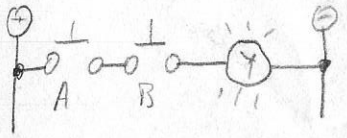
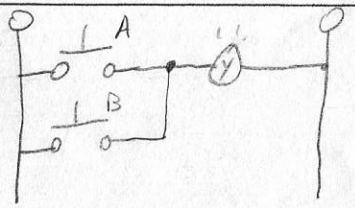
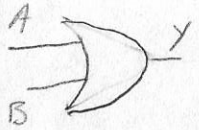
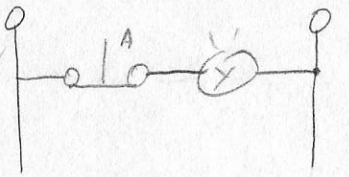
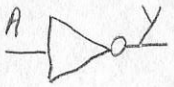
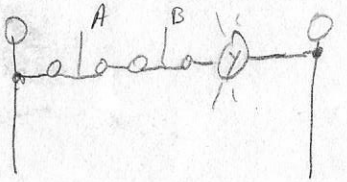
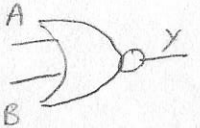
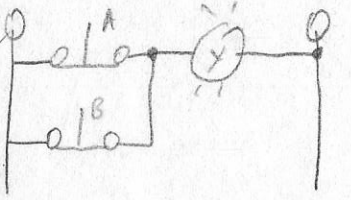
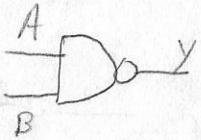
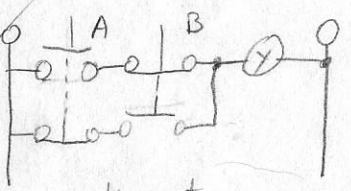
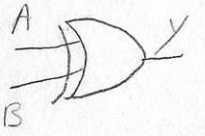
HP TECH PROGRAM

LADDER DIAGRAM	DESCRIPTION What does it take to energize	LOGICAL NAME	TRUTH TABLE	LOGICAL SYMBOL	BOOLEAN EXPRESSION
	If button A + B are pressed, light comes on	AND	A B Y 0 0 0 0 1 0 1 0 0 1 1 1		$y = A \cdot B$ (y is A and B)
	If button A or B is pressed, then y is energized	OR	A B Y 0 0 0 0 1 1 1 0 1 1 1 1		$y = A + B$ (y is A or B)
	If button A is not pressed, then y is energized	NOT (inverter)	A B Y 0 1 1 0		$y = \bar{A}$
	If neither A nor B are pressed, then y is energized	NOR	A B Y 0 0 1 0 1 0 1 0 0 1 1 0		$y = \overline{A + B}$
	If both A and B are not pressed, then y is energized	NAND	A B Y 0 0 1 0 1 1 1 0 1 1 1 0		$y = \overline{A \cdot B}$
	If either A or B are pressed (but not both), then y is energized	XOR	A B Y 0 0 0 0 1 1 1 0 1 1 1 0		$y = A \oplus B$