Unit 14 - Week 12

Week 12 Assignment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-23, 23:59 IST.

1) Which of the following statements are false? *1 point*

a. Testing is used to guarantee that a circuit/chip is fault free.
b. Verification ensures quality of the design, while testing ensures quality of the manufactured devices.
c. Verification follows testing in the design cycle.
d. All of these.

☐ a. ☐ b. ☐ c. ☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
c.

2) The total number of multiple stuck-at faults possible in a 4-input AND gate is ..... *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 242

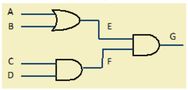
3) The minimum number of test vectors required to detect all single stuck-at faults in an 11-input exclusive-OR gate is ..... *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 2

4) The function F = A.B.C + D.E is realized using two AND gates and one OR gate. The total number of possible single stuck-at faults in the circuit will be ..... *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 16

5) Consider the following circuit: *1 point*



Which of the following test vectors can detect the fault E/0?

a. 0111
b. 1111
c. 0101
d. 0011

☐ a. ☐ b. ☐ c. ☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
b.

6) For a 4-input AND gate, which of the following set of faults are equivalent? *1 point*

a. Input lines stuck-at-1 and output stuck-at-0.
b. Input lines stuck-at-1 and output stuck-at-1.
c. Input lines stuck-at-0 and output stuck-at-0.
d. Input lines stuck-at-0 and output stuck-at-1.

○ a. ○ b. ○ c. ○ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.

7) For a 3-input OR gate with inputs A, B, C and output F, which of the following is/are false with respect to fault dominance? *1 point*

a. F/0 dominates A/0.
b. F/0 dominates B/1.
c. F/0 dominates C/0.
d. B/1 dominates C/1.

☐ a. ☐ b. ☐ c. ☐ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.
d.

8) The Boolean difference of a function F = A'B + B'.C + A.C' with respect to the variable C is given by: *1 point*

a. A.B + A'.B'
b. A.B' + A'.B
c. A + B
d. A.B'

○ a. ○ b. ○ c. ○ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

9) In a scan path design there are 20 scan flip-flops that are connected in a scan chain. For applying 500 combinational test vectors, how many clock cycles will be required? *1 point*

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 10520

10) For a 24-bit LFSR compacting a 5,000-bit serial bit pattern, the probability of aliasing is approximately given by: *1 point*

a. $1 / 2^{24}$
b. 24 / 5000
c. $1 / 2^{5000}$
d. None of these

○ a. ○ b. ○ c. ○ d.

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.