Pre-Lab Quiz:

1. How many flip-flops do you need to implement an N-bit counter?
   - N/2 for even N, (N+1)/2 for odd N
   - N^2
   - 1
   - N

2. Synchronous construction reduces the delay time of a counter to the delay of:
   - all flip-flops and gates
   - all flipflops and gates after a 3 count
   - a single gate
   - a single flip-flop and a gate

3. What is the difference between combinational logic and sequential logic?
   - Combinational circuits are not triggered by timing pulses, sequential circuits are triggered by timing pulses.
   - Combinational and sequential circuits are both triggered by timing pulses.
   - Neither circuit is triggered by timing pulses.

4. A BCD counter is a _____?
   - binary counter
   - full-modulus counter
   - decade counter
   - divide-by-10 counter

5. When two counters are cascaded, the overall MOD number is equal to the _____ of their individual MOD numbers?
   - product
   - sum
   - log
   - reciprocal