NAME:

BRONX COMMUNITY COLLEGE
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DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

CSI35 Section D02 **Sample Quiz 2**

Instructions

Solve all problems and mark your answers clearly. Show all work, using additional paper if needed.

1. Let $S = \{a, b, c, d, e\}$ and let $A_1 = \{a, b\}, A_2 = \{c, d\}, A_3 = \{e\}$ be a partition of S. Write the $0 - 1$ matrix for the relation on S which gives $\{A_1, A_2, A_3\}$ as equivalence classes.

2. Construct the Hasse diagram showing the set-inclusion poset for the set $\{a, b, c, d\}$ and all its subsets of odd cardinality (i.e., of size 3 or size 1). Identify any maximal elements, minimal elements, and any greatest or least elements.

3. Write the $0 - 1$ matrix for the relation R on $A = \{1, 2, 3, 4, 5\}$, given by $R = \{(x, y) \in A \times A || x - y| < 3\}$.
   Is R an equivalence relation? Why or why not?

4. Write the join for these two tables...
   This question is replaced, as announced in class, with one asking to give a representation of the composition of two relations, the first from a set A to a set B and the second from B to a set C. Related information may be asked for.