

UE20CS201
DIGITAL DESIGN AND COMPUTER
ORGANIZATION
Lecture 1 notes

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Course Objectives

The objectives of this course are to provide a sound understanding of:

- Fundamental (combinational and sequential) building blocks of digital logic circuits.
- Design of more complex logic circuits such as adders, multipliers and register files.
- Design of Finite State Machines based on problem specification.
- Construction, using above logic circuits, of a microprocessor, and its functioning at the clock cycle level.
- Use of studied digital building blocks to construct more complex systems.

Course Outcomes

At the end of the course, the student will be able to:

- Perform analysis of given synchronous digital logic circuit.
- Design and implement small to medium scale datapath logic circuits from given specification.
- Design and implement control logic using Finite State Machines.
- Understand hardware level microprocessor operation, providing a foundation for the higher layers.
- Utilize the concepts and techniques learnt to implement complex digital systems.