Answer Keys

Problem Set 1: PHIL 1068 Elementary Logic: **Due 4:00PM 28 January 2011**

	1	(Chun		
Student ID Num	ber Na	ame		-	
	se? Circle 'T' if the s estion, you should ass			the statemer	et is false.
	Be careful Yoda!" is a he conclusion of a validation and argument is not some sound arguments where $(A\&B)$ " is the main connect of the entry of the expression of the expres	statement. Id argument ound, then to have false of " $\sim \sim$ true, " $(D \vee \omega)$ " then φ ople reason. In a exactly a exically amb ession of SL or a conjunct of $(\sim P\&Q)$ of a tleast on	must be true. hat argument is no onclusions. $(D \leftrightarrow \sim A)$ ". A)" is also true. A contains a two-plants as two-plants as two-plants. A is a contains a two-plants as A is a contains. A contains a two-plants as A is a contains. A contains a two-plants as A is a contains. A contains a two-plants as A is a contains a two-plants.	ace connecti	ve. Mark
		- -		/15	
Circle "Yes Yes No	Which of the followings" if it is a valid argued Some birds cannot fl. So, not all birds can	ment. Circle ly. both fly and	"No" if it is not a	ı valid argun	nent.
Yes (No)	He wants to be rich. Every rich person is So, he wants to be u	unhappy.			
Yes No	English is not widely English is widely spo Therefore, English is	oken in Jaka	rta.		
Yes No	If Plato knew Picass Socrates never smile Therefore, either Pla	d.		2	Marks each
Yes (No)	If red is a color, then	n red is a co	lor.		
				/10	

3. (4 marks) Which of the following five expressions is not a WFF of SL?

$$(A \to B)$$

$$(((A \leftrightarrow A) \leftrightarrow ((\sim B \lor A) \lor \sim (B \leftarrow D)))$$

$$((A \& B) \& \sim A)$$

$$((\sim B)$$

/4

4. (16 marks)

Fill in the blanks with an SL WFF to make correct truth tables. Each WFF must contain exactly three two-place connectives.

	Q	R	P	(MRSP) & (~QVR))
	T	Τ	Т	F
	T	Т	F	Т
	Т	F	T	F
a.	Τ	F	F	F
	F	T	T	F
	F	T	F	T
	F	F	T	T
	F	F	F	T

	P	Q	R	((RV~P) V (RV~P))
	T	Т	Т	T
	T	Т	F	F
h	Т	F	Т	T
b.	Т	F	F	F
	F	Т	T	T
	F	Т	F	T
	F	F	Т	T
	F	F	F	T

	P	Q	((~P& ~Q)&(~P& ~Q))
	T	T	F
c.	Т	F	F
	F	T	F
	F	F	Т

1	В	((NBENB) & (NBB	~B))
a.	T	F	
	F	T]

/16 Each

5. (15 marks) Make a correct truth table for each of the following WFFs of SL.

a.
$$((A\&B) \leftrightarrow A_3)$$

AB	A 3	C(A&B) () Az)
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b.	$(\sim \sim$	$B \vee 0$	(A)	\longrightarrow	$\sim D))$
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estatura est	THE SEASON SEASO

c. $((B \lor A) \to (A\& \sim D))$

()	/	//	
13 1	A 1	D 1	$((BVA) \rightarrow (A\&\sim U))$
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d. $((B \lor \sim A) \leftrightarrow \sim (\sim B \& A))$

1. ((2))	(= 301-))
13	I A	((B √A) ← ~ (~ B&A))
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e. $((B \leftrightarrow \sim B) \rightarrow \sim B)$

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3 marks each