

Date :- 26/03/2022

Examination Roll No. :- 21312915017

Name of Program :- B.Tech. (Information Tech.  
and Mathematical Innovation.)

Semester :- I<sup>st</sup> Sem.

Unique Paper Code :- 32861104

Title of the Paper :- Understanding Computer  
System Architecture.

### Solution 1

$$A/O, F(a,b,c,d) = \sum(1,2,3,10,14)$$

$$D(a,b,c,d) = \sum(0,5,11,12)$$

a	b	c	d	F
0	0	0	0	x
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	x
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	x
1	1	0	0	x
1	1	0	1	0
1	1	1	0	1
1	1	1	1	0

For POS form

	c'd'	c'd	cd	cd'
d'b'	x	1	1	1
a'b	0	x	0	0
ab	x	0	0	1
ab'	0	0	x	1

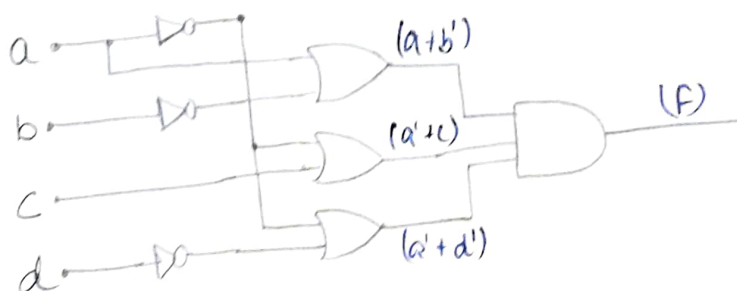
$$F' = a'b + ac' + ad$$

$$(F')' = (a'b + ac' + ad)'$$

$$F = (a'b)' \cdot (ac')' \cdot (ad)'$$

$$F = (a+b')(a'+c)(a'+d')$$

→ POS form



Roll No:- 21312915017  
UPC :- 328611044

②

For SOP form:-

	c'd'	c'd	cd	cd'
a'b'	x	1	1	1
a'b	0	x	0	0
ab	x	0	0	1
ab'	0	0	x	1

$$F = a'b' + acd'$$

→ SOP form

