This will be a closed book test. 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. Other Medium-Scale-Integration (MSI) Circuits

VI. Logic Board Construction and Debugging