Philosophy 201
Dr. C. Klatt
Test # 2 Practice

Answer the following questions in the space provided. If you need extra space, use the page at the end. This test has four sections and is worth a total of 50 marks. Time limit: 90 mins.

Section I: Translations (7 x 3 = 21 marks)

Use the abbreviations given to translate the following English sentences into symbolic logic.

R = John will get a raise.
W = John works hard.
I = John insults his boss.
P = John will be promoted.
C = John is complemented on his work.

1) John will get a raise if he works hard and doesn't insult his boss.

2) John will insult his boss only if he is neither promoted nor complimented on his work.

3) John will not get both a raise and a promotion unless he works hard.

4) If John works hard then he with either get promoted or get a raise, provided he does not insult his boss.

5) John will get promoted whenever he is complemented on his work but he will not get a raise unless he works hard.

6) John will either get a raise or be promoted if he works hard and doesn't insult his boss; although he will not be complemented on his work.

7) Unless John works hard and doesn't insult his boss, he will not get a raise and will not be complemented on his work.

Section II: Short Answer

1) Use a truth table to show that the argument form disjunctive syllogism is valid. (3 marks)

2) Determine the truth value of the following sentence when A and B are true, X and Y are false, and S and P have undetermined values. (3 marks)

(A & ~Y) & ~((X -> P) v (S -> (B -> P)))

3) Use the abbreviations in Section I to give three different English sentences that would be translated as the following:

W & ~P

Section III: Long or Partial Truth Table (10 marks)

Use a long or partial truth table to determine if the following argument is valid or invalid. NOTE: Do not use the short truth table method.

A	B	C	D	(A v D) -> (B v C)	~(A & C)	(A & D) -> ~(B v D)

Section IV: Short Truth Table (10 marks)

Use short truth table to determine if the following argument is valid or invalid.

(P v ~S) -> ~R / S -> (~Y & W) // (P v Q) -> ~(R & Y)

-- End of Test 2 –

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Section I: Translations (7 x 3 = 21 marks)

Use the abbreviations given to translate the following English sentences into symbolic logic.

R = John will get a raise. P = John will be promoted.
W = John works hard. C = John is complemented on his work.
I = John insults his boss.

1) John will get a raise if he works hard and doesn't insult his boss.

(W & ~I) -> R

2) John will insult his boss only if he is neither promoted nor complimented on his work.

I -> ~(P v C)
I -> (~P & ~C)

3) John will not get both a raise and a promotion unless he works hard.

~(R & P) v W or ~W -> ~ (R & P)
(~R v ~P) v W or ~W -> (~R v ~P)

4) If John works hard then he with either get promoted or get a raise, provided he does not insult his boss.

~I -> (W -> (P v R))

5) John will get promoted whenever he is complemented on his work but he will not get a raise unless he works hard.

(C -> P) & (~R v W)
(C -> P) & (~W -> ~R)

6) John will either get a raise or be promoted if he works hard and doesn't insult his boss; although he will not be complemented on his work.

((W & ~I) -> (R v P)) & ~C

7) Unless John works hard and doesn't insult his boss, he will not get a raise and will not be complemented on his work.

(~R & ~C) v (W & ~I)
~(W & ~I) -> (~R & ~C)

Section II: Short Answer

1) Use a truth table to show that the argument form disjunctive syllogism is valid. (3 marks)

P	Q	P v Q	~P	Q
T	T	T	F	T
T	F	T	F	F
F	T	T	T	T
F	F	F	T	F

There are no rows with all true premises and a false conclusion, so the argument is valid.

2) Determine the truth value of the following sentence when A and B are true, X and Y are false, and S and P have undetermined values. (3 marks)

(A & ~Y) & ~((X -> P) v (S -> (B -> P)))
T F F ? ? T ?
T T ?
T ?
T
F
F

3) Use the abbreviations in Section I to give three different English sentences that would be translated as the following:

W & ~P

John works hard **and** he will not get promoted.
John works hard **but** he will not get promoted.
John works hard **although** he will not get promoted.

Section III: Long or Partial Truth Table (10 marks)

Use a long or partial truth table to determine if the following argument is valid or invalid. NOTE: Do not use the short truth table method.

A	B	C	D	(A v D) -> (B v C)	~(A & C)	(A & D) -> ~(B v D)
T	T	T	T	T	F	F
T	T	T	F	T	F	T
T	T	F	T	T	T	F
T	T	F	F	T	T	T
T	F	T	T	T	F	F
T	F	T	F	T	F	T
T	F	F	T	F	T	F
T	F	F	F	F	T	T
F	T	T	T	T	T	T
F	T	T	F	T	T	T
F	T	F	T	T	T	T
F	T	F	F	T	T	T
F	F	T	T	T	T	T
F	F	T	F	T	T	T
F	F	F	T	F	T	T
F	F	F	F	F	T	T

Invalid by line 3.

Section IV: Short Truth Table (10 marks)

Use short truth table to determine if the following argument is valid or invalid.

(P v ~S) -> ~R / S -> (~Y & W) // (P v Q) -> ~(R & Y)

T F T T

T F F T T

F F T

T F

F T F

2. S = F 1. R = T, Y = T

Cannot make all the premises true and the conclusion false, so the argument is VALID.

-- End of Test 2 –