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B.A III (H)
4th paper

(11) Use truth tables to determine the validity or invalidity of each of the following argument forms:

(1) $p \cdot q$
$\therefore p$

(2) p
$\therefore p \cdot q$

(3) $p \vee q$
$\therefore p$

(4) p
$\therefore p \vee q$

(5) p
$\therefore p \supset q$

(6) p
$\therefore q \supset p$

(7) $p \supset q$
$\therefore \sim q \supset \sim p$

(8) $p \supset q$
$\therefore \sim q \supset \sim p$

(9) $p \supset (r \cdot q)$
$\therefore \sim p \supset \sim (q \cdot r)$

(10) $p \vee q$
p
$\therefore \sim q$

(11) p
q
$\therefore p \cdot q$

$a \wedge b \therefore$

(11) $(a \subset c) \cdot (b \subset d)$

$a \wedge d \therefore$

$(a \wedge b) \subset (c \wedge d)$ (9)

$a \wedge b \therefore$

$a \subset d \therefore$

$(a \subset c) \cdot (b \subset d)$ (10)

$(a \sim b) \sim \therefore$

$(a \wedge d) \sim (b \wedge c)$ (12)

$(a \cdot d) \subset (b \wedge c)$

$(a \cdot b) \wedge d \therefore$

$(a \sim b) \sim \therefore$

d

$(a \cdot b) \wedge d$ (13)

$a \subset d \therefore$

$b \subset d$

$(a \subset b) \subset d$ (14)

$b \therefore$

$b \wedge d$

$b \subset d$ (15)

$b \wedge d \therefore$

$d \subset b$

$b \subset d$ (16)

$(a \subset c) \cdot (b \subset d)$ (17)

$a \sim b \therefore$

$a \sim c \therefore$

$c \sim d \therefore$

$(a \subset c) \cdot (b \subset d)$