Week 11 Assignment 11

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1. Which of the following does not set up an asynchronous sequential circuit?
   a. The clock of the circuit depends on the value of the flip-flops.
   b. The clock of the circuit depends on the gate delays.
   c. The number of the flip-flops is more than three for that to be an asynchronous sequential circuit.
   d. All of the above.
   e. None of the above.

2. Which of the following statements about an asynchronous sequential circuit is true?
   a. It can be used in situations where the timing of events is unpredictable.
   b. It is used when the speed of the circuit is not a concern.
   c. It is easier to design compared to a synchronous circuit.
   d. All of the above.
   e. None of the above.

3. If an asynchronous sequential circuit is a priority matrix and has 4 delay elements in the feedback path, the number of stages will be ___.
   a. 3
   b. 4
   c. 5
   d. 6
   e. None of the above.

4. An asynchronous sequential circuit is said to have reached a stable state when:
   a. The output gates are in their temporary state for 1 time and then again for 1 time.
   b. The output gates are in their temporary state for 1 time and then change for 1 time.
   c. The output gates are in their temporary state for 1 time, and then again for 1 time.
   d. None of the above.

5. Which of the following constitutes a dynamic hazard?
   a. The output gate is in a temporary state for 1 time and then again for 1 time.
   b. The output gate is in a temporary state for 1 time, and then again for 1 time.
   c. The output gates are in their temporary state for 1 time, and then again for 1 time.
   d. None of the above.

6. To avoid the 1-level metastability of the flip-flops in a D-S-R flip-flop, the flip-flops are:
   a. Connected in a two-level feedback network.
   b. Connected in a three-level feedback network.
   c. Connected in a four-level feedback network.
   d. None of the above.

7. Which other statement will be contained in the transition table [1/25, 4/62]?
   a. RST and RST
   b. RST and STS
   c. RST and N
   d. STS and R
   e. None of the above.

8. What are the primary elements in an A-D-L chart?
   a. Phase, Business Case, Detailed Workflow
   b. State, Business Case, Detailed Model
   c. Input, Output, GPS, Searc Hn
   d. None of the above.

9. Which of the following concepts is used in a circuit diagram:
   a. Independent variable
   b. Dependent variable
   c. Constant variable
   d. None of the above.

10. While constructing a 250 node diagram in an A-D-L chart, which of the following would be included?
    a. Every relationship will map into an A-D-L Link.
    b. Every 500 relationship will map into a three-line relationship.
    c. Every 100 relationship will map into a connection block.
    d. None of the above.