

MULTIPURPOSE AGRICULTURE ROBOT

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This is my ATL project based on Agriculture and helping of farmers .

The multipurpose agriculture robot is a multipurpose farming robot that automates basic agricultural tasks

That helps **farmers** in their daily field work. It can **check soil moisture** using a **sensor** and give **water** when the soil is dry through a **mini water pump**. It also helps in **dropping seeds** and **spraying pesticides**. If the soil is too dry, it makes a **buzzer sound** to **alert** the farmer.

This robot can **move on wheels** and runs using a **battery** and **Arduino UNO**. It has an **Ultrasonic Sensor** to **detect obstacles** like walls or stones and **avoid crashing**. It also includes an **RFID system** (optional) to help the robot identify **different areas** in the farm.

Farmer Ke Liye Kya Fayda?

-  **Buzzer se signal milta hai** jab mitti dry ho
-  **Khud paani deta hai** — no manual watering
-  **Beej aur pesticide dono dalta hai**
-  **Battery powered** — portable
-  **Low cost** — ₹1500 ke andar

This robot helps in reducing labor, saving time, and increasing productivity in farming.

REQUIRED COMPONENT:-

- **Arduino UNO**
- **Soil Moisture Sensor**
- **Water Pump**
- **BO Motors (x2)**
- **Motor Driver (L293D or L298N)**
- **Servo Motor (for seed dropping)**
- **Pesticide Sprayer**
- **Buzzer**
- **Battery Pack**
- **Chassis Frame + Wheels**
- **Jumper Wires & Switches**

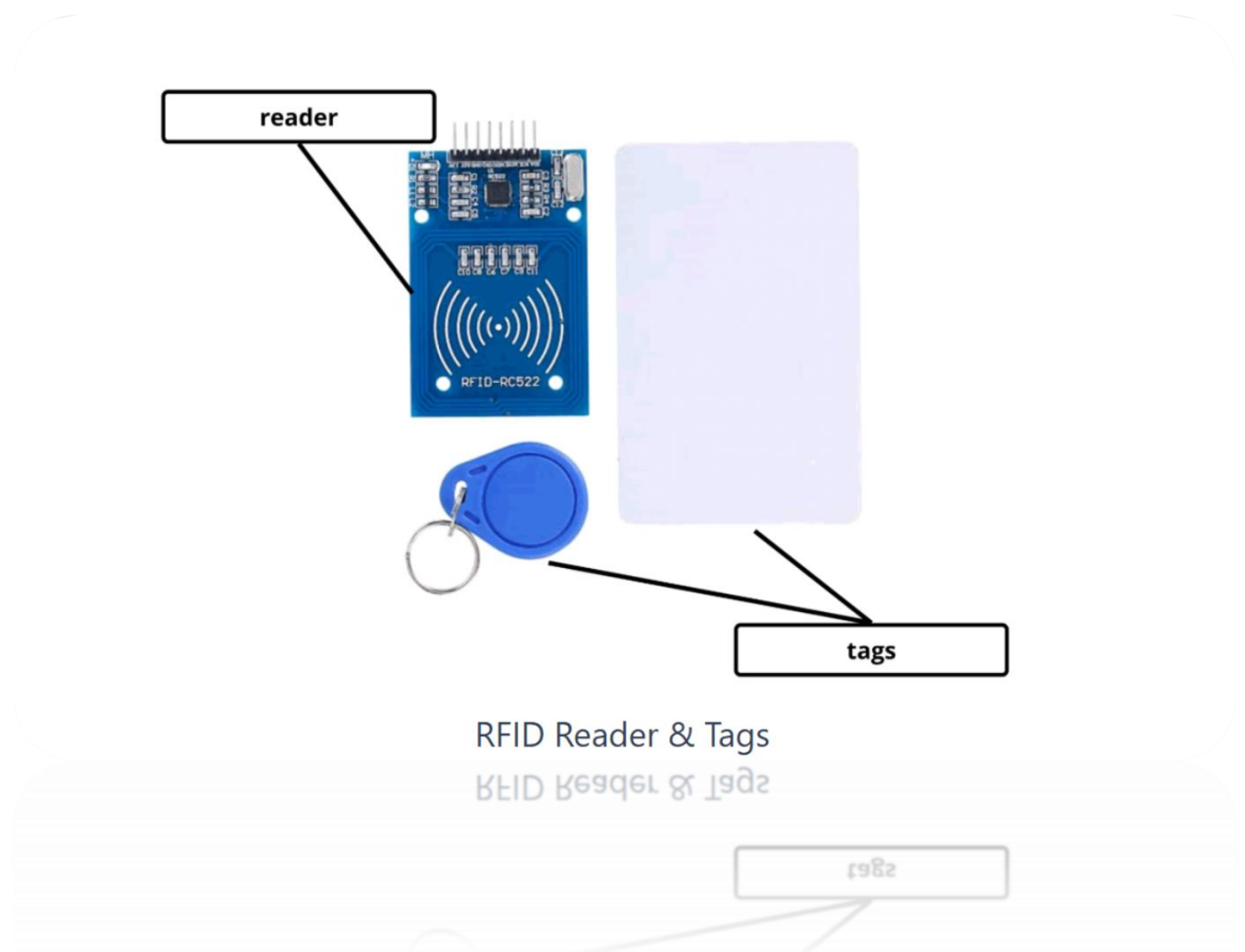
- **Obstacle Detection Sensor (Ultrasonic Sensor)**
- **RFID Module + Tag** (*Optional*)

WORK IN HINGLISH:-

Is robot ka main kaam hai kisano ki help karna unke daily farming tasks ko easy karega.

Robot Ka Kaam (Work) in Hinglish:

- **Soil Moisture Sensor** se mitti ki nami check karta hai.
- Agar mitti dry ho to **pani automatically** deta hai.
- **Servo Motor** se beej girata hai.
- Spray system se **pesticide spray** karta hai.
- Mitti dry hone par **buzzer se alert** deta hai.
- **Motor aur wheels** se kheton mein move karta hai.
- **Ultrasonic Sensor** se **obstacle detect** karke takrata nahi hai.
- **RFID Tag** se farm area ko **pehchanta** hai (optional).



-ATL LAB PROJECT 🤖-