MOCK - DLD

1. Convert
2. 2010 to Base 32
3. Convert AB16 to Base 32
4. What range of decimal numbers fi in 2 bytes field
5. Using 2’s complement conversion on operands, perform the following operations. Show all working in binary 16-bit numbers.

12-3

1. Compute the following

1100 11112 – 0001 11112

1. Four chairs are placed in a row

A B C D

Each chair may be occupied (1) or unoccupied (0). Write the logic function, F, which is ‘1’ if two or more adjacent chairs are occupied.

1. Simplify using Boolean algebra
2. Simplify using Karnaugh map
3. Write the standard PoS
4. Given the truth table below:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Inputs | | | | Outputs | | | |
| A1 | A0 | B1 | B0 | C1 | C0 | D1 | D0 |
| 0 | 0 | 0 | 0 | X | X | X | X |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | X | X | X | X |
| 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | X | X | X | X |
| 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 0 | X | X | X | X |
| 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |

* 1. Minimize the outputs using K-maps and write the Boolean expressions for minimized SoP and PoS
  2. Design the circuit and verify the outputs
  3. State the function of this circuit