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Device 1: Temparature Sensor:-

It helps monitoring temperature in crucial various industries

Device-2: keypad Controller Lock System:-

It is widely used in security applications.

Device-3: Digital clock with alarm:-

Realtime clock implementations are fundamental in embedded system.

Truth Table:- Temparature Sensor:-

Temparature(c)	ADC Input	Output(Binary)
0	0000	0000
10	0001	0001
20	0010	0010
30	0011	0011
40	0100	0100

Truth Table:- keypad:-

keypad input	Current state	Next state	Lock status
1	0000	0001	Locked
2	0001	0010	Locked
3	0010	0011	Locked
4	0011	0100	unlocked
5	0100	0000	Locked

Truth Table:-

Seconds	Reset	Q0	Q1	Q2	Q3
0	0	0	0	0	0
1	0	1	0	0	0
2	0	0	1	0	0
3	0	1	1	0	0
4	0	0	0	0	0

Temperature Diagram:-

Temperature Sensor → ADC → Microcontroller → LCD Display
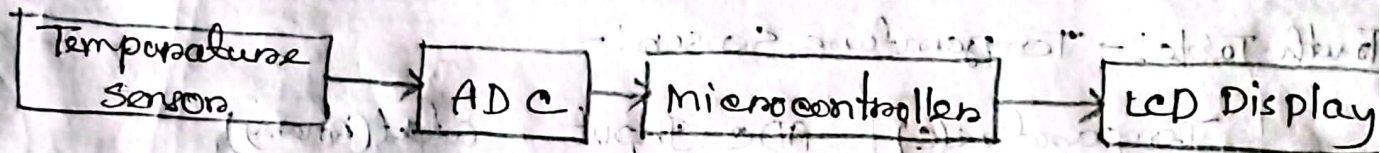
keypad Diagram:-

keypad → microcontroller → Lock Mechanism
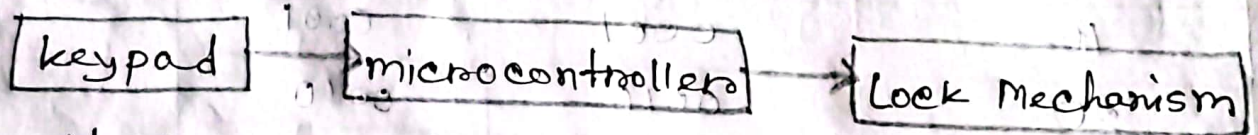
circuit Diagram: Digital clock!-

Oscillator → Seconds Counter → 7 segment Driver

Seconds Counter → Alarm comparator

7 segment Driver → Display

Alarm comparator → Alarm Indicator