CHAPTER: 17 GSM

PRACTICAL: 1A

AIM: To interface GSM module Arduino for Dialling a Number.

ARDUINO CODE :

```
/**********************
 * Author: Shreejicharan
 * Title: To interface GSM module Arduino for Dialling a Number.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

/* GSM code */

//Code for Dialling a number
char phone_no[]="09978844178";
void setup()
{
Serial.begin(9600);  //Open Serial Connection at baudrate 9600
delay(2000);
Serial.println("AT"); // Wake up GSM
Serial.print("ATD"); //Dial the phone number using ATD command
Serial.print(phone_no);
Serial.println(";"); // Semicolon is a must at the end
delay(10000);
Serial.println("ATH"); // After a delay of 5 secs Hang the call
}
void loop()
{
// empty loop.If you enter the above code here,the call will be made FOR EVER repeatedly.
//Take Caution while coding under loop.At some condition you've to terminate the Call
}
```

SIMULATION:

CHAPTER: 17 GSM

PRACTICAL: 1B

AIM: To interface GSM module using Arduino for LED ON and OFF using SMS.

ARDUINO CODE :

```
/**********************
 * Author: Shreejicharan
 * Title: To interface GSM module using Arduino for LED ON and OFF using SMS.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

#include <SoftwareSerial.h>
SoftwareSerial SIM900(10, 11); // RX, TX

char incoming_char=0; //Will hold the incoming character from the Serial Port.

int led = 13;
int led_status = 0;     // variable to store the led status

// the setup routine runs once when you press reset:
void setup()
 {
        // initialize the digital pin as an output.
        pinMode(led, OUTPUT);
        Serial.begin(19200); // set the baud rate
        SIM900.begin(19200); // for GSM shield
        delay(20000);  // give time to log on to network.
        SIM900.print("AT+CMGF=1\r");  // set SMS mode to text
        delay(100);
        SIM900.println("AT+CNMI=2,2,0,0,0\r");
        SIM900.print("AT+CLIP=1\r"); // turn on caller ID notification
        // blurt out contents of new SMS upon receipt to the GSM shield's serial out
        delay(100);
        digitalWrite(led, LOW);  // Set led to LOW
       // Serial.println("AT+CMGD=1,4");  //Delete all SMS in box
 }
```

```
void sendSMS(char led_status)
 {
        //SEND SMS
         SIM900.print("AT+CMGF=1\r");                  // AT command to send SMS message
         delay(1000);
         SIM900.println("AT + CMGS = \"9978844178"");  // recipient's mobile number, in
        international format
         delay(1000);
         SIM900.println( " LED STATUS: ON ");                    // message to send
         delay(1000);
         SIM900.println((char)26);                // End AT command with a ^Z, ASCII code 26
         delay(1000);
         SIM900.println();
         delay(5000);     // give module time to send SMS
 }

// the loop routine runs over and over again forever:
void loop()
 {
        //If #a1b1c1d1 comes as sms, all led's should light up.
        if(SIM900.available() >0)
        {
        incoming_char=SIM900.read();
        if (incoming_char=='#')
          {
          delay(10);
          incoming_char=SIM900.read();

        //first led
          if (incoming_char=='a')
          {
          delay(10);
          incoming_char=SIM900.read();

                if (incoming_char=='0')
                  {
                  digitalWrite(led, LOW);
                  }
                else if (incoming_char=='1')
                  {
                  digitalWrite(led, HIGH);
                  }
                else if (incoming_char=='S')
                  {
```

```
                digitalRead(led);
                led_status=digitalRead(led);
                Serial.print(led_status);  // prints status on serial terminal
                sendSMS(led_status);
                }
            delay(10);
          }
        }
    }
}
```

SIMULATION:

CHAPTER: 17 GSM

PRACTICAL: 1C

AIM: To interface GSM module using Arduino and make a call

ARDUINO CODE :

```
/**********************
 * Author: Shreejicharan
 * Title: To interface GSM module using Arduino for LED ON and OFF using SMS.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/

/*====================== SHREEJI LABS ============================//

#include <LiquidCrystal.h>
// initialize the library with the numbers of the interface pins
LiquidCrystal lcd(12, 11, 7, 6, 5, 4);

// give the pin a name:
int led = 9;

void setup()
{
  pinMode(9, OUTPUT);
  lcd.begin(16, 2);
  lcd.print("SHREEJICHARAN ELECTRONICS");
  lcd.setCursor(0, 1);
  lcd.print("   GSM CALLING  ");

  // initialize the led pin as an output.
  pinMode(led, OUTPUT);
  // start serial port at 9600 bps
  Serial.begin(9600);
  // wait for a while till the serial port is ready
  delay(100);

  Serial.print("ATD09978844178;\n\r");
}
```

```
void loop()
{
   digitalWrite(led, HIGH);
   delay(1000);
   digitalWrite(led, LOW);
   delay(1000);
}
```

SIMULATION: