Transportation Problem.

The transportation problem is a special type of linear programming problem where the objetive consists in minimizing transportation cost of a given commodity from a number of sources or origins (e.g. factory, manufacturing facility) to a number of destinations (e.g. warehouse, store)

Assignment-

It consists of assigning a specific (person or worker) to a specific (task or job) assuming that there are the number of persons equal to the number of tasks available.

Difference between Assignment And Transportation-

The Transportation and Assignment problems deal with assigning sources and jobs to destinations and machines.

The constraints are the ones imposed by the number of cars to be transported from each plant and the number each center can absorb.

An assignment problem can be viewed as a special case of a transportation problem. In a transportation model, sources and destinations are present;

In an assignment model, there are facilities, and jobs which have to be assigned to those facilities. Unlike a transportation model, in an assignment model, number of facilities (sources) is equal to number of jobs (destinations).

However, the transportation algorithm is not useful while dealing with assignment problems. In an assignment problem, when an assignment is

made, the row as well as column requirements are satisfied simultaneously, resulting in degeneracy. This occurs since only one assignment is allowed per row and column.

Thus, the assignment model is a completely degenerate form of the transportation model.