Asynchronous Task 2.1: Propositional Logic

A. Construct the truth table for Exclusive OR

p	**q**	**p ⊕ q**
F	F	F
F	T	T
T	F	T
T	T	F

B. Construct the truth table for Conditional Statement p → q and Contrapositive ¬ q → ¬ p

p	**q**	p → q	¬ q	¬ p	¬ q → ¬ p
F	F	T	T	T	T
F	T	T	F	T	T
T	F	F	T	F	F
T	T	T	F	F	T

C. Construct the truth table for Inverse ¬ p → ¬ q and Converse q → p

p	**q**	¬ p	¬ q	¬ p → ¬ q	q → p
F	F	T	T	T	T
F	T	T	F	F	F
T	F	F	T	T	T
T	T	F	F	T	T

D. Find the **contrapositive**, the **converse**, and the **inverse** of the conditional statement:

"If the sky is clear, then all birds fly."

The contrapositive is: If all birds don't fly, then the sky is not clear.

The converse is: If all birds fly, then the sky is clear.

The inverse is: If the sky is not clear, then all the birds don't fly.

Note: Submit this work in PDF file with the format: ***LASTNAME_FIRSTNAME****.*