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Bài tập tương tự:

Lập bảng chân trị cho các biểu thức sau

a/ $B = [[(p \leftrightarrow \neg q) \vee (r \rightarrow \neg p)] \wedge (1 \leftrightarrow \neg r)] \rightarrow [(r \wedge \neg p) \leftrightarrow (q \rightarrow \neg r)]$

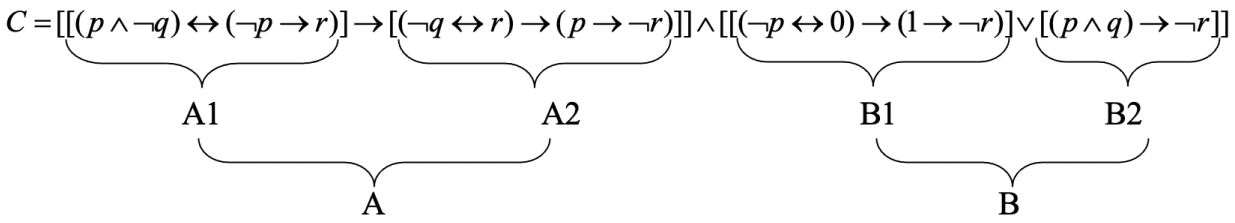
$$B = \underbrace{[\underbrace{[(p \leftrightarrow \neg q) \vee (r \rightarrow \neg p)]}_{A} \wedge (1 \leftrightarrow \neg r)]}_{C} \rightarrow \underbrace{[(r \wedge \neg p) \leftrightarrow (q \rightarrow \neg r)]}_{D}$$

Bảng chân trị:

p	q	r	$\neg p$	$\neg q$	$\neg r$	$(p \leftrightarrow \neg q)$	$(r \rightarrow \neg p)$	A	$(1 \leftrightarrow \neg r)$	C
0	0	0	1	1	1	0	1	1	1	1
0	0	1	1	1	0	0	1	1	0	0
0	1	0	1	0	1	1	1	1	1	1
0	1	1	1	0	0	1	1	1	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	1	0	1	0	1	0	1	0	0
1	1	0	0	0	1	0	1	1	1	1
1	1	1	0	0	0	0	0	0	0	0

$(r \wedge \neg p)$	$(q \rightarrow \neg r)$	D	B
0	1	0	0
1	1	1	1
0	1	0	0
1	0	0	1
0	1	0	0
0	1	0	1
0	1	0	0
0	0	1	1

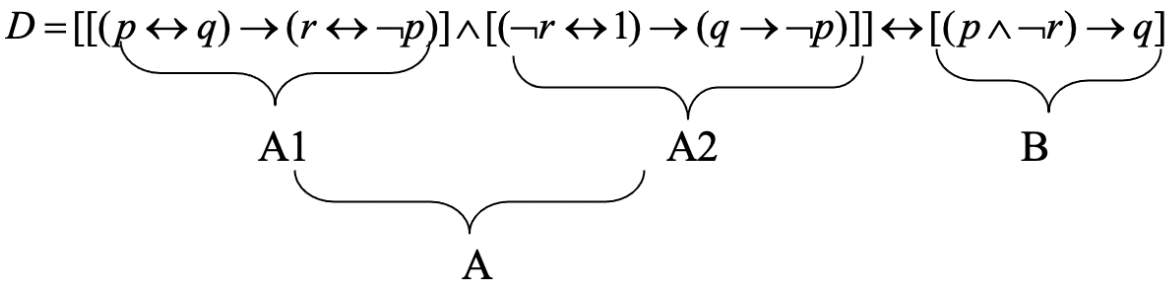
b/ $C = [[(p \wedge \neg q) \leftrightarrow (\neg p \rightarrow r)] \rightarrow [(\neg q \leftrightarrow r) \rightarrow (p \rightarrow \neg r)]] \wedge [[(\neg p \leftrightarrow 0) \rightarrow (1 \rightarrow \neg r)] \vee [(p \wedge q) \rightarrow \neg r]]$



p	q	r	$\neg p$	$\neg q$	$\neg r$	$(p \wedge \neg q)$	$(\neg p \rightarrow r)$	A1	$(\neg q \leftrightarrow r)$	$(p \rightarrow \neg r)$
0	0	0	1	1	1	0	0	1	0	1
0	0	1	1	1	0	0	1	0	1	1
0	1	0	1	0	1	0	0	1	1	1
0	1	1	1	0	0	0	1	0	0	1
1	0	0	0	1	1	1	1	1	0	1
1	0	1	0	1	0	1	1	1	1	0
1	1	0	0	0	1	0	1	0	1	1
1	1	1	0	0	0	0	1	0	0	0

