VLSI ASSIGNMENT-3

i) To implement PODEM Algorithm -
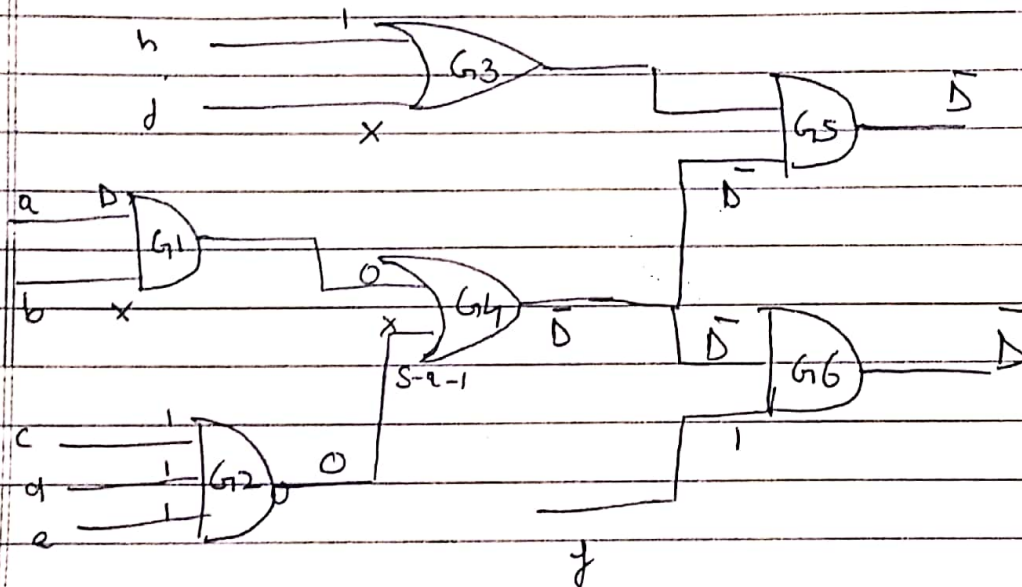
Initial objective: $G2 = 0$ so as to activate the S-a-1 fault.

Back tracing through $G2 \Rightarrow C = 1$
$\qquad\qquad\qquad d = 1$

$\qquad\qquad\qquad e = 1$, Objective achieved

Objective: $G1 = 0$
Backtracing through $G1 \Rightarrow a = 0$
$\qquad\qquad\qquad b = x \rightarrow$ one possibility
$\qquad\qquad\qquad$ objective achived

Objective: $G3 = 1$
Backtracing through $G3 = 5 \, h = 1$
$\qquad\qquad\qquad f = x \rightarrow$ one possibility
$\qquad\qquad\qquad$ objective achived

Propagating through G5:
   Test generated: $abcdefhj = 0 \times 111 \times 1 \times$

ii) To implement FAN algorithm
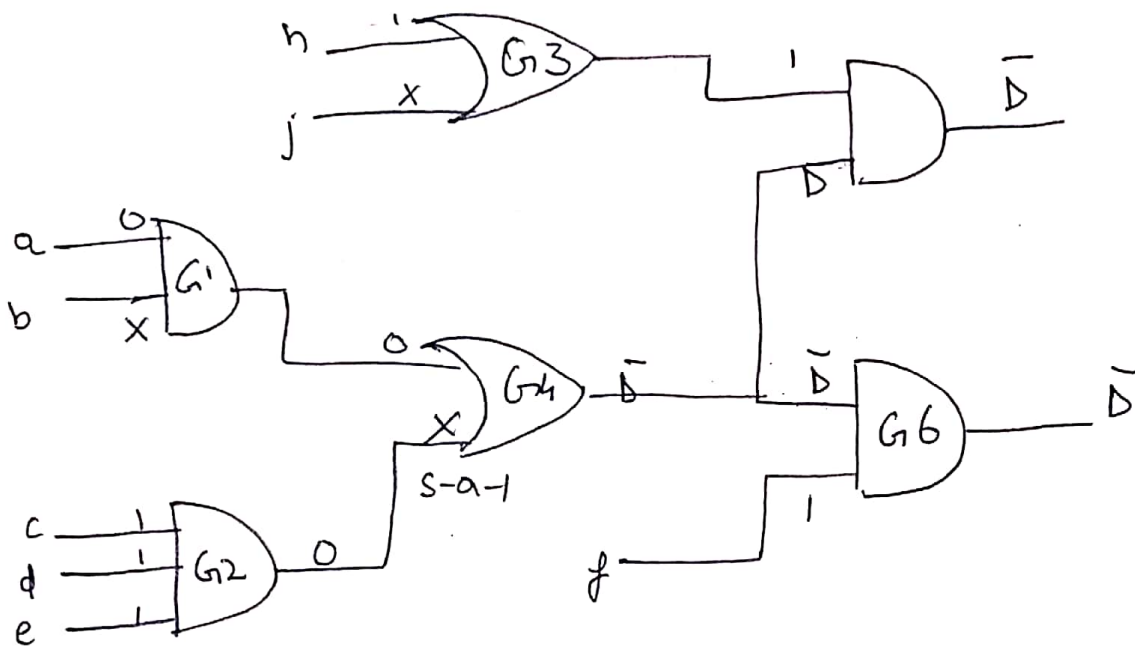
Initial objective: $G2 = 0$ so as to activate
                                     sa-1 fault

   Implication: Assigning $c = 1, d = 1, e = 1$
   Objective: propagate through G4, objective $G1 = 0$

   Implication: $a = 0, b = X$
   Objective: propagate through G5, objective $G3 = 1$
   Implication: $h = 1, j = X$
   Test generated: $abcdefhj = 0 \times 111 \times 1 \times$
   Objective: Propagate through G6, objective $f = 1$
   Implication: $f = 1$
   Test generated: $abcdefhj = 0 \times 1111 \times \times$