IENG301 LABORATORY 3

Exercise: Analysis –Application of Charts and Diagrams for Method Study
Man/Machine Chart

Objectives: 1. To study an existing process or a job: recording all the tasks or events that occur during their performance with the help of Activity Chart.

2. To analyse the process: suggestions for the improved method.

3. To suggest the proposed method of doing the job or process: recording the tasks or events of the method with the help of Flow Process Chart, Assembly Process Chart, and Flow Diagram.

4. To compare between the existing and the proposed methods: productivity improvement.

Preliminary Information:

Activity Chart is a breakdown of the processes or of a series of operations plotted against a time scale. The activity chart is of special value for analyzing maintenance work, jobs involving

Example:

The management of cafeteria uses a lift (elevator) to carry the food from the kitchen to the dining hall. Once the lift reaches the dining hall, it is emptied by hand trolleys. The management wishes to have a supply of food at the dining hall at all times. Furthermore, they want to have sufficient laborers available with service trolleys to eliminate the possibility of the lift staying idle once the unloading begins.

The following data is available:

Lift	**Time (min)**
Travel from kitchen to hall	6
Travel from hall to kitchen	6
Load at kitchen	4
Unload at hall	4

Laborer with trolley	**Time (min)**
Load trolley	1
Unload trolley	1
Travel to service area	2
Travel back to lift	1

Determine the minimum number of lifts and laborers with trolleys to meet the management objective.

Assignment:

A company is constructing a parking lot for which dump trucks and a power shovel are the primary equipment being used. Time studies reveal the following average times:

Activity	Time(minutes)
Time to load a truck	7.50
Travel time to dump point	9.00
Dumping time	2.00
Return time	7.00

Show, with an activity chart, what is the maximum number of trucks needed to remove dirt, if no idle time for trucks is required.