**A**

**Mini Project**

**Synopsis on**

**“Smart WiFi Controlled Pick-N-Place Line Following Robot”**

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**Title: Smart WiFi Controlled Pick-N-Place Line Following Robot**

**Brief Description of Project:**

* Robot will be used to Pick-N-Place object from different locations.
* There can be N number of destination locations.
* The locations for picking or placing objects are given over WiFi to the Robot.
* Robot follows the path using Line (White over Black line) as the guideline and reach to the destined location.
* The arm over the bot picks the object once it is detected in front.
* After picking up it makes a 180\* turn and then return back to the starting position/position according to the command from user.
* In future, camera module will be implemented along with Raspberry Pi and the user will also get to choose what object the bot have to pick.
* Use: This Robot can have application in autonomous garbage collection, items or goods management in warehouses of delivery companies, or to do any autonomous work on any specified location.

**Block Diagram/Circuit Diagram:**

IR Detector

IR Line Sensor Array

Arm

Servo Motor

**MicroController**

ATMEGA328P-PU

Mobile App

WiFi Module

Motor Driver

Motors

**Component List:**

|  |  |
| --- | --- |
| Robot chassis | 400rs |
| Motors | 500rs |
| Tyres | 50rs |
| Battery | 400rs |
| Switch | 10rs |
| Microcontroller (ATMEGA328p-Pu) | 110rs |
| Wifi (Esp8266-12E) | 150rs |
| Motor Driver(L293D) | 200rs |
| Servo Motors [2] | 300rs |
| Arm mechanism | 150rs |
| IR Line Sensor | 150rs |
| 2420rs |

**Approximate Budget:** approximately 2500rs.

**Reference:-**

* <Espressif.com>
* [Arduino.com](arduino.com)