

## Question 2

$p$	$q$	$r$	$p \Rightarrow r$	$q \wedge (p \Rightarrow r)$	$q \wedge r$	$(q \wedge (p \Rightarrow r)) \Rightarrow (q \wedge r)$
T	T	T	T	T	T	T
T	T	F	F	F	F	T
T	F	T	T	F	F	T
T	F	F	F	F	F	T
F	T	T	T	T	T	T
F	T	F	T	F	F	T
F	F	T	T	F	F	T
F	F	F	T	F	F	T

Based on the truth table above, all truth values of the compound statement are true. Hence, the compound statement  $(q \wedge (p \Rightarrow r)) \Rightarrow (q \wedge r)$  is a tautology.