

**ET285 DIGITAL ELECTRONICS 2
HOMEWORK ASSIGNMENT #1**

- 1) Which of the following statements is true regarding characteristics of synchronous & asynchronous counters?
 - a) synchronous counters may be clocked at a faster rate than asynchronous counters
 - b) the clock input of each stage of an asynchronous counter is connected to the output of the preceding stage.
 - c) All of the above.

- 2) A MOD 16 asynchronous binary counter has a worst-case propagation delay per stage of 25ns. The maximum clock frequency for this counter is:
 - a) 2.5MHz
 - b) 5.0MHz
 - c) 10.0MHz
 - d) 20.0MHz

- 3) The modulus of a 3 stage asynchronous binary counter is:
 - a) 2
 - b) 4
 - c) 8
 - d) 16

- 4) A 4-bit binary counter is modulus:
 - a) 4
 - b) 8
 - c) 16
 - d) 10

- 5) A register having 3 D-FFs can store data representing ____ different values:
 - a) 3
 - b) 8
 - c) 6
 - d) 9