Assignment question

1) explain what is set with its types and example

2) explain various set operation with example

3) explain graph with all types and examples

4) explain isomorphism graph

5) aman travelled from the village to the post-office at the rate of 25 kmph and walked back at the rate of 4 kmph. If the whole journey took 5 hours 48 minutes, find the distance of post office from the village.

6) explain inverse of matrix with examples of 2*2 and 3*3 matrix denote each step.

7) explain what is relation and types of relation with example

8) explain probability with its example

9)expain degree of vertices and types?

10) explain equivalence relation with example

11) explain properties of relation.

12)

Consider the following relations on $\{1, 2, 3, 4\}$:

$$R_1 = \{(1, 1), (1, 2), (2, 1), (2, 2), (3, 4), (4, 1), (4, 4)\},$$
$$R_2 = \{(1, 1), (1, 2), (2, 1)\},$$
$$R_3 = \{(1, 1), (1, 2), (1, 4), (2, 1), (2, 2), (3, 3), (4, 1), (4, 4)\},$$
$$R_4 = \{(2, 1), (3, 1), (3, 2), (4, 1), (4, 2), (4, 3)\},$$
$$R_5 = \{(1, 1), (1, 2), (1, 3), (1, 4), (2, 2), (2, 3), (2, 4), (3, 3), (3, 4), (4, 4)\},$$
$$R_6 = \{(3, 4)\}.$$

Check above relation for reflexive, irreflexive, symmetric, antisymmetric, asymmetric, and transitive and equivalence relation.