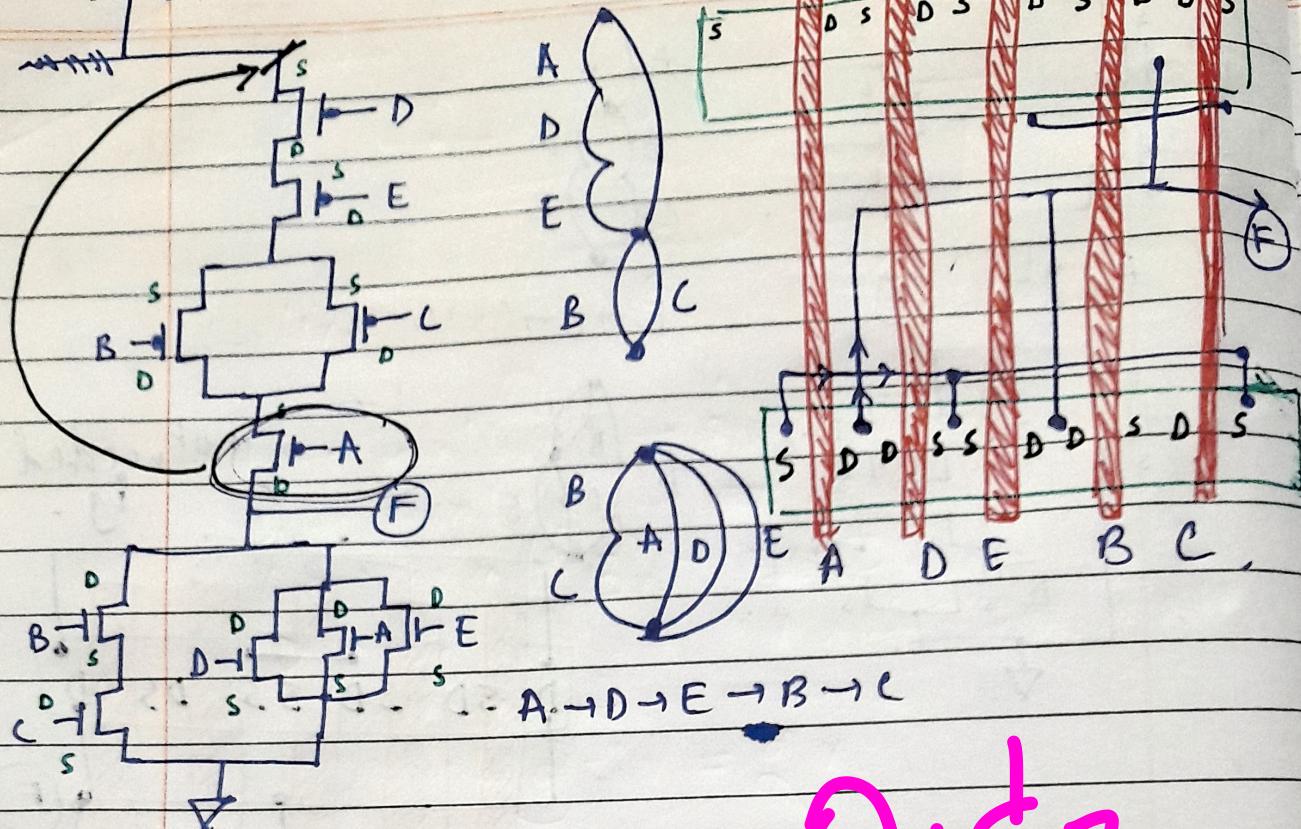


Q2) $F = A + BC + (D + E)$

INTER.

