EL114 Digital Logic Design

Credit Structure (L-T-P-Cr): 3-0-3-4.5  
Semester: Winter 2019-2020

Students: B.Tech. 2nd Semester

Course Type: Core

Course Objectives:

- To understand number system and their inter-conversions those are used in different digital electronic circuits.
- To understand digital arithmetic operations and their usage in making digital systems such as processors.
- To understand logic formation and their realization using combinational and sequential circuits for digital system development.
- To implement and realize digital logic at bread board, Simulator and using Verilog.

Course Content:

- Digital Meaning and Essence
- Number Systems
- Binary Codes
- Digital Arithmetic
- Logic Gate and Related Devices
- Boolean Algebra and Simplification Techniques
- Logic Families
- Combination Circuit Designing
- Sequential Circuit Designing
- Finite State Machine (FSM) Cycle
- A/D and D/A converters
- Microprocessor and Microcontrollers
- Computer Fundamentals
- Trouble shooting and Testing
- Hardware Description Language: Verilog

Course Outcomes:

- The students shall be able to define specifications and then design digital system conforming to those specifications.
- They shall be able to implement and realize these designs efficiently at breadboard and Verilog HDL.
Text Books:

Reference Books:
1. Digital Principle and Applications, Malvino and Leach, (TMH)
2. Modern Digital system Design, Cheung (WPC)

Course Evaluation Policy:

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