**Revision’ Answers For ECU-ITAI-2-04 LO1**

Question 1:

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

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| The Element | Name of the Element | Use of the Element |
|  | Autonomous Underwater Vehicles | * They are used for a variety of purposes, such : * 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 (Drones) | * They are used for a variety of purposes, such 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. |
| 7 | 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 | * a physical part on the car .used to fix and install the components on the car and that provide structures and allow to move |
| 10 | Car wheel | * These wheels offer the precision and durability needed for smooth movement and precise control |
| 11 | Screwdrivers | * tool, usually hand-operated, for turning screws with slotted heads. |
| 12 | Servo Motor | * Apps: Suited for robotic arms/legs or rudder control etc. |
| 13 | 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. |
| 15 | Arduino Uno | * It is used for prototyping projects. |
| 16 | Arduino Cable | * It is used to connect Arduino to your computer for burning the Arduino code |
| 17 | Raspberry Pi | * It is used for IOT projects. |
| 18 | Arduino shield | * Arduino shields are boards that can be plugged on top of the Arduino board extending its capabilities. |
| 19 | Battery | * It is used to supply power to the electrical circuit |
| 20 | RC Transmitter and Receiver (Bluetooth Module) | * is designed for wireless communication |