

School of Law, Kanazawa University
Special Lecture on Jurisprudence, Midterm Examination
11 May 2017, Hidehiko ADACHI

1. Translate these English sentences into wff. (3 points)

- (a) Either both A and B or C.
- (b) If A, then B or C.
- (c) If A then B, or C

2. Calculate each truth value. (3 points)

- (a) $(0 \cdot 1)$
- (b) (~ 0)
- (c) $(1 \supset 0)$

3. Do a truth table for each formula. (4 points)

- (a) $(\sim P \cdot Q)$
- (b) $((P \cdot \sim Q) \supset R)$

4. Prove each of these arguments to be valid or invalid. (20 points)

(a)

$$\begin{aligned} & (A \supset B) \\ & (\sim A \supset B) \\ \therefore & B \end{aligned}$$

(b)

$$\begin{aligned} & ((A \supset (B \supset C)) \\ \therefore & ((A \cdot B) \supset C) \end{aligned}$$

(c)

$$\begin{aligned} & (A \supset B) \\ & (C \supset B) \\ \therefore & (A \supset C) \end{aligned}$$

(d)

$$\begin{aligned} & (A \equiv B) \\ & (C \supset B) \\ & \sim (C \cdot D) \\ & D \\ \therefore & \sim A \end{aligned}$$

(e)

$$\begin{aligned} & (A \supset B) \\ & (A \vee (A \cdot C)) \\ \therefore & (A \cdot B) \end{aligned}$$