EE432 **22-07-2019**

Optimal Skill Mix:

An electronics firm manufactures printed circuit boards and specialized electronics devices. Final assembly operations are completed by a small group of trained workers who labor simultaneously on the products. Because of limited space available in the plant, no more than ten assemblers can be employed. The standard operating budget in this functional department allows a maximum of $9000 per month as salaries for the workers. The existing wage structure in the community requires that workers with two or more years of experience receive $1100 per month, while recent trade-school graduates will work for only $800. There are also the following government in force – a limit on veteran-drop and that on an accommodate-neophyte policies. The policies say that the manufacturing unit shall have at least 20% reserved for veterans as well as for neophytes. The production manager is not comfortable having more than 7 neophytes and less than 3 veterans. Previous studies have shown that experienced assemblers produce $2100 in ‘‘value added" per month while new-hires add only $1800. In order to maximize the value added by the group, how many persons from each group should be employed? Solve graphically and carryout sensitivity analysis.

Modeling Phase:

An electronics firm manufactures printed circuit boards **and** specialized electronics devices. Final assembly operations are completed by a small group of trained workers who labor simultaneously on the products.

Because of limited space available in the plant, no more then **ten** assemblers can be employed.

The standard operating budget in this functional department allows a maximum of $9000 per month as salaries for the workers.

The existing wage structure in the community requires that workers with two or more years of experience receive $1000 per month,

while recent trade-school graduates will work for only $800.

Previous studies have shown that experienced assemblers produce $2000 in ‘‘value added" per month while new-hires add only $1800.

In order to maximize the **value added** by the group, how many persons from each group should be employed?

Solve graphically and by the simplex method.