

PAL:

(Programmable Array Logic)

- AND gates are programmable. ✓
- OR gates are fixed. ✓

ex. Implement the following boolean function using PAL.

$$X = AB'D + A'C' + BC + C'D'$$

$$Y = A'C' + AC + C'D'$$

$$Z = CD + A'C' + AB'$$

Ans.

Product term	Inputs				Outputs
	A	B	C	D	
AB'D	1	0	—	1	X
A'C'	0	—	0	—	
BC	0	1	1	—	
C'D'	—	—	0	0	
A'C'	0	—	0	—	Y
AC	1	—	1	—	
C'D'	0	—	0	0	
CD	—	—	1	1	
A'C'	0	—	0	—	Z
AB'	1	0	0	—	

Diagram :

