8051 DEVELOPMENT BOARD

1. INTRODUCTION:-

This project is focused on designing our own Atmel AT89C51 Development Board that can be used for our learning and other projects. The focus of the project is to use cheap and readily available components to make a Development Board with a 8051 Microcontroller up and running.

2. APPARATUS REQUIRED:-

- Soldering Station / Soldering Iron
- Soldering Flux
- Soldering Wire
- PCB Helping Hands
- Multimeter
- 8051 Programmer
- DC Jack x 1
- 7805 x 1
- 47uf Capacitor x 2
- 30pf Capacitor x 2
- 3mm LED x 1
- 330Ω Resistor x 1
- 10k Resistor x 1
- AT89C51 IC x 1
- Crystal Oscillator 12Mhz x 1
- 6mm Push Button x 1
- Male 2.54mm Header Connector x 1
- Female 2.54mm Header Connector x 2

3. HARDWARE DESCRIPTION:-

• 8051 / AT89C51

The AT89C51 is a low-power, high-performance CMOS 8-bit microcomputer with 4Kbytes of Flash programmable and erasable read only memory (PEROM). The device is manufactured using Atmel's high-density nonvolatile memory technology and is compatible with the industry-standard MCS-51 instruction set and pinout. The on-chip Flash allows the program memory to be reprogrammed in-system or by a conventional nonvolatile memory programmer. By combining a versatile 8-bit CPU with Flash on a monolithic chip, the Atmel AT89C51 is a powerful microcomputer which provides a highly-flexible and cost-effective solution to many embedded control applications.
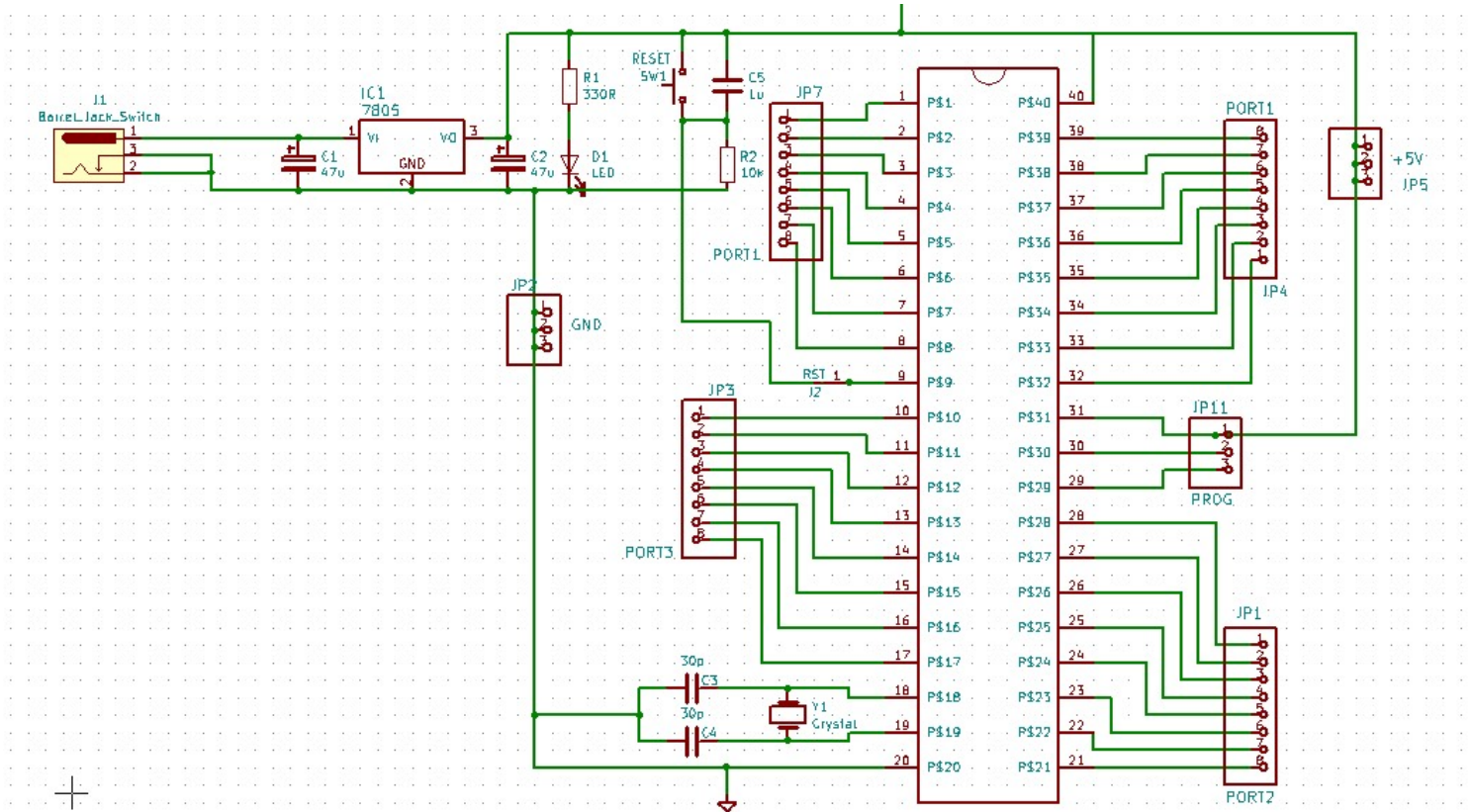
4. SCHEMATIC DESIGN:-