Part 6

T_{add}



Q1 \notin 3

Q1. Find Euler path of the following

(a) $F = \overline{A + (B+C)D}$

(b) $F = \overline{A + (B+C)(D+E)}$

(c) $F = \overline{A + (BC)(LD+EF)}$

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Q2. draw stick diagram/layout of color code of following boolean exp: $F = \overline{A + BC + (D+E)}$

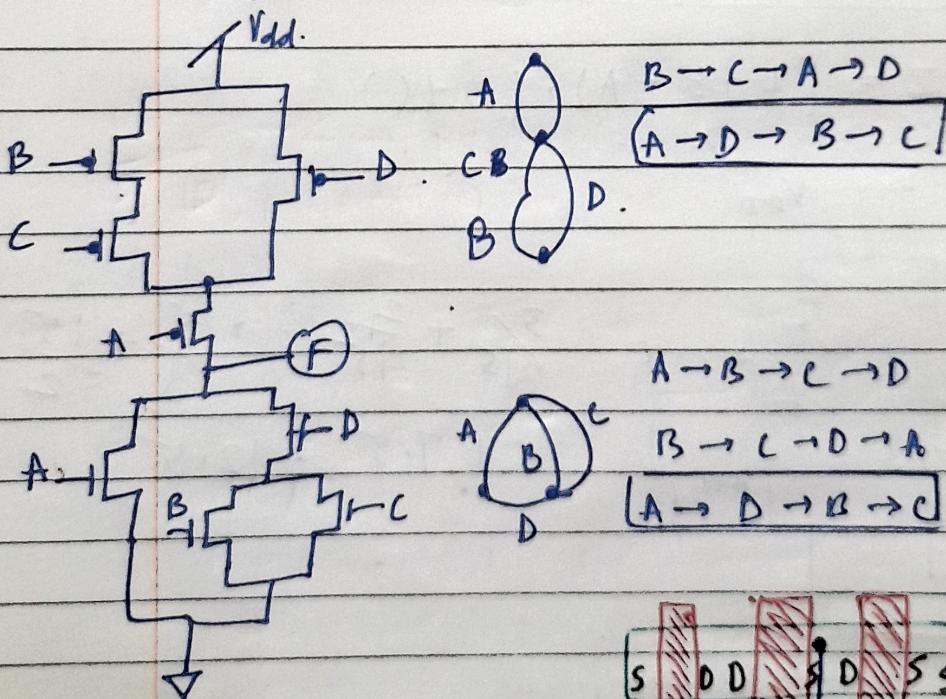
Q3. Implement using TG: (a) $F = A + (B+C)D$

(b) $F = A + (BC)D$.

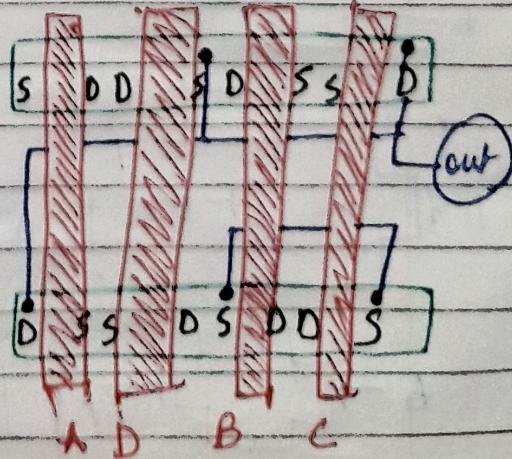
(c) $F = A(B+C)D$.

