

**Exam II Content
Around 4-5 Problem Sections**

MOSFET Symbol, Terminal Names, Relevant Voltage and Current Orientations.

NMOS vs. PMOS

Multiple Choice, Short Answer.

Basic MOSFET Theory of Operation.

Multiple Choice, Short Answer.

MOSFET Modes and Equations.

Short Answer.

DC analysis of MOSFET Circuits (NMOS).

Circuit Analysis.

Small Signal MOSFET Analysis (NMOS).

Circuit Analysis.

Inverters Static Properties (V_{OH} , V_{OL} , V_{IH} , V_{IL} , NM_L , NM_H , NM)

Given a curve can you find these values

NMOS, PMOS, CMOS Inverters.

Progression of operating modes as v_{IN} goes from 0 to V_{DD} .

Static Power Dissipation.

Inverters (other LOGIC) Dynamic Properties (Power and Timing and Area)

Short Answer. Multiple Choice.

Definition of propagation delay and transition time.

Given a curve can you find these values.

CMOS Logic Design and Sizing.

Logic Design – Given a function find the circuit. Given a circuit, determine the function.

Find sizes in terms of an inverter (n and p).

PMOS

Similarities/Difference vs NMOS

Equivalent circuits to NMOS.

Terminal names and Symbols.

Relevant Voltages and Currents.