Basic Logic Gates. Combinational Circuits.

Exercises:

1. Download the following materials (puma.unideb.hu/~misak):
   - Floyd T. L. Digital fundamentals. New Jersey: Pearson Prentice Hall, 2006.
   - Breadboard circuit and mount diagrams.
   - Measurement protocol template.
   - ICs datasheets needed for measurements (http://alldatasheet.com).

2. Read and learn:
   - parameters of logic circuits ([1], P.784-824).
   - logic operations, logic laws, logic rules ([1], P.112-143, 182-200).

3. Solve 10 (P.285), 13 (P.286-287) and 16 (P.286-287) problems from the book [1]! Write solutions to the measurement protocol!

4. Browse the 1st and the 2nd laboratory works from laboratory handbook [2]!

5. Prepare the following circuit diagrams with IC pin marking:
   - [2] P.5. (8.).
   - [2] P.6. (9.).
   - [2] P.8. (11.).

6. Build and examine the first two circuits! Compare their practical operations with expected (planned) operation! Describe and write your experiences in measurement protocol!

7. Examine the 3rd circuit by Tina circuit simulator! Compose the circuit truth table! Describe circuit operation and write your experiences in measurement protocol!

BIBLIOGRAPHY

[1] Floyd T. L. Digital fundamentals. New Jersey: Pearson Prentice Hall, 2006.
[2] Szász Cs. Digital electronics basics (Laboratory handbook), Debrecen: DE MFK, 2003 (in Hungarian).