AUTOMATIC PLANT WATERING SYSTEM FOR PLANTS

In our campus, we have large grounds and large number of plantation alongside and around it. As some plants need water on regular basis, so a lot of manpower is required for watering plants. In this project, we have to make a plant watering system, which automatically provides water to plants as per the requirement of particular plant .

EXISTING SOLUTION :

The existing solutions comprises of either a drip irrigation system or a timer irrigation setup as shown in figure below…..

In this setup, a timer fitted device is connected to the tap and it .It waters the plants according to the time set on the timer, like after 4 hrs , 6hrs and so on. Then pipes ar e distributed all over the garden like a drip irrigation system.

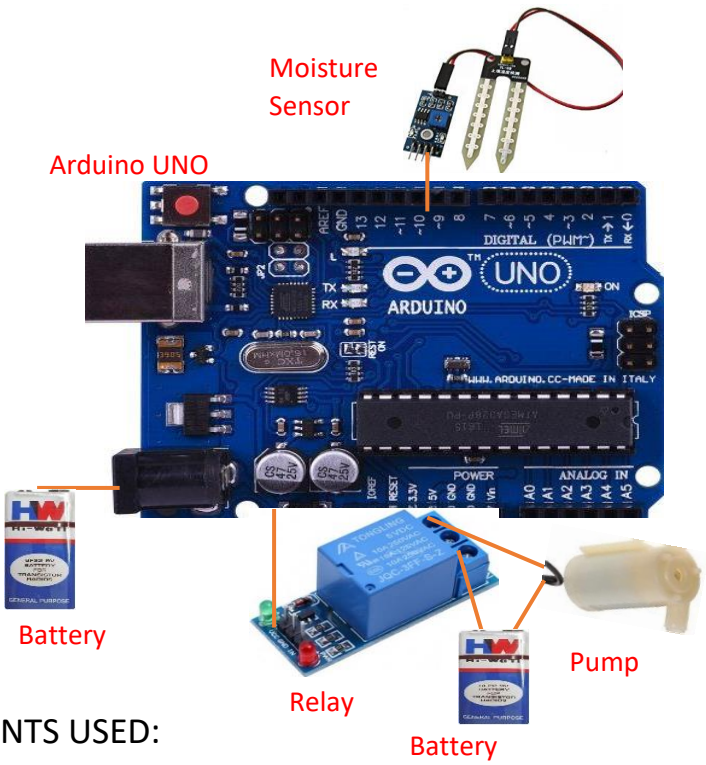
This product is available online at MRP Rs.1700.

Link: https://www.amazon.in/Klaxon-Irrigation-Water-Timer-Garden/dp/B07FCQCB2L/ref=lp_3639101031_1_12?s=garden&ie=UTF8&qid=1553678907&sr=1-12

OUR SOULTION :

Our product comprises of an Arduino based circuit. Which further comprises of a soil moisture sensor , a pump to supply water through one way relay as a switch.

The circuit is shown below:



COMPONENTS USED:

1. Arduino Uno
2. One way Relay
3. Soil moisture Sensor
4. One way Relay
5. Batteries

This whole setup is fitted into a small box which can be installed anywhere you want. The soil moisture sensor is inserted into the soil to check its moisture level. If it is below a certain threshold value , the pump will supply water to the plant and once it reaches it's threshold, water supply is stopped.

HOW IS OUR SOLUTION DIFFERENT FROM EXISTING ONE:

- Provides water strictly according to need of plant by checking its moisture level. So an accurate water supply can be provided through this.
- Very Portable, can be installed anywhere and easy to use by anyone.
- Is very adaptable to changing weather conditions…..e.g in rainy days or cloudy weather when moisture content lost from soil is very less, the water supply would be given accurately due to use of soil moisture sensor.
- Environment friendlier as no wastage of water is done and no soil erosion due to water supply according to need.

BUDGETRY DETAILS:

Our project would cost around Rs1200.

We have also kept in mind the budgetary aspect of this product. We have kept it simple , low cost so that everyone can afford it.