

Tarea # 5 Lógica

Establezca la validez de los siguientes argumentos:

I)

$$\begin{array}{l} \forall x[p(x) \Rightarrow q(x)] \\ \forall x[q(x) \Rightarrow r(x)] \\ \neg r(a) \\ \hline \therefore \neg p(a) \end{array}$$

II)

$$\begin{array}{l} \forall x[p(x) \wedge q(x)] \\ \forall x[(\neg p(x) \wedge q(x)) \Rightarrow r(x)] \\ \hline \therefore \forall x[\neg r(x) \Rightarrow p(x)] \end{array}$$

III)

$$\begin{array}{l} \forall x[p(x) \Rightarrow (q(x) \wedge r(x))] \\ \forall x[p(x) \wedge s(x)] \\ \hline \therefore \forall x[r(x) \wedge s(x)] \end{array}$$

IV)

$$\begin{array}{l} \forall x[p(x) \vee q(x)] \\ \exists x \neg p(x) \\ \forall x[\neg q(x) \vee r(x)] \\ \forall x[s(x) \Rightarrow \neg r(x)] \\ \hline \therefore \exists x(\neg s(x)) \end{array}$$

Puebla, Pue., a 1 de septiembre de 2017