

Digital Electronics or Logic Design

(TCS-301)

Books:- Digital Design
(M. Mors Mano)
Pearson

↳ Electronics or Smart devices are used today
(Low Voltage)

↳ For example

Mobile phone

Smart devices (fitness watch), smartwatches

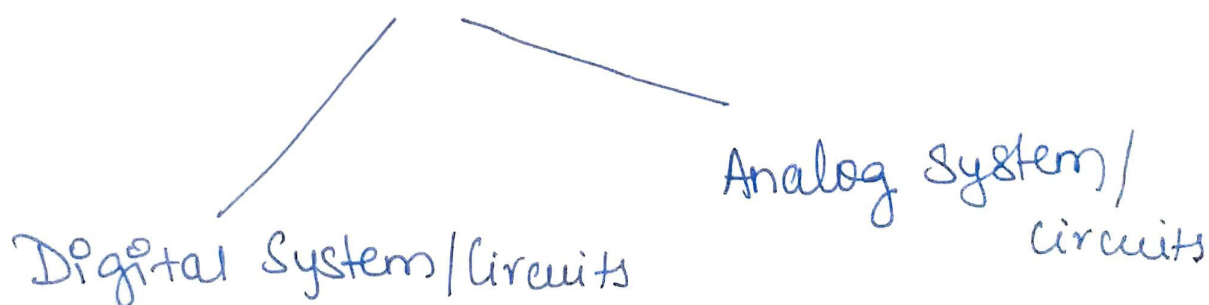
Face Maker, Exercise Monitor, latest Car

Play Stations etc are very much in demand

↳ All these devices deal with processor or Computer System inside it.

↳ How to design such system or Digital System

↳ Electronics circuits are divided into



* Combination of both is Mixed Circuits

↳ Digital Circuits

Basic elements are Number or Number System
How do Computers read Numbers and manipulate numbers.

(Basic, Conversion, Binary Codes,

↳ Circuits working on it are gates (Basic Gates)

↳ Formula for realization of gates (Optimization & Minimization) (Boolean Algebra)

SOP, POS, K-map

↳ Digital Circuits

Combinational Circuits

Apply I/P \rightarrow O/P

only function of I/P

Adder, MUX, DE-MUX,
Encoder, Decoder

Sequential
Circuits

(Memory Element)

Any I/P \rightarrow O/P

But O/P will
depend on past
history

Latches, FlipFlops

Counters, Register

↳ Designing of these Circuits .

↳ Analysis of these Circuits .

↳ For large Circuits these methods are not effective for such system Computer processing or Algorithms are used

ASM charts

(Capture the behaviour, Mapping)

↳ Faults in System (detects and Methods
so that it can be used to design IC