

22
① The device should be small and light weight to fit easily on roofs.

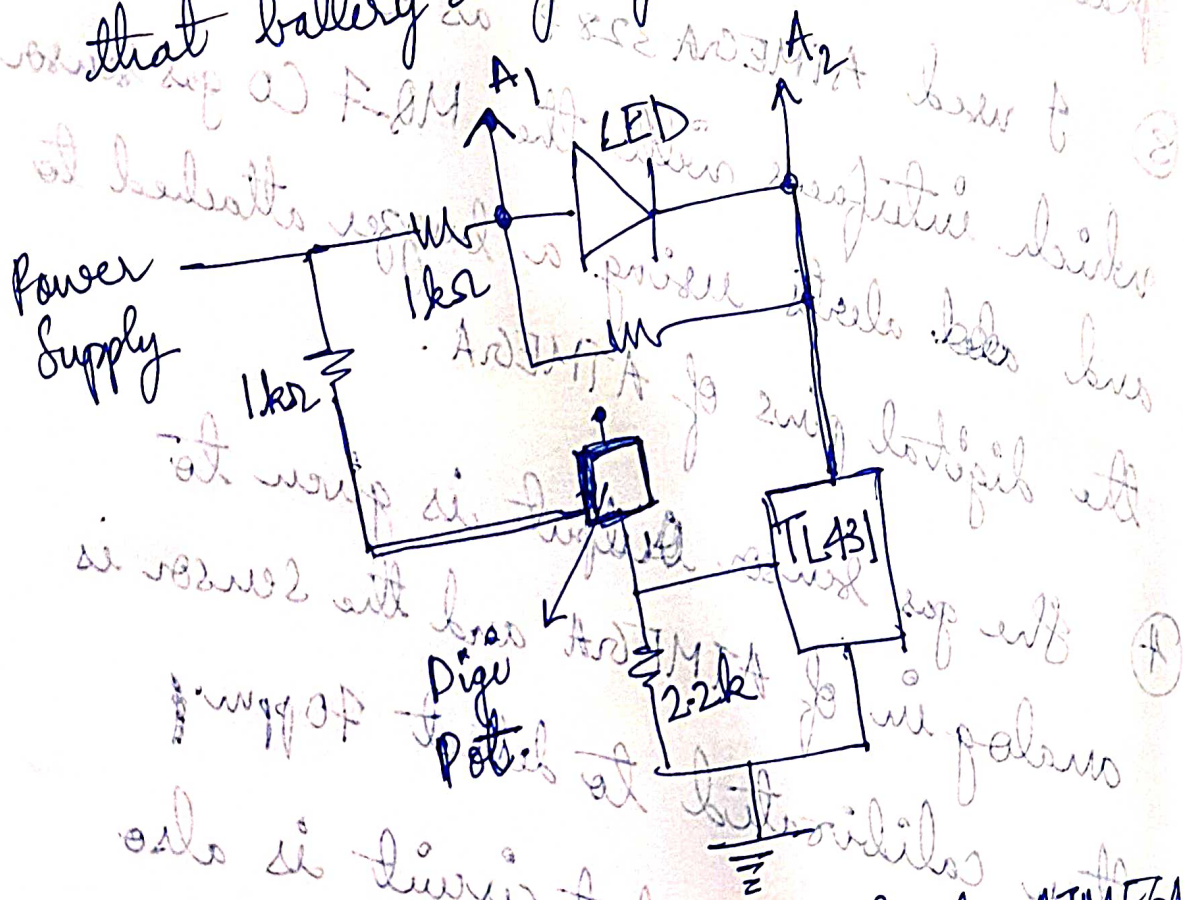
② The device should be battery power rather than corded so that it becomes portable to place it anywhere.

③ I used ATMEGA 328P as a microcontroller which interfaces with the MQ-7 CO gas sensor and ~~add~~ alerts using a buzzer attached to the digital pins of ATMEGA.

④ The gas sensor output is given to analog in of ATMEGA and the sensor is then calibrated to detect 70ppm.

