

East West University

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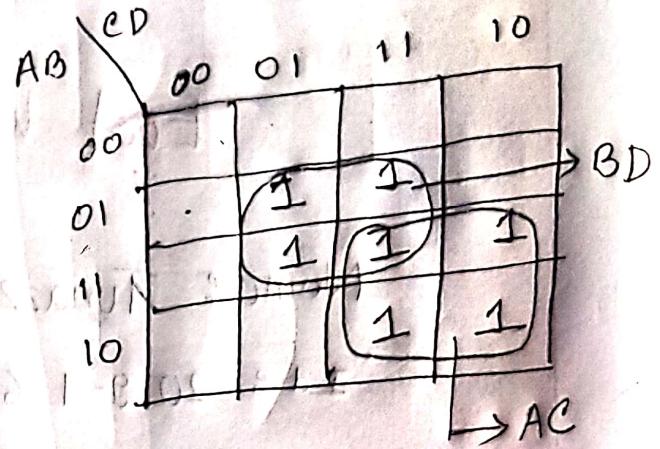
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Course : CSE 395

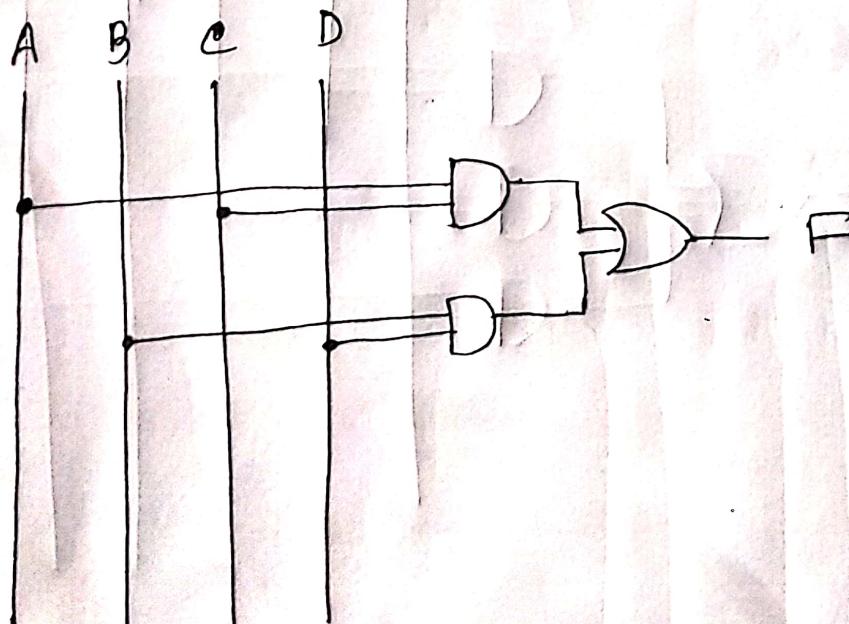
Section : 03

Ans To The Ques No-1

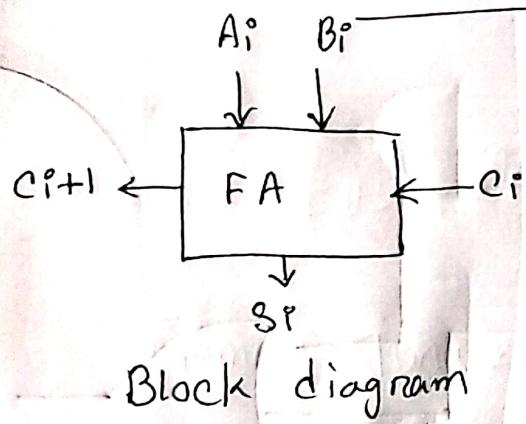
A	B	C	D	F
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	1
0	1	1	0	0
0	1	1	1	1
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1



