EEN 220
LOGIC
DESIGN

FALL 2002
FINAL EXAM
2 HOURS

NDU
EE& CCE DEPARTMENT
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NOTE1: OPEN BOOK, CLOSED NOTES.
NOTE2: SHOW ALL WORK IN ORDER TO RECEIVE FULL CREDIT
NOTE3: START EACH PROBLEM ON A NEW PAGE.

1. 20 pt. Reduce the following table to a minimum number of states.

	XY = 00	01	11	10	Z
a	b	i	c	g	0
b	b	c	f	g	0
c	h	d	d	f	1
d	h	c	e	g	1
e	b	c	i	g	0
f	f	i	f	k	0
g	j	k	g	h	0
h	e	f	c	g	0
i	i	i	i	d	0
j	b	f	c	g	0
k	a	c	e	g	1

2. 20 pt. A sequential network has one input and one output. The output becomes 1 and remains 1 thereafter when at least two 0's and at least two 1's have occurred as inputs, regardless of the order of occurrence. Draw a state graph (Mealy type) for the network (9 states are sufficient). Your final state graph should be neatly drawn with no crossed lines.