DESIGN :

A colour is visible to us due to reflection of that particular wavelength of light and absorption of other wavelengths. If the same colour as of the object is projected towards the material, more light gets reflected. The variation of light reflected is fed to an ldr which gives variation in resistance as output based on the intensity of light falling on it, with this the colour is determined.

For the determination of colour I have used Arduino uno, LDR, RGB Led. Raw ldr values was taken for calibration.

Arduino CODE:

```
int ldr;
void setup() {
pinMode(7,OUTPUT);
pinMode(6,OUTPUT);
pinMode(5,OUTPUT);
pinMode(A0,INPUT);
Serial.begin(9600);
}

void loop() {

digitalWrite(7,HIGH);   //For checking whether the colour is red or not.
delay(100);
ldr=analogRead(A0);
if(ldr<350)
Serial.println("RED");
digitalWrite(7,LOW);
```

```
digitalWrite(6,HIGH);   //For checking whether the colour is blue or not.
delay(100);
ldr=analogRead(A0);
if(ldr<270)
Serial.println("GREEN");
digitalWrite(6,LOW);

digitalWrite(5,HIGH);  //For checking whether the colour is green or not.
delay(100);
ldr=analogRead(A0);
if(ldr<400&&ldr>350)
Serial.println("BLUE");
digitalWrite(5,LOW);

}
```