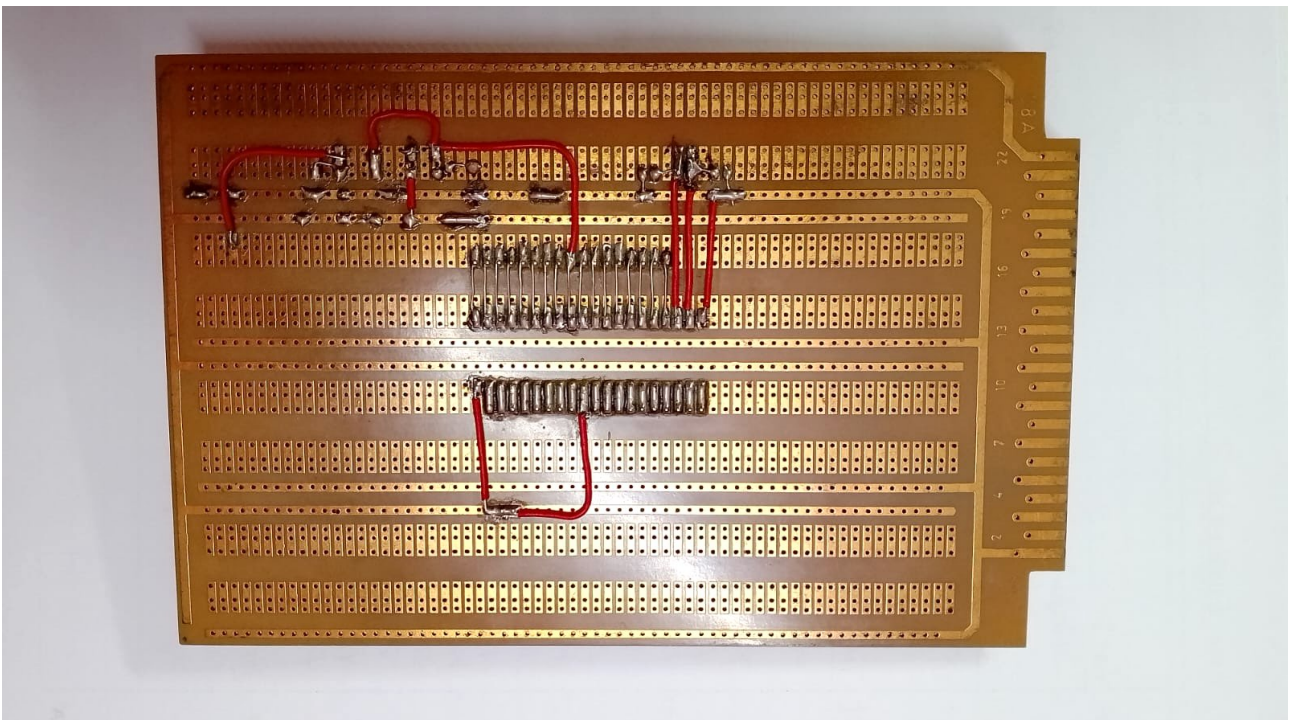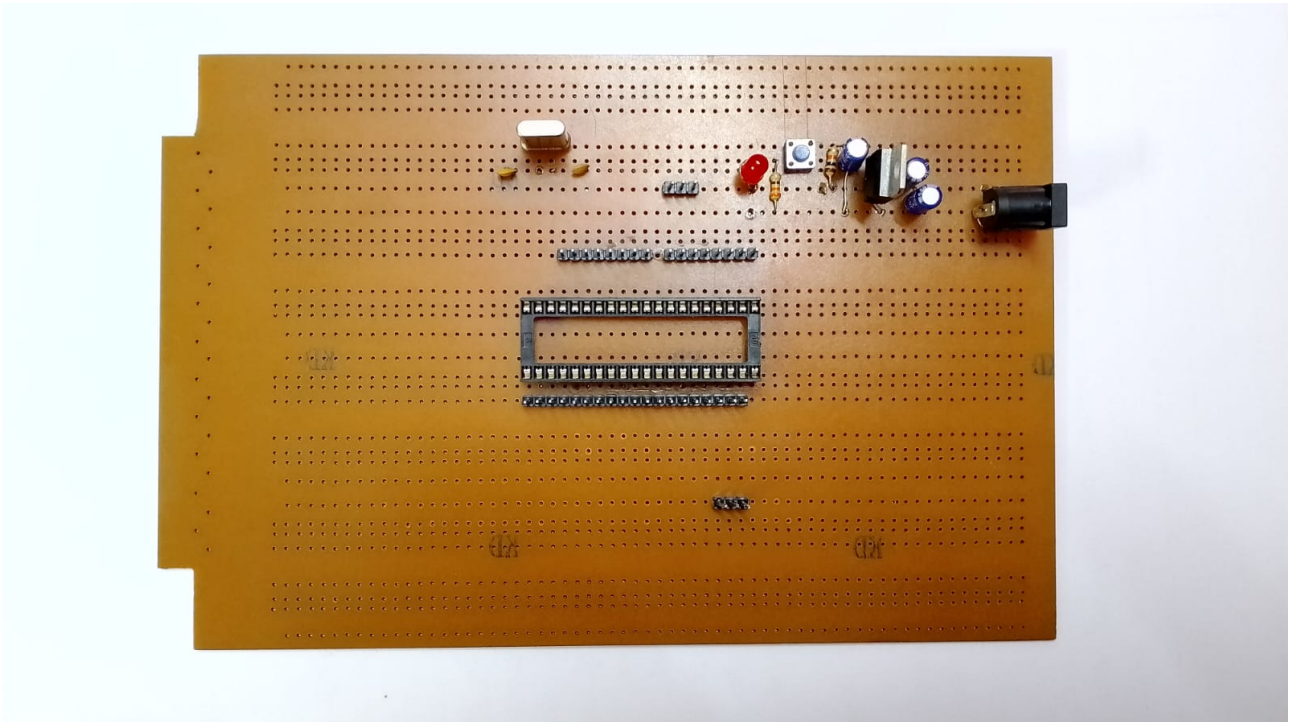## Fig 1. Schematic of 8051 / AT89C51 Development Board

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Fig 2. PCB Board of 8051 / AT89C51 Development Board