

$$15) \overline{C(A+B)} = \overline{CA+CB}$$

$$= \overline{CA} + \overline{CB}$$

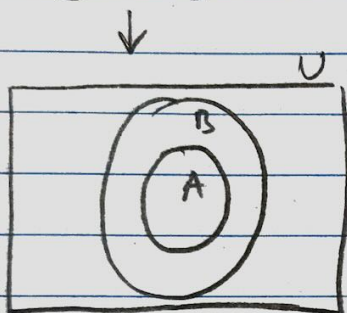
$$= \overline{C} + \overline{A} + \overline{C} + \overline{B}$$

$$= \overline{C}(\overline{A} + \overline{B}) \quad ; \quad (\overline{A} + \overline{B}) = \overline{A \cdot B}$$

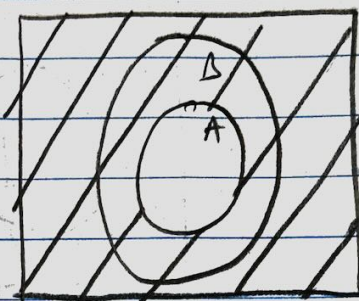
$$\Rightarrow \overline{C}(\overline{A \cdot B})$$

$$\therefore \overline{C(A+B)} = \overline{C}(\overline{A \cdot B})$$

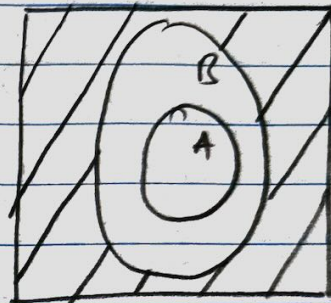
$$16) (A \Rightarrow B)$$



$$\overline{A} =$$



$$\overline{B} =$$



for every True value of A
B is True

But for every false value of A
B is not necessarily True

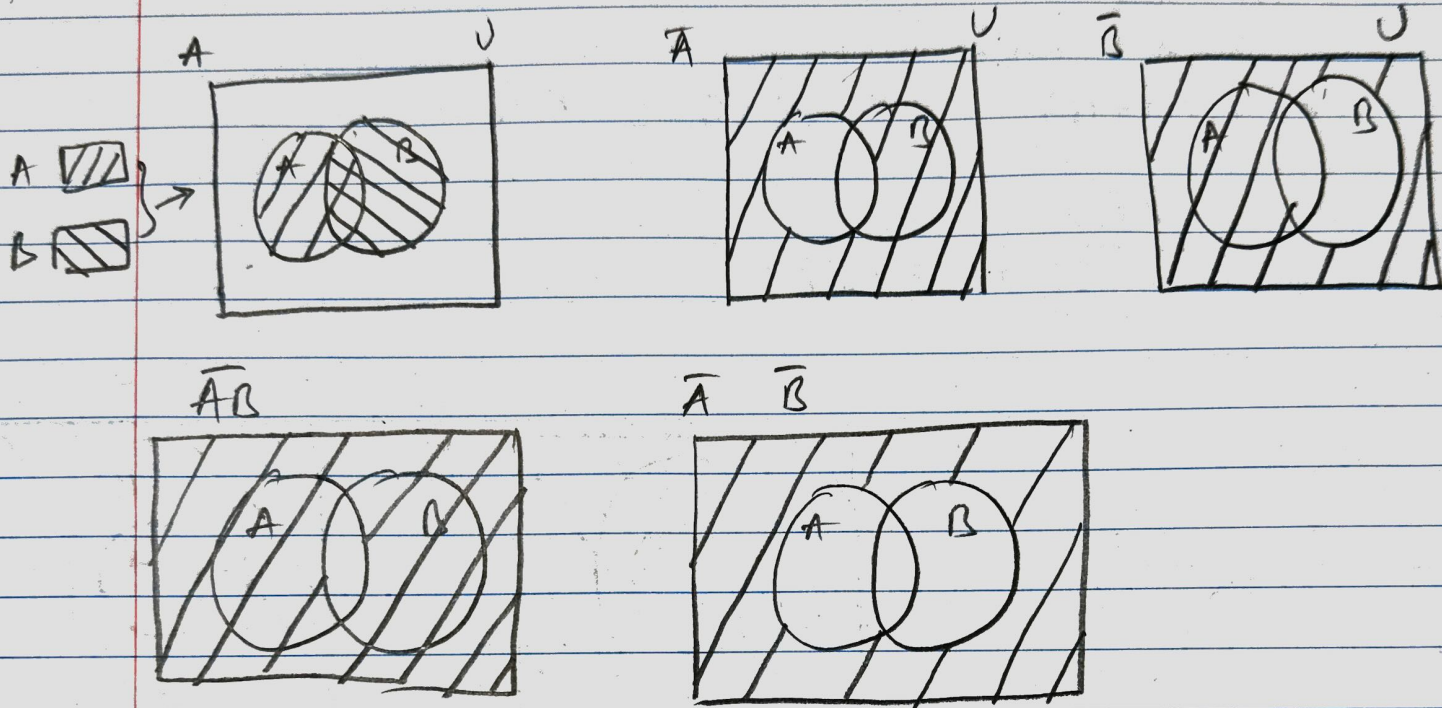
Similarly,

for every True value of B
A is true

But for every false value of B
A is not necessarily false.

$$\therefore (A \Rightarrow B) \equiv (\overline{B} \Rightarrow \overline{A})$$

$$19) \overline{AB} \neq \overline{A} \overline{B}$$



$$\therefore \overline{AB} \neq \overline{A} \overline{B}$$