Digital devices

Plan

Lectures:

1. Basic logic gates. Logic functions. Writing down logic functions.
2. Minimization of logic functions.
3. Algebraic minimization of logic functions.
4. BJT switch. RTL and DTL. – SIMPLIFIED
5. Standard TTL gates. – SIMPLIFIED OR REMOVED
6. MOSFET switches. MOS TL. CMOS TL. BiCMOS. – SIMPLIFIED OR REMOVED
7. Intermediate exam 1.
8. Design of arithmetic devices.
9. Gate level design of other combinational logic devices.
10. Combinational logic IC.
11. Intermediate exam 2.
12. Memory cell. Basic synchronous latches.
13. Registers. Counters.
14. Intermediate exam 3.

Laboratory works:

1. Number systems and binary codes
2. EWB and Multisim. Basic logic gates
3. Minimization of logic functions
4. Algebraic minimization of logic functions
5. BJT switch. Investigation of RTL and DTL gates - **REMOVED**
6. Investigation of Standard TTL gate – **REMOVED OR SIMPLIFIED**
7. Investigation of MOS and CMOS switches – **REMOVED OR SIMPLIFIED**
8. Investigation BiCMOS switch – **REMOVED OR SIMPLIFIED**
9. Design of arithmetic devices
10. Gate level design of other combinational logic devices
11. Combinational logic IC devices
12. Basic synchronous latches
13. Registers
14. Counters

Literature:

1. Kirvaitis, R. (2000). Digital Devices. E-Text-book. Available from the author.
2. Laptik, R. (2012). Digital Devices. Laboratory manual. E-Text-book. Available from: **`http://dspace.vgtu.lt/handle/1/1378`**
3. Kirvaitis, R. (1999). Loginės schemos. Vilnius: enciklopedija. (in Lithuanian).

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