IE223L Workstudy and Methods Engineering

Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Program: BS Industrial Engineering

## Lab 06: To draw the flow process chart of the part produced

## Apparatus:

1. Lathe M/C
2. Raw material

## Theory:

## Flow Process Chart

A flow process chart is a graphical representation of the sequence of all the activities (operation, inspection, transport, delay and storage) taking place in a process. Process chart symbols are used here to represent the activities

There are three types of flow process charts. They are:

## 1. Man type flow process chart

This flow process chart records what the worker does

## 2. Material type flow process chart

This flow process chart records how the material is handled or treated

## 3. Equipment type flow process chart

This flow process chart records how the equipment or machine is used.

The activities of a stenographer in preparation of a letter are recorded in the operator type flow

process chart shown in figure

1. The details must be obtained by direct observation charts must not be based on memory

2 All the facts must be correctly recorded.

3. No assumptions should be made.

4. Make it easy for future reference.

All charts must have the following details:

(a) Name of the product, material or equipment that is observed.

(b) Starting point and ending point

(c) The location where the activities take place

(d) The chart reference number, sheet number and number of total sheets.

(e) Key to the symbols used must be stated

## Two-Handed Process Chart (or) Right-Hand, Left-Hand Chart

* It is the process chart in which the activities of two hands of the operator are recorded
* It shows whether the two hands of the operator are idle or moving in relation to one another, in a timescale.
* It is generally used for repetitive operations

## Operation:

Represents the activities grasp, position, use, release etc. Of tool, component or material

## Transport:

Represents the movement of the hand or limb to or from the work or a tool or material

## Delay:

Refers to the time when the hand or limb is idle

## Storage (Hold):

The term hold is used here instead of storage. This refers to the time when the work is held by

Hand. The activity inspection by hand is considered as an operation. Hence, the symbol for inspection is not used in this chart.

Two-handed process chart can be used for assembly, machining and clerical jobs.

General guidelines for preparing the chart

1. Provide all information about the job in the chart.

2. Study the operation cycles a few times before starting to record

3. Record one hand at a time.

4. First record the activities of the hand which starts the work first

5. Do not combine the different activities like operations, transport etc.

## Example

Example of a two-handed process chart is shown in figure 2 Here the assembly of a nut and washer over a bolt is recorded. The work place layout is shown in the right-hand corner. The activities of left hand are recorded at left half of the chart. The activities of the right hand are recorded at the right hall of the chart The horizontal lines represent the time scale. Activities of left hand and right hand shown in the same line occur at the same movement. Summary of the number of each activity can be tabulated at the bottom of the chart. The chart is first drawn for the existing method This chart is analyzed and if it is found that one hand is over loaded than the other modification is done in the layout of the workplace or in the sequence of activities. Then a new chart is made for the proposed cycle.

## Objective:

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**Procedure**

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**Observations**

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| **Sr #** | **Activities** | **Distance** | **Time** | **Symbols** | **Remarks** |
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**Comments**

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