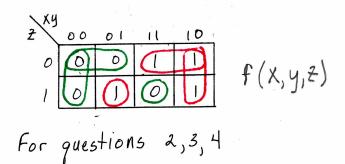
QUIZ 5



90 Correct

85%

6270

5590

Quiz 5 (3/5/2020)

A) X-Ray B) X-Box C) X-Men D) eXciting E) eXclusive

What does the X in XOR stand for?

For the K-Map shown, which of the following is/are <u>Sum of Products</u> (SoP) Essential Prime Implicants (<u>EPI</u>)s?

A) $x \cdot \overline{z}$ B) $x \cdot \overline{y}$ C) $\overline{x} \cdot y \cdot z$ D) All of A-C Are E) None of A-D

3. For the K-Map shown, which of the following is/are <u>Product of Sums</u> (PoS) Essential Prime Implicants (EPI)s?

A) $\overline{x} \cdot \overline{y} \cdot \overline{z}$ (B) x + y (C) $x \cdot y \cdot z$ D) All of A-C Are E) None of A-D

From the minimum-cost <u>Sum of Products</u> (SoP) synthesis, form a factored synthesis. What is the cost of that factored synthesis?
 A) 12
 B) 13
 C) 14
 D) 15
 E) None of A-D

2. See red markings above. All PI's are EPIs: X.y, X.Z, X.y.Z

3. See green markings above.
All Pos PIs are EPIs: X+y, X+Z, X+y+Z

4. Min-cost sop: $f = x \cdot \overline{y} + x \cdot \overline{z} + \overline{x} \cdot y \cdot \overline{z}$ Factor: $f = x \cdot (\overline{y} + \overline{z}) + \overline{x} \cdot y \cdot \overline{z}$

Cost = 3(2-inOR) + 4(3-inAND) + 3(2-inOR) - 13