List of to knows for VLSI

* CMOS
  - P channel
  - N channel
  - Cross sections
  - Current Voltage characteristics.
  - NAND, NOR, Complex CMOS designs.

* Verilog Programming

* STatic Ram
  - Unit cell
  - Array configuration

* Dynamic Ram
  - Charging discharging/refresh time
  - Cross sectional area
  - Array configuration
  - Unit cell

* ROM
  - Charge of threshold voltage
  - Array configuration

* PROM
  - Cell
  - how to write to cell
  - know that it can only be used once.

* EPROM
  - Cell
  - Array
  - Cross sectional array (double dialectric)
  - to to write and clear
  - Energy band diagram

* EEPROM
  - floating gate (quantum tunneling)
  - Cross sectional area.
  - Energy band diagram
  - Change of threshold voltage due to FG.
  - Symbol
  - Cell / Array
  - How to write / clear

* Flash EEPROM
  - Cross sectional area
  - Symbol
  - Cell / Array
  - How to write clear
  - Main difference b/t EEPROM

* Logic Circuits
  - Steps to logic circuit design

* Half adder
  - Steps to logic design (Derived fr TTAB)

* Full adder
  - Truth Table
  - Steps of design

* PLA (Double Array)
  - Know how to make connections.

* PAL (Single Array)
  - Know how to make connections.

* FPGA
  - How to make connections in FPGA.

* Design w 2-1 multiplexers (Combination logic)
  How to design w 2-1 multi.
* Multiplexer / Demultiplexer
  Truth table and design of each.
* Decoder / Encodr
  Truth table and design
* Cool Converters
  7 seg display design.

* SR Latch
  Truth table
  Operation
  Gated SR Latch
  2 designs
* D latch
  2 designs
  Similarity with SR latch
  Operation
* T flip flop
  Similiarity with D latch schematic
* JK Flip flop
  Truth table, similiarities w TFF
* Registers
  Parrellel
  Series
  Series / Parrellel
* Counters
  Circuit (?)

* Processor

  Block Diagram (i/c registers / bus lines / buffer / ALU / ~~controller~~ control unit)

* Control unit register

  Design ~~w~~ multiplexers

* Digital System Design
  * Steps for syne machine
  * Steps for a-syne machine.