As our project is on the topic Stuck at Fault 1 in 4x16 decoder so we will compare the truth table of faulty decoder with actual truth table of 4x16 decoder.

Picture of TT

Considering all possible position(including fanout branches and output lines) there are total 29 positions where stuck at fault may occur.

As Single Stuck at Fault model consider single fault at single position at a time.

So for example let us assume we have truth table for faulty decoder getting as:

Picture of Faulty TT

So here we can see for input 1000,1001,1100, 1101 output mismatches with the actual truth table.

Similarly for all 29 positions we will have 29 separate test sets but applying the law of fault equivalence and law of fault dominance we can minimize the test set which can detect all faults.

Procedure how we got the test set :

That's I don't know 😂😂😂😂