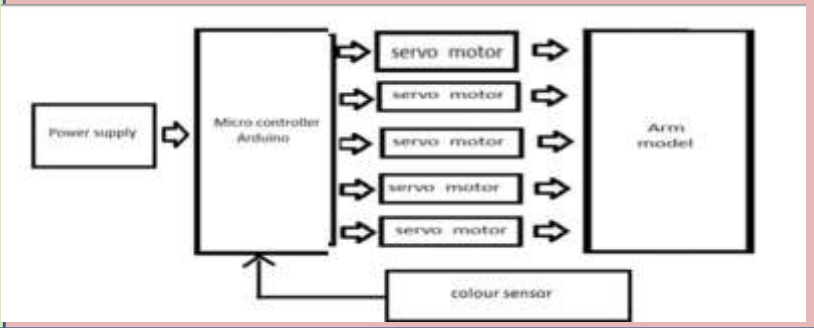
# “COLOUR SORTING ROBOTIC ARM”

**Abstract :** A robotic arm with a smart approach to implement sorting of objects on the basis of colour. Here a robotic arm which sorts small cylindrical objects after which it picks and places them in designated place and pre-defined angles. This is a low-cost system with simple concept to implement sorting efficiently by saving manual time and work.

## Block diagram:




The colour detection is done by colour sensor(TCS3200) which uses light intensity to frequency conversion method. The colour sensor detects three different colours namely red,green,blue(RGB) and power supply is given to the microcontroller and the robotic arm is controlled by the microcontroller-based system which further controls servo-motors.

**Advantages:**

•Capable of performing tasks with high precision, ensuring consistent quality and reducing human error.

• Able to complete tasks more quickly then humans, boosting overall productivity.

•It can operate continuously without breaking for 24/7.

**Applications:**

1.Laboratory Automation.

2.Home Automation.

3.Small-Scale Manufacturing.

4.In Warehouses.

**Future Scope:**

1.Robotic arms have a wide range of development.

2.Shortly the arms will be able to perform every task as humans and in a much better way.

3.Brain computer interference can be used to acquire signals from human brain and control the arm the system can work in the same way as human arm.

4.The system can be made more efficient and flexible by adding an overhead camera.

**Result:** The colour sorting robotic arm can pick, place and sort all the three different colours efficiently to there designated places with the pre-defined angles reducing human error and also make use of less man power.

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