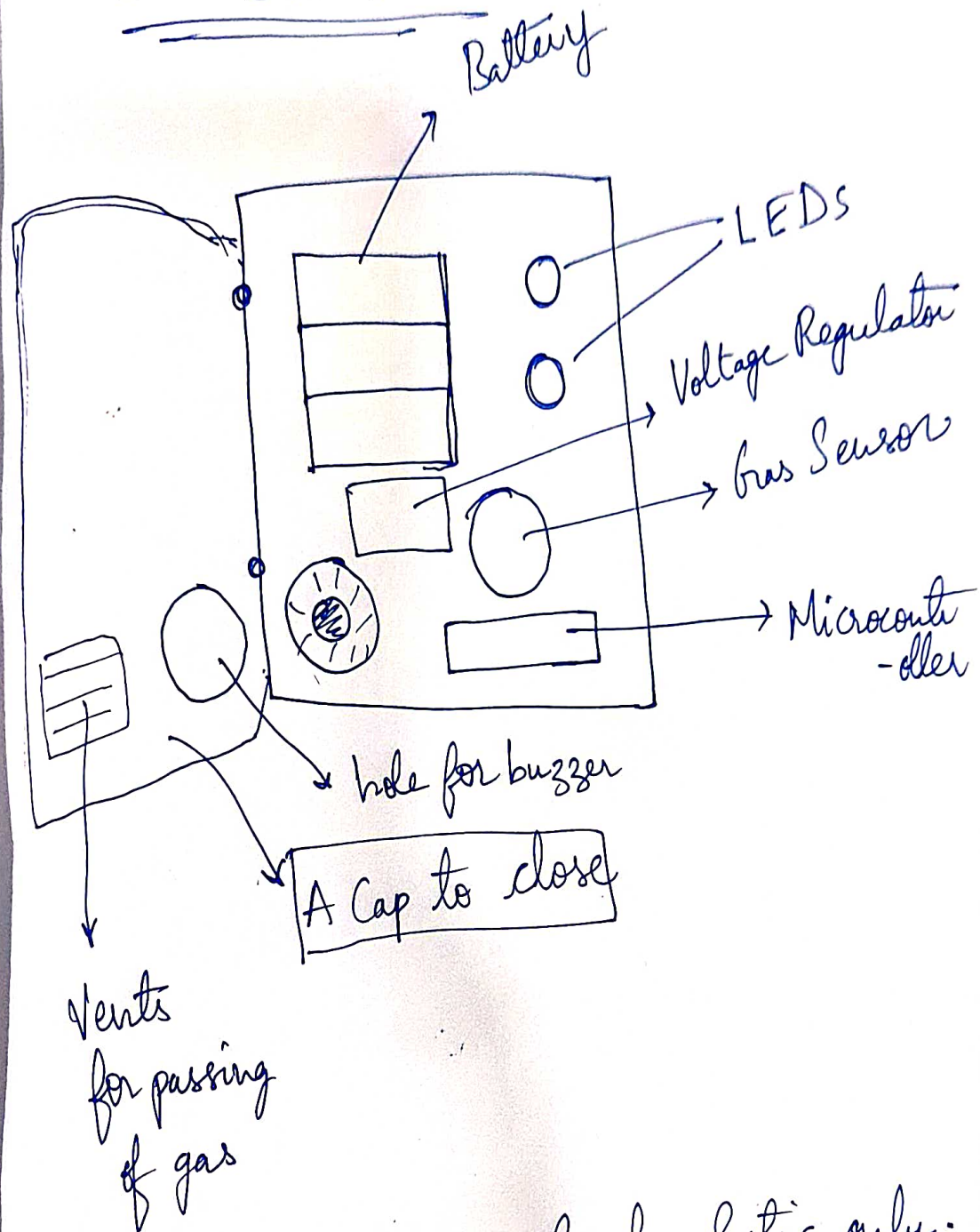
⑤ A low battery alert circuit is also designed using TL431 Precision Shunt regulator which detects ~~with~~ 0.02V change in 5V supply from the (M7805) regulator.

This change can be detected by sending this signals to Analog in inputs and for a desired change we can program the ATMEGA to alert the buzzer with different frequency so that we know that battery is going to die.



The A_1 & A_2 are analog inputs for ATMEGA. The difference of this A_1 & A_2 voltage can be seen. For a specified difference the buzzer gets on.

CO GAS SENSOR



→ The enclosure is made of plastic only.

AT MEGA 328P

7805 Voltage Regulator

TL431 Regulator (Precision Shunt Regulator)

LED

MQ-7 CO Gas Sensor

Resistors & Capacitors

AAA Battery Holder.

Crystal.

Buzzer.