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



Ans. To The Ques No - 3



A ⁱ	B ⁱ	C ⁱ	C ⁱ⁺¹	S ⁱ
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

Truth table

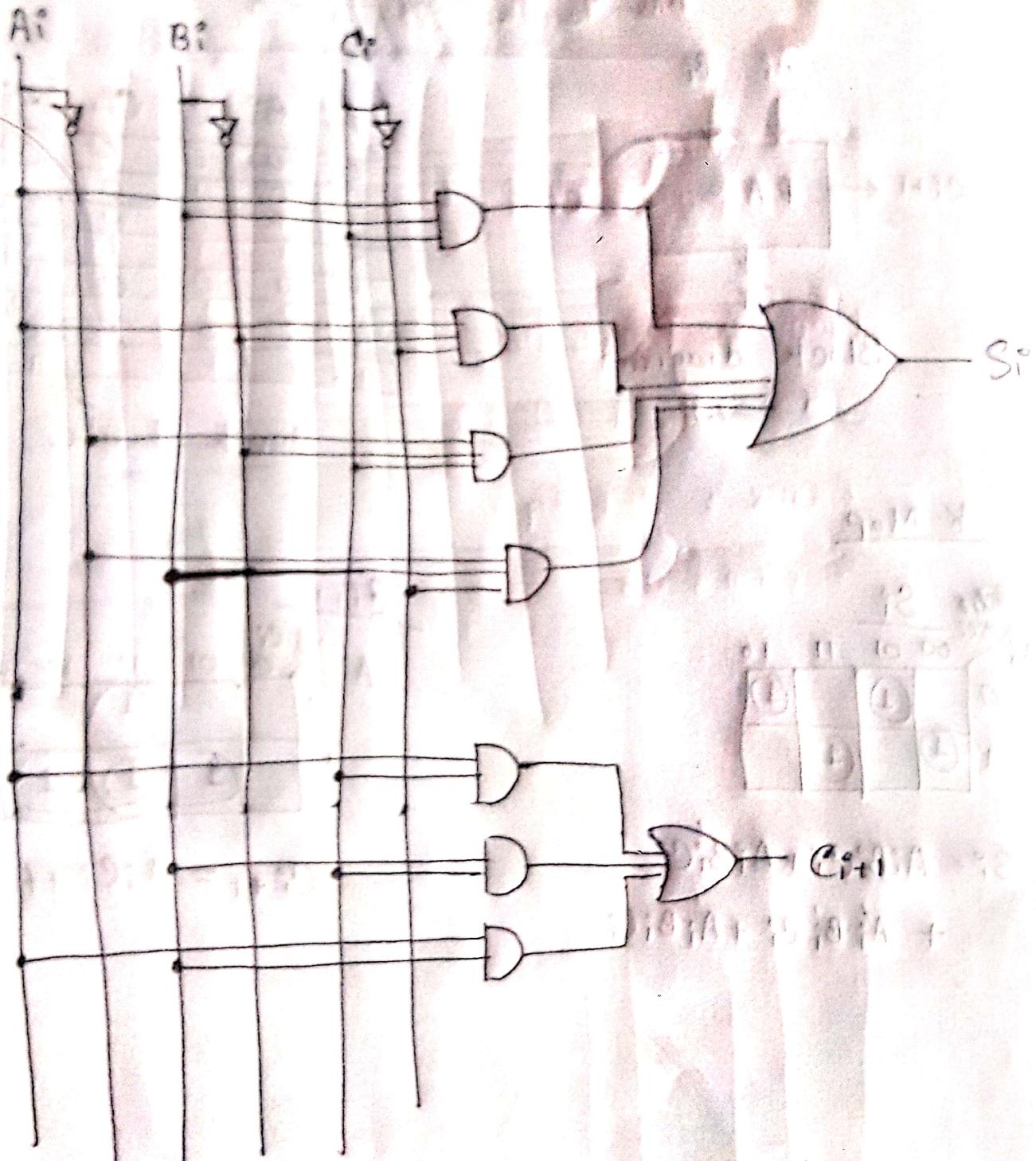
K-Map

A ⁱ		B ⁱ				S ⁱ
		00	01	11	10	
0	0	(1)		(1)		
	1	(1)	(1)			

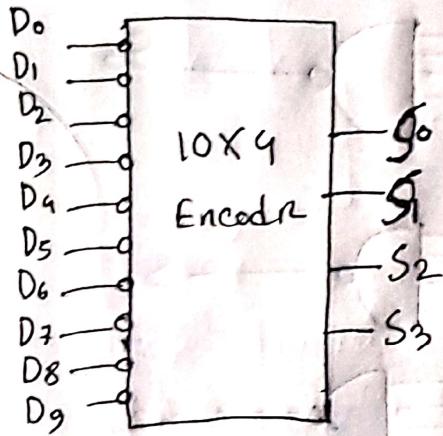
$$\begin{aligned}
 S_i &= A_i B_i C_i + A_i^{\prime} B_i^{\prime} C_i^{\prime} \\
 &\quad + A_i^{\prime} B_i^{\prime} C_i + A_i^{\prime} B_i C_i^{\prime}
 \end{aligned}$$