(d) $F = AB + \bar{A}\bar{C} + A\bar{B}C$

Q1) (a) $\textcircled{F} = \overline{(A) + (B+C)D}$



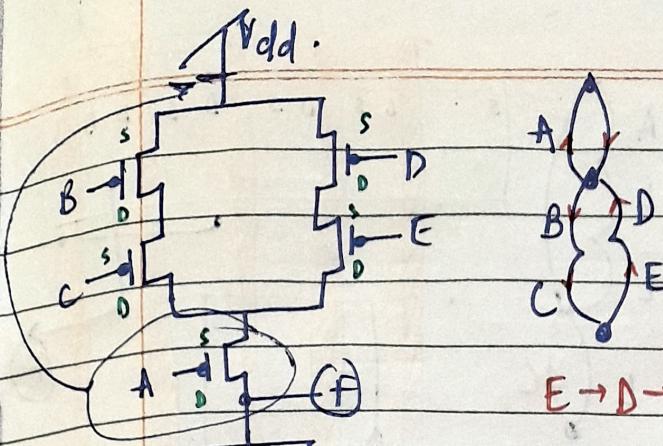
Q2



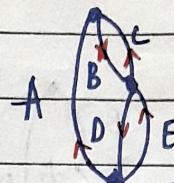
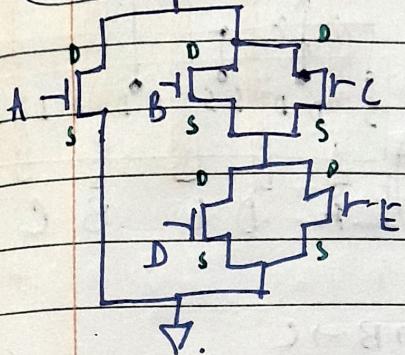
$$(b) F = A + (B+C)(D+E)$$

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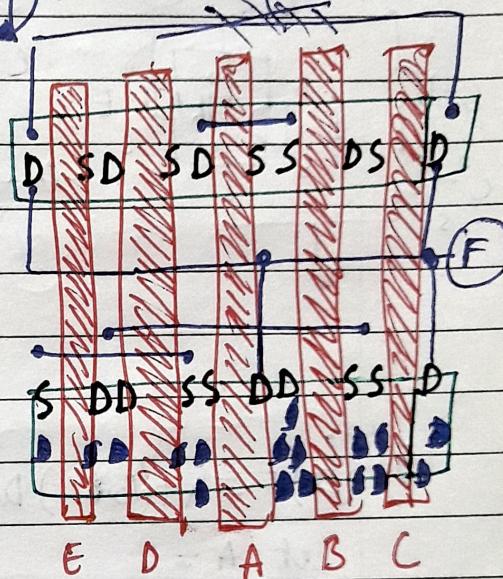
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$$E \rightarrow D \rightarrow A \rightarrow B \rightarrow C$$

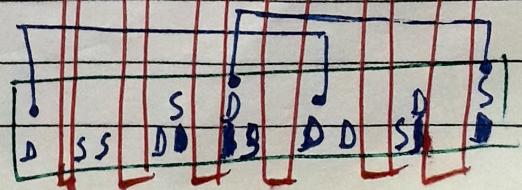
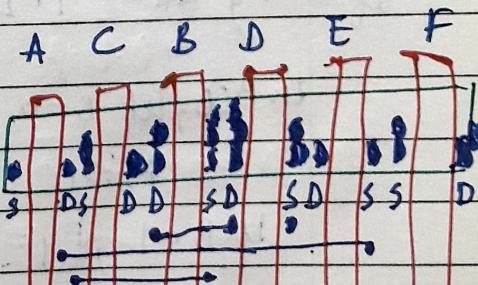
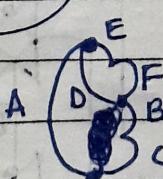
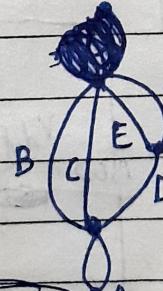
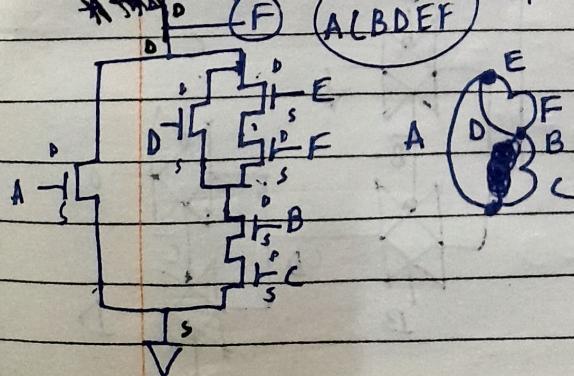
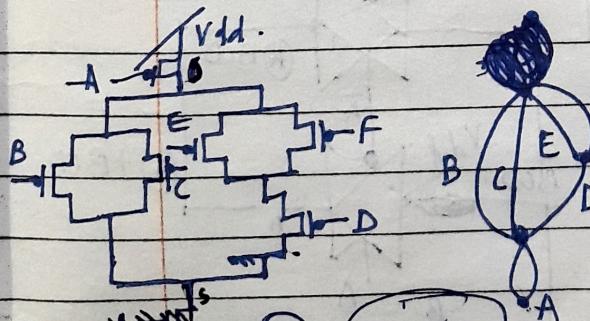


