CHAPTER:2 NODEMCU

PRACTICAL: 1A

AIM: To interface LED using NodeMCU and GPIO and Timer

ARDUINO CODE :

```
/**********************
 * Author: Shreejicharan
 * Title: To interface LED using ESP01 and GPIO and Timer.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

/*Using GPIO and Timer: Using inbuilt timer of ESP, blink LED at an interval of one second.
*/

#define LED 2
void setup()
{
  pinMode(LED,OUTPUT);
}

void loop()
{
  digitalWrite(LED,HIGH);
  delay(5000);
  digitalWrite(LED,LOW);
  delay(5000);
}
```

SIMULATION:

CHAPTER:2 NODEMCU

PRACTICAL: 1B

AIM: Print a statement on Serial Terminal using NodeMCU.

ARDUINO CODE :

```
/**********************
 * Author: Shreejicharan
 * Title: Print a statement on Serial Terminal.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

/*Using UART for Serial Print:Print a statement on Serial Terminal
 *
 */
void setup()
{
  Serial.begin(9600);
}

void loop()
{
  Serial.println("Hello ESP8266");
  delay(500);
}
```

SIMULATION:

CHAPTER:2 NODEMCU

PRACTICAL: 1A

AIM: Using ADC for analog sensing for NodeMCU.

ARDUINO CODE:

```
/**********************
 * Author: Shreejicharan
 * Title: Using ADC for analog sensing.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/


/*Using ADC for analog sensing: Use POT as an analog input to ESP8266 and print its value on serial terminal  *  */

#define SENSOR A0
void setup()
{
  Serial.begin(9600);
  pinMode(SENSOR,INPUT);
  delay(2000);
  Serial.println("ADC");
}

void loop()
{
  float value;
  value = analogRead(SENSOR);
  Serial.print("value is:" );
  Serial.println(value);
  delay(1000);
}
```

SIMULATION:

CHAPTER:2 NODEMCU

PRACTICAL: 1A

AIM: GPIO to change the brightness of LED using pulse width modulation.

ARDUINO CODE:

```
/**********************
 * Author: Shreejicharan
 * Title: Use GPIO to change the brightness of LED using pulse width modulation.
 * Date: 28/05/2017
 * Time: 7:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

/*Using PWM: Use GPIO to change the brightness of LED using pulse width modulation *
*/

#define LED 2
#define analogPin A0

void setup()
{
  pinMode(LED,OUTPUT);
  pinMode(analogPin, INPUT);
}

void loop()
{
  // Reverse Logic for the inbuilt LED
  for (int i=1023; i>600;i--){
   analogWrite(LED, i);
   delay(10);
  }
}
```

SIMULATION: