Code:-

Libraries:-

```
#include <SoftwareSerial.h>
#include <Wire.h>
#include <Adafruit_MLX90614.h>
#include <LiquidCrystal_I2C.h>
#include <Adafruit_BMP280.h>
```

Reading of sensor:-

```
myBPM = analogRead(PulseWire); // // Read the object Heartrate
temp_obj = mlx.readObjectTempC(); // Read the object temperature in Celsius
float altitude = bmp.readAltitude(); // calculate altitude based on sea level pressure
float pressure = bmp.readPressure();// calculate altitude based on sea level pressure
```

Display Reading on LCD Display:-

```
lcd.setCursor(0, 0);
lcd.print("HR:");
lcd.setCursor(3, 0);
lcd.print(myBPM);
Serial.print("HR:");
Serial.println(myBPM);
lcd.setCursor(0, 1);
lcd.print("BT:");
lcd.setCursor(3, 1);
lcd.print(mlx.readObjectTempC());
Serial.print("BT:");
Serial.println(mlx.readObjectTempC());
Serial.print("Altitude = ");
Serial.print(altitude);
Serial.println(" m");
lcd.setCursor(8, 0);
lcd.print("A:");
lcd.print(altitude);
```

```
lcd.print("m");
Serial.print("Pressure = ");
Serial.print(pressure);
Serial.println(" hPa");
lcd.setCursor(9, 1);
lcd.print("P:");
lcd.print(pressure);
lcd.print(" hPa");
```

Fall Detection Conditon:-

```
if(Amp > 15)
{
Serial.println("FALL DETECTED");
}
delay(1000);
lcd.clear();
if(Amp > 15){
gsm.println("AT+CMGF=1");  // Set the SMS mode to text mode
delay(1000);
gsm.println("AT+CMGS=\"+91XXXXXXXXXX\"");  // Set the phone number to send the
message
delay(1000);
String Message = "FALL DETECTED!!!\nHeart Rate: " + String(myBPM) +
"\nTemperature: "
+ String(temp_obj) + "*C\nAltitude: " + String(altitude)+"m"+ "\nPressure: "
+ String(pressure) + "\nLocation:\n" + String(GPS);
gsm.println(Message);  // Send the message to the phone number
delay(1000);
gsm.write(0x1A);  // End the message by sending a Ctrl+Z character
delay(1000);
Serial.println("Message Sent for fall detection");  // Print a message to the Serial Monitor
delay(1000);
}
```