not needed
ig -



$$(c) F = A + (BC)(LD+EF)$$

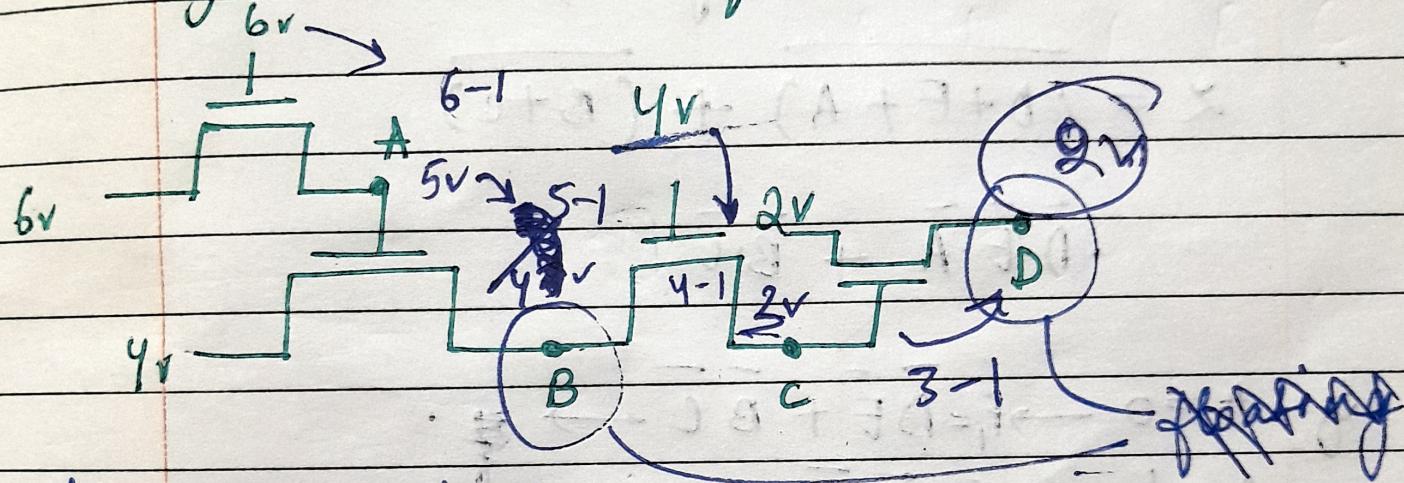
~~ADSFABCE~~



Q2

Find Euler path. Find voltage at A, B, C, D

(a) $F = A +$ using concept of pass transistors logic. assume V_{th} for each is 1V



At node A,

V_g , Control voltage = 6V

$$V_s = 6V$$

Nmos-on, $\rightarrow (V_{gs} = 6V - 0V) > V_{th}$

Nmos passes weak high.

$$\text{Voltage at } A = 6V - 1V = 5V$$

Q4

Q5) (a) $F = A + (B+C)D$.

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- If $A=0$, $F_1 = \cancel{B+C} (B+C)D$.

