialized motor is designed to move a liquid? _____ .

"The science of today is the technology of tomorrow." – **Edward Teller**