$f(x,y,z)$

For questions 2, 3, 4

Quiz 5 (3/5/2020)

% Correct

96%

1. What does the X in XOR stand for?
A) X-Ray   B) X-Box   C) X-Men   D) eXciting   (E) eXclusive)

85%

2. For the K-Map shown, which of the following is/are Sum of Products (SoP) Essential Prime Implicants (EPI)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

62%

3. For the K-Map shown, which of the following is/are Product of Sums (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

55%

4. From the minimum-cost Sum of Products (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: $x \cdot \overline{y}, \ x \cdot \overline{z}, \ \overline{x} \cdot y \cdot z$

3. See green markings above.
   All PoS PIs are EPIs: $x+y, \ x+\overline{z}, \ \overline{x}+\overline{y}+\overline{z}$

4. Min-cost SoP: $f = x \cdot \overline{y} + x \cdot \overline{z} + \overline{x} \cdot y \cdot z$

   Factor: $f = x \cdot (\overline{y} + \overline{z}) + \overline{x} \cdot y \cdot z$

   Cost = 3 (2-in OR) + 4 (3-in AND) +
   + 3 (2-in AND) + 3 (2-in OR) = 13