



Solution

COMSATS University Islamabad
Department of Computer Science
Quiz 2 [CLO-2] [Marks 10] [Discrete Structures]

Class: BS

Name: _____

Date: _____

Registration # _____

1. In the back of an old cupboard you discover a note signed by a pirate famous for his bizarre sense of humor and love of logical puzzles. In the note he wrote that he had hidden treasure somewhere on the property. He listed five true statements (a–e below) and challenged the reader to use them to figure out the location of the treasure.

- a. If this house is next to a lake, then the treasure is not in the kitchen. P
- b. If the tree in the front yard is an elm, then the treasure is in the kitchen. Q
- c. This house is next to a lake.
- d. The tree in the front yard is an elm or the treasure is buried under the flagpole. S
- e. If the tree in the back yard is an oak, then the treasure is in the garage. T

Find where is the treasure hidden?

$P \rightarrow \neg Q$

$R \rightarrow Q$

P

$R \vee S \rightarrow (4)$