

CHAPTER - 1

for BCA

1- Statements →

A sentence which is either true or false but not both is called ~~an~~ statement.

for example ::

8 is greater than 5 is statement.

2- Truth Value of Statement →

The true or false value of statement is known as the truth value of statement.

3- Negation of Statement →

If P is the statement then its negation is defined by $\neg P$ or $\sim P$ or $(\sim P)$ and not of P.

for example :-

let P is the statement "Delhi is a city" Then $\sim P$ is the negation of statement "Delhi is not a city".

Conjunction \rightarrow let P and Q be two statements. Then P Conjunction is denoted by $P \wedge Q$ whose meaning is P and Q and defined as if P is true and Q is true then $P \wedge Q$ is true other wise false.

Truth table for $P \wedge Q \rightarrow$

P	Q	$P \wedge Q$
T	T	T
T	F	F
F	T	F
F	F	F

The number of truth value 2^n
 $\Rightarrow 2^2 = 4$

If P, Q, R be three statement then Truth table.

P	Q	R	$P \wedge Q$	$Q \wedge R$	$(P \wedge Q) \wedge R$
T	T	T	T	T	T
T	T	F	T	F	F
T	F	T	F	F	F
T	F	F	F	F	F
F	T	T	F	T	F
F	T	F	F	F	F
F	F	T	F	F	F
F	F	F	F	F	F

Disjunction \rightarrow Let P and q be two statements. Then P disjunction q is denoted by $P \vee q$ i.e. P or q and defined as If either P or q or both is true then $P \vee q$ is true otherwise false.

Truth table for $P \vee q$ \rightarrow

P	q	$P \vee q$	$\neg(P \vee q)$
T	T	T	F
T	F	T	F
F	T	T	F
F	F	F	T