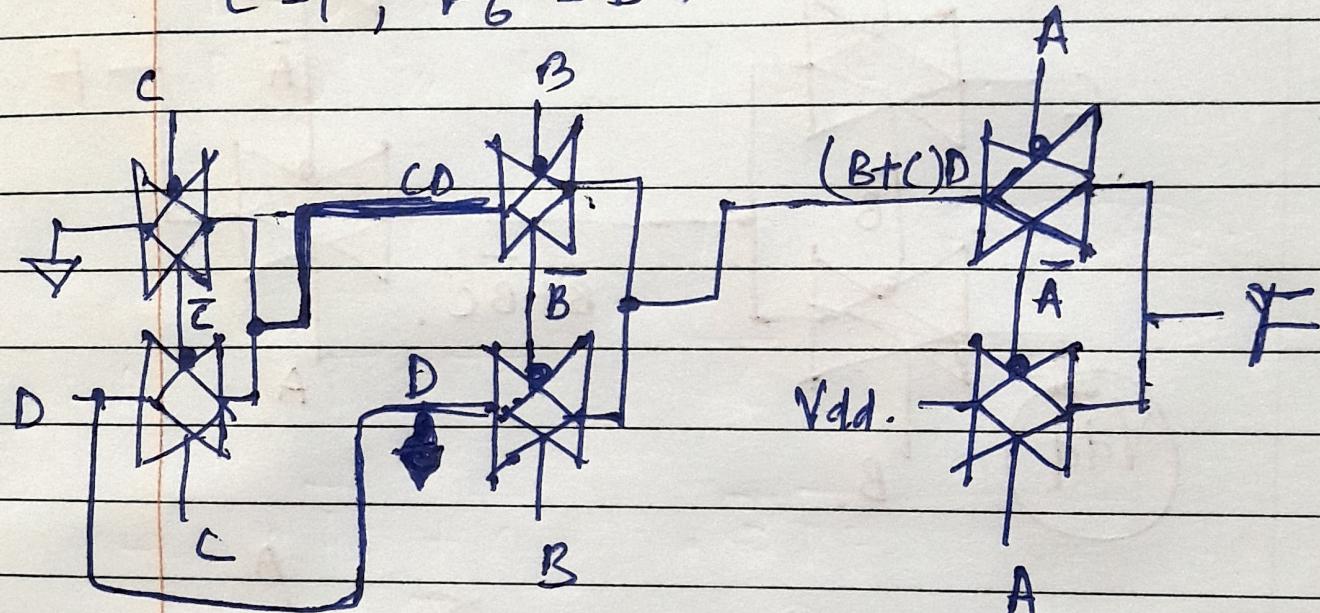
$A=1$, $F_2 = 1$

$B=0$, $F_3 = CD$.

$B=1$, $F_4 = D$.

$C=0$, $F_5 = 0$.

$C=1$, $F_6 = D$.



Q5) (b) $F = A + (B \oplus C) D$.

