EXPERIMENT NUMBER –1.1

NAME OF EXPERIMENT: Introduction to open source IOT platform

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AIM OF THE PRACTICAL

Introduction to open source IOT platform and basic interfacing hands on.

TOOLS USED

1. ESP-32
2. LED
3. RESISTOR'
4. BREADBOARD
5. ARDUINO

Basic code and command description

Esp-32: It is a series of low cost low power system on a chip microcontroller with integrated wifi and dual mode bluetooth
Can provide wifi and bluetooth and functionality through it SDIO/SPI or I2C/UARI interface.

Arduino: It is an open source electronic platform based on easy to use hardware and software.
Able to read input light on a sensor, a finger on a button, or a twitter message purchasing something online.
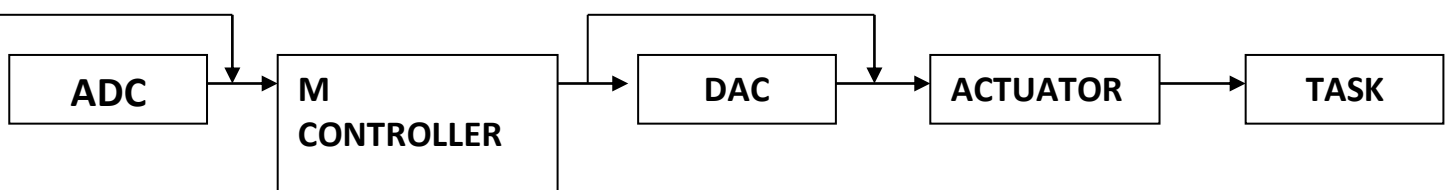
FLOW CHART

START

Initialization of pin

Send high to pin

Wait for delay

Send low to pin

Wait for delay
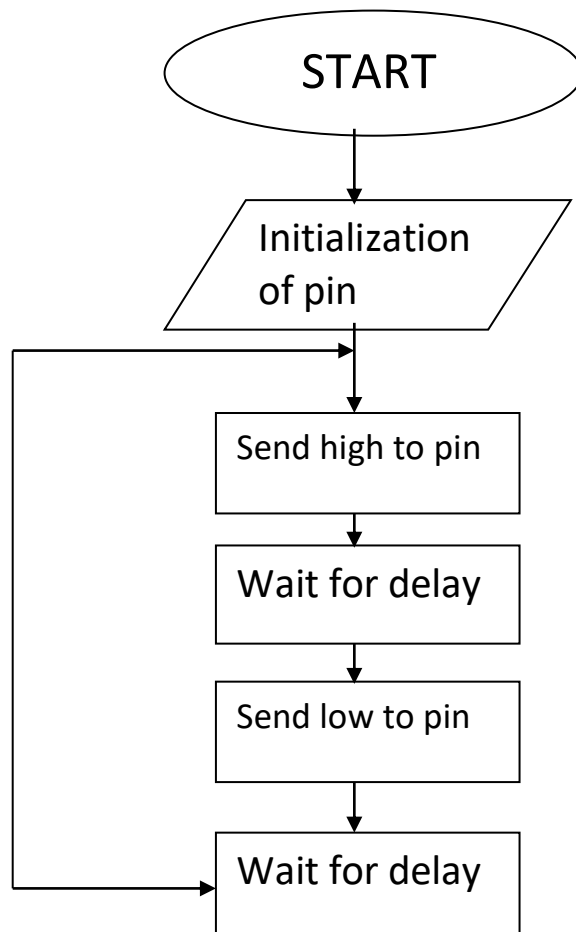
PROGRAM CODE –

```
int LED=2;
void setup ()
{
Pin mode(LED _BUILTIN,OUTPUT)
}
void loop()
{
Digital write(LED_BUILTIN,HIGH);
delay(1000);
digital write (LED_BUILTIN,LOW);
delay(1000);
}
```


| ADC | M CONTROLLER | DAC | ACTUATOR | TASK |

Observations, stimulation, screenshots and discussions

BMP280	ESP32
SCL	D22
SDA	D21
VCC	$3V_2$
GND	GND

➢ We observe the working of Arduino. The difference in the flickering of the LED as the delay of ESP 32 changes the LED.

➢ ESP32 is a six analog pin wearing 14 inputs/output pins. Arduino IDE 303 is used for writing the code.

Result and summary

➢ We learnt about the open source IOT platform.

➢ We also learn about he used of ESP32 which 2 synchronous and continuous LED's.

LEARNING OUTCOMES -

- Arduino
- ESP32
- BMP280

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion	10	
2.	Viva	8	
3.	Conduct	12	
	Total Marks	30	