A2	A	$(\neg p \leftrightarrow 0)$	$(1 \rightarrow \neg r)$	B1	$(p \wedge q)$	B2	B	C
1	1	0	1	1	0	1	1	1
1	1	0	0	1	0	1	1	1
1	1	0	1	1	0	1	1	1
1	1	0	0	1	0	1	1	1
1	1	1	1	1	0	1	1	1
0	0	1	0	0	0	1	1	0
1	1	1	1	1	1	1	1	1
1	1	1	0	0	1	0	0	0

c/ $D = [[(p \leftrightarrow q) \rightarrow (r \leftrightarrow \neg p)] \wedge [(\neg r \leftrightarrow 1) \rightarrow (q \rightarrow \neg p)]] \leftrightarrow [(p \wedge \neg r) \rightarrow q]$



A

p	q	r	$\neg p$	$\neg q$	$\neg r$	$(p \leftrightarrow q)$	$(r \leftrightarrow \neg p)$	A1	$(\neg r \leftrightarrow 1)$	$(q \rightarrow \neg p)$
0	0	0	1	1	1	1	0	0	1	1
0	0	1	1	1	0	1	1	1	0	1
0	1	0	1	0	1	0	0	1	1	1
0	1	1	1	0	0	0	1	1	0	1
1	0	0	0	1	1	0	1	1	1	1
1	0	1	0	1	0	0	0	1	0	1
1	1	0	0	0	1	1	1	1	1	0
1	1	1	0	0	0	1	0	0	0	0

A2	A	B	D
1	0	1	0
1	1	1	1
1	1	1	1
1	1	1	1
1	1	0	0
1	1	1	1
0	0	1	0
1	0	1	0

d/ $E = [[(p \leftrightarrow \neg r) \leftrightarrow (q \to r)] \to [(p \leftrightarrow q) \wedge (\neg r \to 0)]] \leftrightarrow [[(\neg r \to q) \wedge (\neg q \to p)] \to (r \leftrightarrow \neg p)]$

$$E = \underbrace{[[\underbrace{(p \leftrightarrow \neg r)}_{A1} \leftrightarrow (q \to r)]}_{A} \to [\underbrace{(p \leftrightarrow q)}_{A2} \wedge (\neg r \to 0)]] \leftrightarrow [[\underbrace{(\neg r \to q) \wedge (\neg q \to p)}_{B}] \to \underbrace{(r \leftrightarrow \neg p)}_{C}]$$

p	q	r	$\neg p$	$\neg q$	$\neg r$	$(p \leftrightarrow \neg r)$	$(q \to r)$	A1	$(p \leftrightarrow q)$	$(\neg r \to 0)$
0	0	0	1	1	1	0	1	0	1	0
0	0	1	1	1	0	1	1	1	1	1
0	1	0	1	0	1	0	0	1	0	0
0	1	1	1	0	0	1	1	1	0	1
1	0	0	0	1	1	1	1	1	0	0
1	0	1	0	1	0	0	1	0	0	1
1	1	0	0	0	1	1	0	0	1	0
1	1	1	0	0	0	0	1	0	1	1

A2	A	$(\neg r \to q)$	$(\neg q \to p)$	B	$(r \leftrightarrow \neg p)$	C	E
0	1	0	0	0	0	1	1
1	1	1	0	0	1	1	1
0	0	1	1	1	0	0	1
0	0	1	1	1	1	1	0
0	0	0	1	0	1	1	0
0	1	1	1	1	0	0	0
0	1	1	1	1	1	1	1
1	1	0	1	0	0	1	1

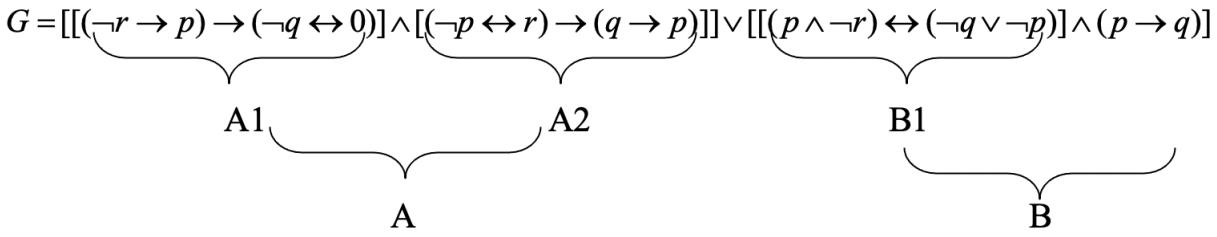
e/ $F = [[(p \wedge \neg q) \rightarrow (\neg r \vee q)] \vee [(\neg p \wedge r) \leftrightarrow (r \leftrightarrow q)]] \rightarrow [[(p \vee q) \wedge (p \leftrightarrow \neg r)] \rightarrow [(r \wedge \neg q) \leftrightarrow p]]$

$$F = \underbrace{[\underbrace{(p \wedge \neg q) \rightarrow (\neg r \vee q)}_{A1}] \vee [\underbrace{(\neg p \wedge r) \leftrightarrow (r \leftrightarrow q)}_{A2}]}_{A} \rightarrow [\underbrace{[(p \vee q) \wedge (p \leftrightarrow \neg r)]}_{B1} \rightarrow \underbrace{[(r \wedge \neg q) \leftrightarrow p]}_{B2}]_{B}$$

p	q	r	$\neg p$	$\neg q$	$\neg r$	$(p \wedge \neg q)$	$(\neg r \vee q)$	A1	$(\neg p \wedge r)$	$(r \leftrightarrow q)$
0	0	0	1	1	1	0	1	1	0	1
0	0	1	1	1	0	0	0	1	1	0
0	1	0	1	0	1	0	1	1	0	0
0	1	1	1	0	0	0	1	1	1	1
1	0	0	0	1	1	1	1	1	0	1
1	0	1	0	1	0	1	0	0	0	0
1	1	0	0	0	1	0	1	1	0	0
1	1	1	0	0	0	0	1	1	0	1