Let $A = 0$

$$F_1 = BCD$$

If $A = 1$, ~~\Rightarrow~~ $|F_2| = 1$

In BCD , let $B = 0$

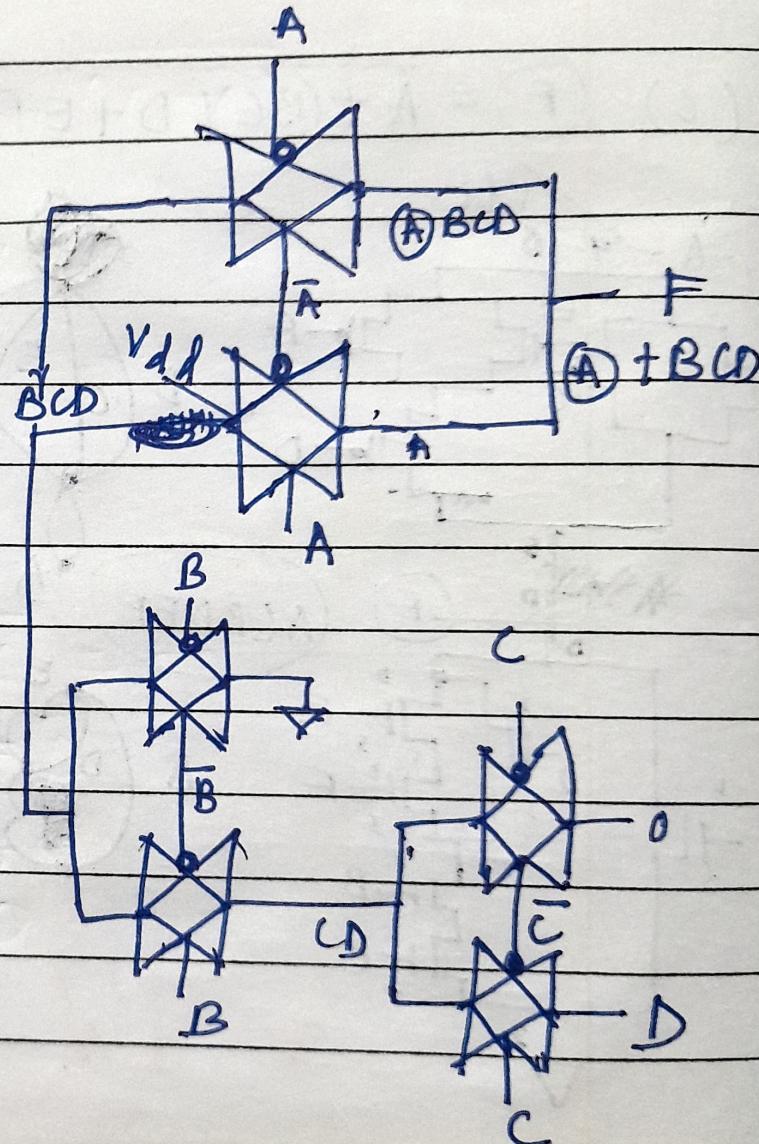
$$F_3 = 0$$

If $B = 1$, $F_4 = CD$

In CD , Let $C = 0$

~~$F_5 = 0$~~

If $C = 1$, $F_6 = D$



(b) $F = A(B + C)D.$

$A=0, F_1 = 0$

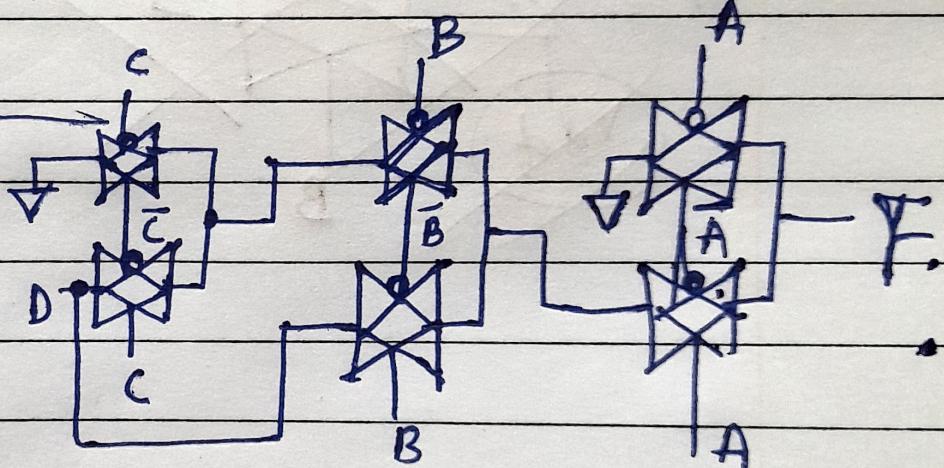
$\boxed{A=1, F_2 = (B+C)D.}$

$\boxed{B=0, F_3 = CD.}$

$\boxed{B=1, F_4 = D.}$

$\boxed{C=0, F_5 = 0}$

$\boxed{C=1, F_6 = D.}$



$$(d) F = AB + \bar{A}\bar{C} + A\bar{B}C$$

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$$A=0, F_1 = \bar{C}$$

$$A=1, F_2 = B + \bar{B}C$$

$$\rightarrow B=0, F_3 = C$$

$$B=1, F_4 = 1$$

