

Revision' Answers For ECU-ITAI-2-04

LO1

Question 1:

Write the name and one use for each of the following Elements:

The Element

Name of the Element
Use of the Element



1

Autonomous
Underwater
Vehicles

→ They are used
for a variety of
purposes, such
as :
- Oceanography.
- environmental
monitoring.
- Minesweeping.



2

Industrial
Robot Arms

→ They are robots
that are used in
factories to
automate tasks
such as :
- Welding.
- Painting.
- Assembly.



3

Remotely
operated
Vehicles

→ They are robots
that can
operate
underwater.
They are used
for a variety of
purposes, such
as :
- inspection of
underwater
structures.
- search and
rescue.
- marine
archaeology.

4

unmanned
Aerial
Vehicles

→ They are used
for a variety of
purposes, such

(Drones)



as :

- Photography.
- Videography.
- surveillance.

5



Legged Robots

- They are used for a variety of purposes, such as :
- search and rescue.
 - disaster relief.

6



Unmanned Ground Vehicles

- They are used for a variety of purposes, such as :
- bomb disposal.
 - search and rescue.
 - agriculture.

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Arm Robot

- They are used in factories to automate execution of repetitive tasks, such as applying paint to equipment or parts.

- In warehouses to pick, select, or sort goods from distribution

conveyors to fulfill consumer orders.

→ In a farm field to pick and place ripe fruits onto storage trays.

8

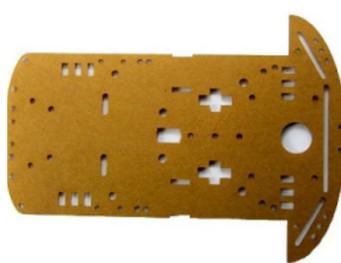


DC motor

- converts direct current electrical energy into mechanical energy.

- Apps: car wheels, fans etc.

9



car chassis

- These are the physical parts of the car that provide structure
- and allow it to move.

10



Car wheel

→ These wheels offer the precision and durability needed for smooth movement and precise control

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Screwdrivers

- are needed for opening up and
- working on electronic devices.

12

Servo Motor

- Apps: Suited for robotic arms/legs or rudder control etc.



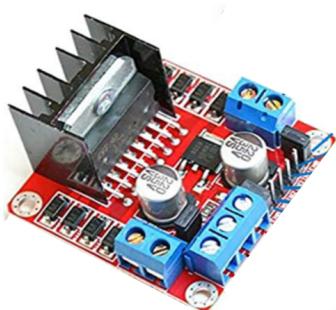
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Ultrasonic
sensor

- used to measure distances.
- Used in many applications such as robotic control, vehicle detection etc.

14



Motor Driver

- It controls the motor's speed and direction.

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Arduino Uno

- It is used for prototyping projects.

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Arduino
Cable

- It is used to connect Arduino to your computer for burning the Arduino code

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Raspberry Pi

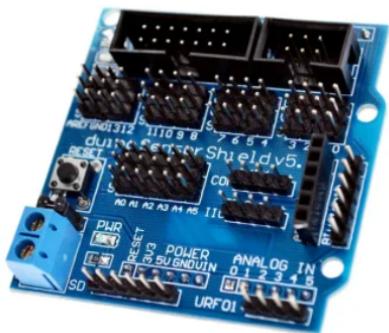
- It is used for IOT projects.



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Arduino
shield

- Arduino shields are boards that can be plugged on top of the Arduino board extending its capabilities.



19

Battery

- Power Supply



20

RC
Transmitter
and Receiver
(Bluetooth
Module)

→ Allow you to
control the car
remotely