A2	A	$(p \vee q)$	$(p \leftrightarrow \neg r)$	B1	$(r \wedge \neg q)$	B	F
0	1	0	0	0	0	1	1
0	1	0	1	0	1	1	1
1	1	1	0	0	0	1	1
1	1	1	1	1	0	0	0
0	1	1	1	1	0	0	0
1	1	1	0	0	1	1	1
1	1	1	1	1	0	0	0
0	1	1	0	0	0	1	1

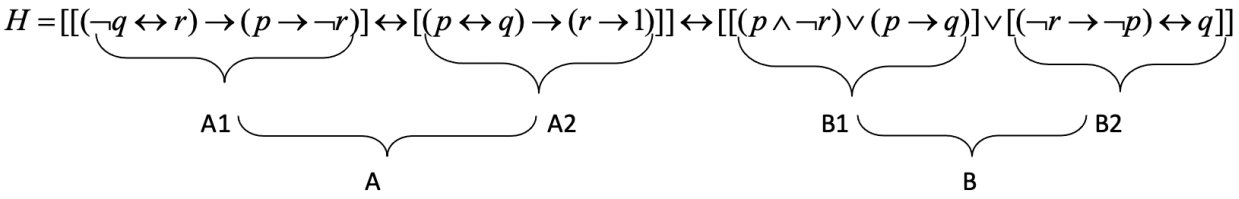
f/ $G = [[(\neg r \to p) \to (\neg q \leftrightarrow 0)] \wedge [(\neg p \leftrightarrow r) \to (q \to p)]] \vee [[(p \wedge \neg r) \leftrightarrow (\neg q \vee \neg p)] \wedge (p \to q)]$



						A				B
p	q	r	$\neg p$	$\neg q$	$\neg r$	$(\neg r \to p)$	$(\neg q \leftrightarrow 0)$	A1	$(\neg p \leftrightarrow r)$	$(q \to p)$
0	0	0	1	1	1	0	0	1	0	1
0	0	1	1	1	0	1	0	0	1	1
0	1	0	1	0	1	0	1	1	0	0
0	1	1	1	0	0	1	1	1	1	0
1	0	0	0	1	1	1	0	0	1	1
1	0	1	0	1	0	1	0	0	0	1
1	1	0	0	0	1	1	1	1	1	1
1	1	1	0	0	0	1	1	1	0	1

A2	A	$(p \wedge \neg r)$	$(\neg q \vee \neg p)$	B1	$(p \to q)$	B	G
1	1	0	1	0	1	0	1
1	0	0	1	0	1	0	0
1	1	0	1	0	1	0	1
0	0	0	1	0	1	0	0
1	0	1	1	1	0	0	0
1	0	0	1	0	0	0	0
1	1	1	0	0	1	0	1
1	1	0	0	1	1	1	1

g/ $H = [[(\neg q \leftrightarrow r) \rightarrow (p \rightarrow \neg r)] \leftrightarrow [(p \leftrightarrow q) \rightarrow (r \rightarrow 1)]] \leftrightarrow [[(p \wedge \neg r) \vee (p \rightarrow q)] \vee [(\neg r \rightarrow \neg p) \leftrightarrow q]]$



						A				B
p	q	r	$\neg p$	$\neg q$	$\neg r$	$(\neg q \leftrightarrow r)$	$(p \rightarrow \neg r)$	A1	$(p \leftrightarrow q)$	$(r \rightarrow 1)$
0	0	0	1	1	1	0	1	1	1	1
0	0	1	1	1	0	1	1	1	1	1
0	1	0	1	0	1	1	1	1	0	1
0	1	1	1	0	0	0	1	1	0	1
1	0	0	0	1	1	0	1	1	0	1
1	0	1	0	1	0	1	0	0	0	1
1	1	0	0	0	1	1	1	1	1	1
1	1	1	0	0	0	0	0	1	1	1

A2	A	$(p \wedge \neg r)$	$(p \rightarrow q)$	B1	$(\neg r \rightarrow \neg p)$	B2	B	H
1	1	0	1	1	1	0	1	1
1	1	0	1	1	1	0	1	1
1	1	0	1	1	1	1	1	1
1	1	0	1	1	1	1	1	1
1	1	1	0	1	0	1	1	1
1	0	0	0	0	1	0	0	1
1	1	1	1	1	0	0	1	1
1	1	0	1	1	1	1	1	1