

Question 1: $\neg p$ is logically equivalent to :

[a] $p \vee p$. [b] $p \wedge \neg p$. [c] $p \uparrow p$. [d] $p \rightarrow p$.

Question 2 : $p \vee q$ is logically equivalent to :

[a] $(p \uparrow p) \uparrow (q \uparrow q)$. [b] $(p \uparrow q) \uparrow (p \uparrow q)$. [c] $p \uparrow (q \uparrow q)$. [d] $(p \uparrow p) \uparrow q$.

Question 3 : $p \wedge q$ is logically equivalent to :

[a] $p \uparrow (q \uparrow q)$. [b] $(p \downarrow q) \downarrow (p \downarrow q)$. [c] $\neg p \vee q$. [d] $(p \uparrow q) \uparrow (p \uparrow q)$.

Question 4 : $p \rightarrow q$ is logically equivalent to :

[a] $\neg p \rightarrow \neg q$. [b] $\neg q \rightarrow \neg p$. [c] $\neg q \vee p$. [d] $(p \uparrow q) \uparrow q$.

Question 5: $\neg p$ is logically equivalent to :

[a] $p \vee \neg p$. [b] $p \wedge \neg p$. [c] $p \downarrow p$. [d] $\neg p \rightarrow p$.

Question 6 : $(p \downarrow q) \downarrow (p \downarrow q)$ is logically equivalent to :

[a] $p \rightarrow q$. [b] $p \vee q$. [c] $p \wedge q$. [d] $q \rightarrow \neg p$.

Question 7 : $(p \downarrow p) \downarrow (q \downarrow q)$ is logically equivalent to:

[a] $p \rightarrow q$. [b] $p \wedge q$. [c] $q \rightarrow p$. [d] $p \leftrightarrow q$.

Question 8 : $[(p \downarrow p) \downarrow q] \downarrow [(p \downarrow p) \downarrow q]$ is logically equivalent to :

[a] $q \rightarrow p$. [b] $p \rightarrow q$. [c] $p \wedge q$. [d] $p \vee q$.

Question 9 : $[p \wedge (p \rightarrow \neg q) \wedge (\neg q \rightarrow \neg r)]$ logically implies :

[a] $\neg r$ [b] r . [c] q . [d] $\neg q$.

Question 10 $[(p \rightarrow r) \wedge (r \rightarrow s) \wedge (t \vee \neg s) \wedge (\neg t \vee u) \wedge \neg u]$ logically implies to :

[a] p . [b] $\neg r$. [c] $\neg p$ [d] $\neg u$.