

This will be a closed book exam. Only one sheet of private reference is allowed, nothing else.

- I. Number Systems
 - A. Types
 - 1. Binary
 - 2. Decimal
 - 3. Hexadecimal
 - B. Conversions
 - 1. Binary \leftrightarrow Decimal
 - 2. Binary \leftrightarrow Hexadecimal
 - 3. Decimal \leftrightarrow Hexadecimal
- II. Boolean Algebra
 - A. Laws
 - 1. Not, And, Or
 - 2. Commutative, Associative, Distributive
 - 3. Absorptive, Consensus
 - 4. DeMorgan's
 - B. Minimization
- III. Representation Forms
 - A. Truth Tables
 - B. Canonical
 - C. Sum of Products (SOP)
 - 1. Minterms
 - D. Product of Sums (POS)
 - 1. Maxterms
- IV. Karnaugh Maps
 - A. Plotting
 - B. Simplification
 - C. Entered Variable Maps (EV's)
 - D. Incompletely Specified Functions (don't cares)
 - E. Map Compression and Expansion
- V. Combinational Circuits
 - A. Multiplexers and Demultiplexers
 - 1. Combinational Logic Design
 - B. Decoders
 - 1. Combinational Logic Design
 - C. Code Converters
 - D. Arithmetic Circuits
 - E. Other Medium-Scale-Integration (MSI) Circuits
- VI. Logic Board Construction and Debugging