

# INFSCI 2935 Introduction to Computer Security

## Homework 1

Due Date: September 18, 2003

### Part 1 (Points: 25)

Do the following problems from Chapter 1, Section 1.12 :

1, 5, 6, 9, 21

### Part 2 (Points: 25)

Do the following problems from Chapter 2, Section 2.8:

1, 3, 4, 5, 6

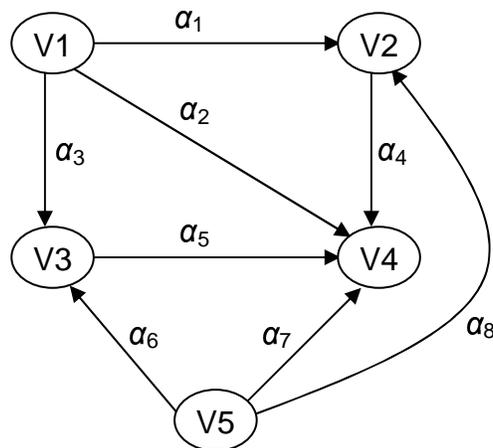
### Part 3 (Points: 25, 5, 10, 10)

(a) (i) Do the following problems from Chapter 3, Section 3.9:

1, 4, 5

(ii) Prove Lemma 3.2.

(b) (i) Reconstruct the following graph using the graph reconstruction technique used in the proof of theorem 3-11. Show transformed graphs for each of the three steps and label edges appropriately.



(ii) Consider graphs G1 and G2, which are modifications to the graph of Figure 3-4 in the book. For each graph, compute the

1. Access set,
2. Delete set,
3. Conspiracy graph,
4. Conspirators set and
5. Witness

to the theft of right  $r$  by  $x$  and  $a_1$ . If the stealing is not possible, give reasons.

