

10-SE-148

Faiza Jamil

1/10

Q:1

What is the truth value of the proposition?

If today is Friday, Then $2+3=6$
Also Justify

T	T	F
T	F	F
F	T	F
F	F	F

All the conditions will be false. because $2+3=6$ false statement

Q:2

What are the contrapositive, converse and inverse of implication.

$P \rightarrow Q$
 $Q \rightarrow P$

The home team wins whenever it is raining.

$P \rightarrow Q$

Q:2

Inverse: It is not raining whenever the home team not wins.

Converse: The home team wins whenever it is raining.

Contrapositive: The home team not wins whenever it is not raining.

Q:3 Is it a proposition. Y/N.

0/1 "What time is it?"

+ Yes, proposition because time can be true or false.

Q:4 Restate symbolically by lettering

P: There is a hurricane.

q: It is raining.

Either there is a hurricane or it is raining (or both).

X 0/1

$$(P \leftrightarrow q) \equiv (P \rightarrow q) \vee (q \rightarrow P)$$

Q:5 Restate the following in

"If P then q" form.

A programme is readable only if it is well structured.

If programme is well structured then it is readable.

X 0/2

Q:6

Assuming that p and r are false.
and q and s are T
find the truth values of the
proposition. $p \wedge r \Leftrightarrow F$ $q \wedge s \Rightarrow T$.

i) $\bar{p} \rightarrow \bar{q}$ ✓ $1/2$ Ans: T

ii) $(p \rightarrow q) \wedge (q \rightarrow r)$ ✗ Ans: F

$p \rightarrow f$ $r \rightarrow f$ $q \rightarrow t$.

\bar{p}	\bar{q}	$\bar{p} \rightarrow \bar{q}$
T	F	T

p	q	$p \rightarrow q$	∧	q	r	$q \rightarrow r$
F	T	F		T	F	F

$(p \rightarrow q) \wedge (q \rightarrow r)$

$F \wedge F = F$