A ⁱ		B ⁱ				C ⁱ⁺¹
		00	01	11	10	
0	0		(1)			
	1	(1)	(1)	(1)	(1)	

$$C_i^{\prime} + 1 = A_i C_i + A_i^{\prime} B_i + B_i C_i$$



Ans To The Ques No- 9

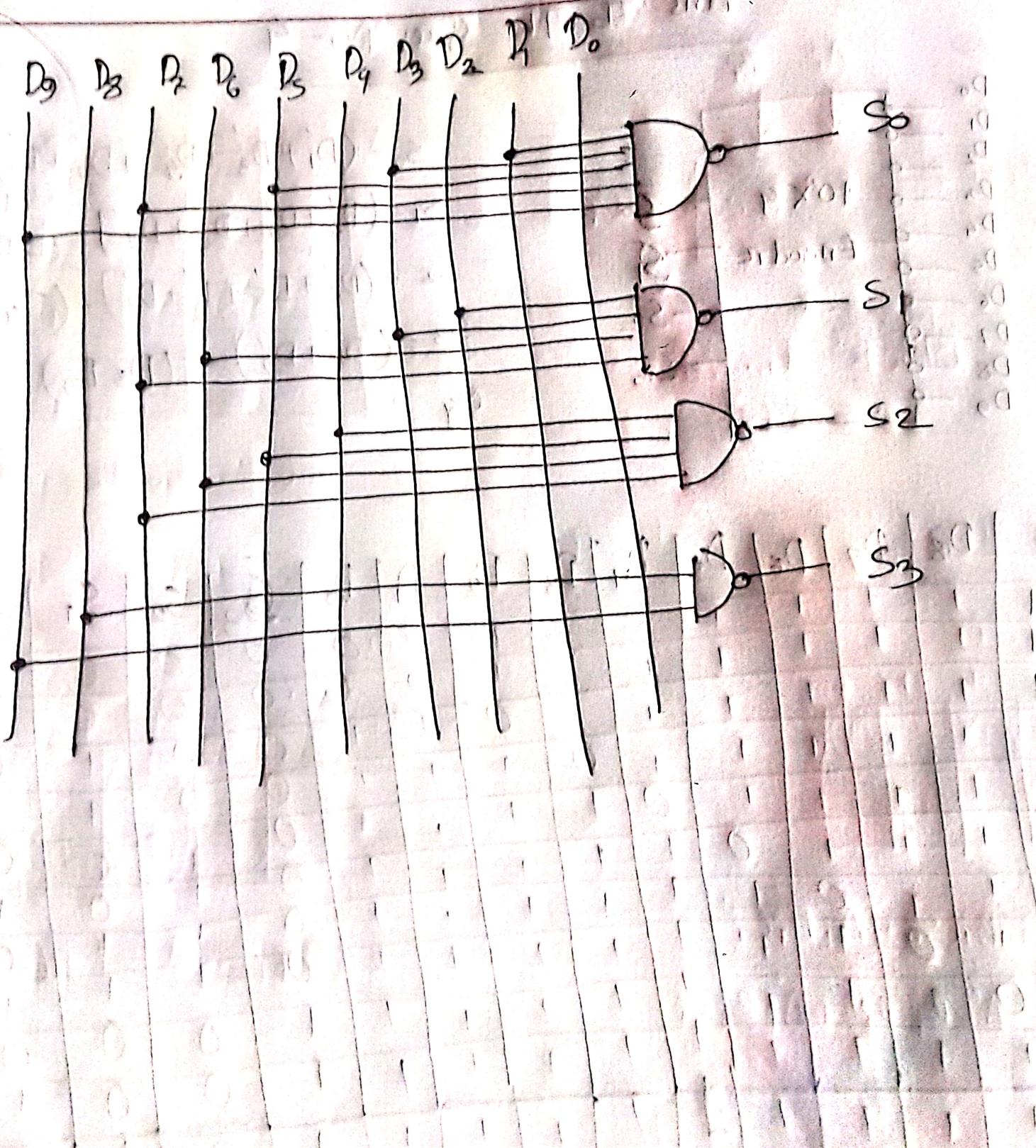


$$S_0 = (D_1' + D_3' + D_5' + D_7' + D_9') = (D_1 D_3 D_5 D_7 D_9)$$

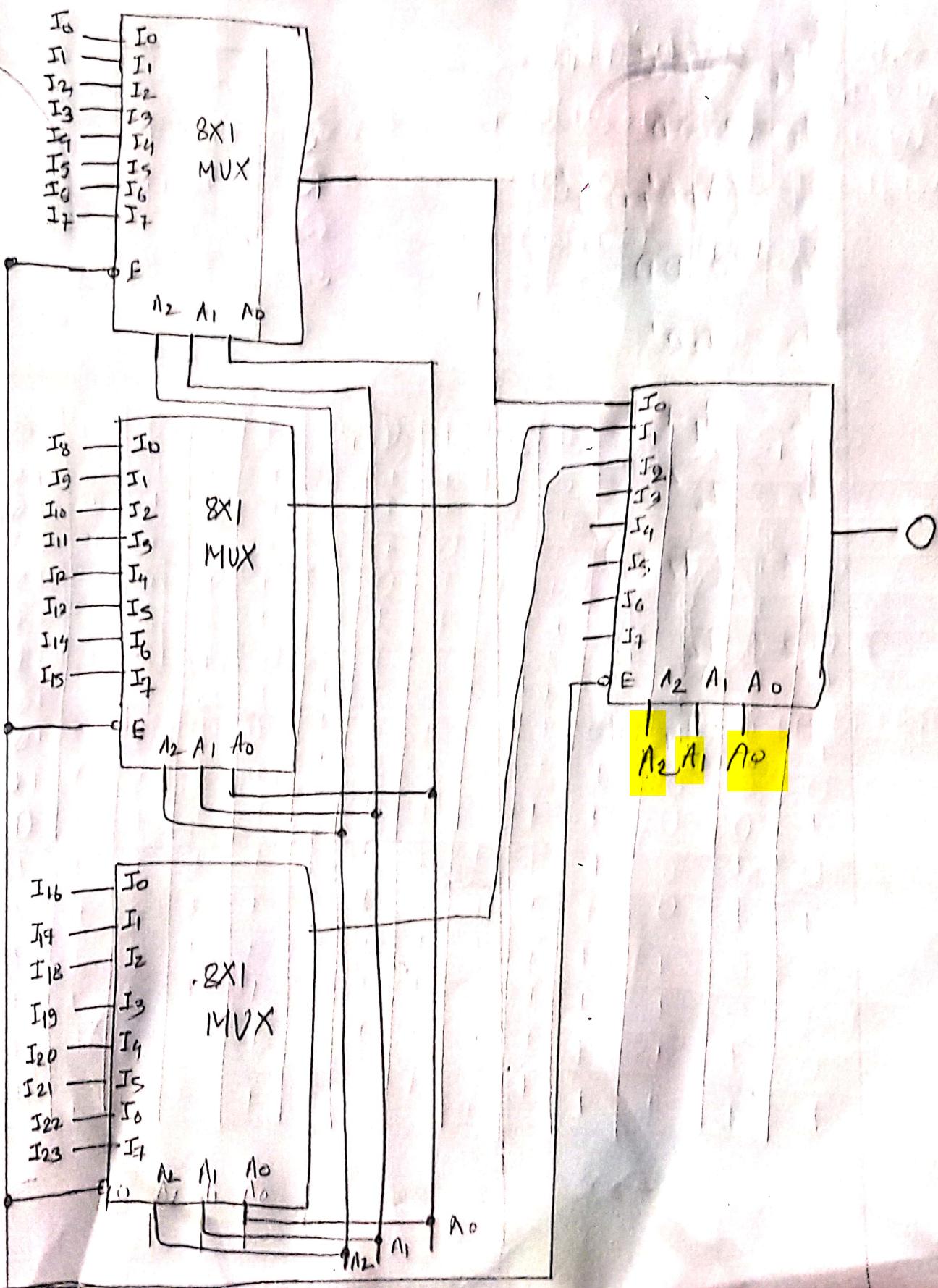
$$S_1 = (D_2' + D_3' + D_6' + D_7') = (D_2 D_3 D_6 D_7)'$$

$$S_2 = (D_4' + D_5' + D_6' + D_7') = (D_4 D_5 D_6 D_7)'$$

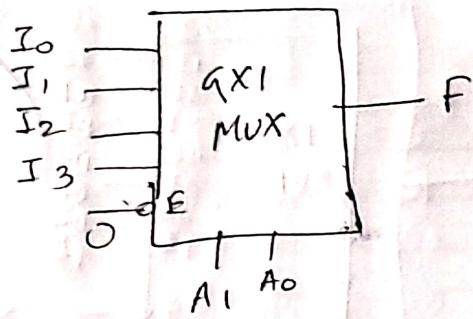
$$S_3 = (D_8' + D_9') = (D_8 \ D_9)'$$



Ans To The Ques No 5



Ans To The Ques No - 6



B	A ₁	A ₀	F
0	0	0	I ₀
0	0	1	I ₁
0	1	0	I ₂
0	1	1	I ₃
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	(16)

module fourbyoneMUX (input E, A₁, A₀, output reg F);
always @ (E, A₁, A₀, I₀, I₁, I₂, I₃)
case ({E, A₁, A₀})

3'b 000 : F = I₀ ;

3'b 001 : F = I₁ ;

3'b 010 : F = I₂ ;

3'b 011 : F = I₃ ;

endcase

endmodule

Ans To The Ques No-2

A

$$T_1 = A'BC'$$

$$T_2 = B \otimes D$$

$$T_3 = (A+B'+D')'$$

$$T_4 = C \oplus D$$

$$T_5 = T_2 C'$$

$$T_6 = T_1 + T_5$$

$$T_7 = T_6'$$

$$T_8 = (T_7 T_3)'$$

$$F_2 = T_6$$

$$F_1 = T_4 + T_8$$

