21. The proposition $(p \rightarrow \sim p) \wedge (\sim p \rightarrow p)$ is a

   (1) tautology and contradiction

   (2) neither tautology nor contradiction

   (3) contradiction

   (4) tautology

21. (3)

p	$\sim p$	$p \to \sim p$	$\sim p \to p$	$(p \to \sim p) \wedge (\sim p \to p)$
T	F	F	T	F
F	T	T	F	F

Clearly, $(p \to \sim p) \wedge (\sim p \to p)$ is a contradiction.