Practice Questions Lecture No 4-6

Question # 1:

Formulate the symbolic expression $\sim (p \lor q) \rightarrow r$ in words using

p =: Today is Holiday

q =: It is raining

r =: We should study.

Question # 2:

Check the validity of the following argument form using truth table:

$$p \to q$$
$$\frac{p \lor q}{\therefore p}$$

Question # 3:

Write the output of each gate in the following circuit



Question # 4:

Construct a truth table to determine whether the statement in the following is logically equivalent or not:

 $(p \wedge q) \lor r$ and $p \wedge (q \lor r)$

Question # 5:

By using the laws of logic verify the following logical equivalence: $\sim ((\sim p \land q) \lor (\sim p \land \sim q)) \lor (p \land q) \equiv p$

Question # 6:

Construct the input/output table for $\sim (p v q)$



Question # 7:

Construct circuit for the Boolean expression (~ $p \land q$) $\lor ~ r$.