AAAAAAAAAAAAAAAAAAAAA

CS/IS F214 - Logic in Computer Science

Quiz-1

15 Marks **Duration- 20 Min** **22/Aug/2013**

Note: Evaluation will be binary, i.e., No partial marking will be done.

Question-1:

Following are the symbols for the proposition used in the premises.

E – I can sleep early
C – I can complete writing the program
G – I get the logic
K – My friend knows the logic
H – My friend wants to help me.
L – My friend Calls me

Represent the following premises in the logic notation **(3 x 1 = 3M)**

Premise#	Premise	In Logic notations
1	I cannot sleep early if I cannot complete writing the program.	
2	I cannot complete the program, if I do not get the logic.	
3	If my friend calls me then he knows the logic and he wants to help.	L → K & H
4	If I get the logic, then I got his call.	
5	I slept early.	E

Let us suppose that you have to prove the conclusion, 'My Friend wants to help me' from the above premises. Fill the missing steps in the following proof (including explanations). **(3 x 2 = 6M)**

#	Deductions	Explanation
6	C	MT on 5, 1
7		
8		
9		
10	H (My Friend is reliable- Conclusion)	&e on 9

Question-2 :

Complete the following proof (including explanations) for the sequent: P&Q ⊢ R → (P & R) **(3 x 2 = 6M)**

#	Deductions	Explanation
1	P &Q	Premise
2	R	Assumption
3		
4		
5		

AAAAAAAAAAAAAAAAAAAAA