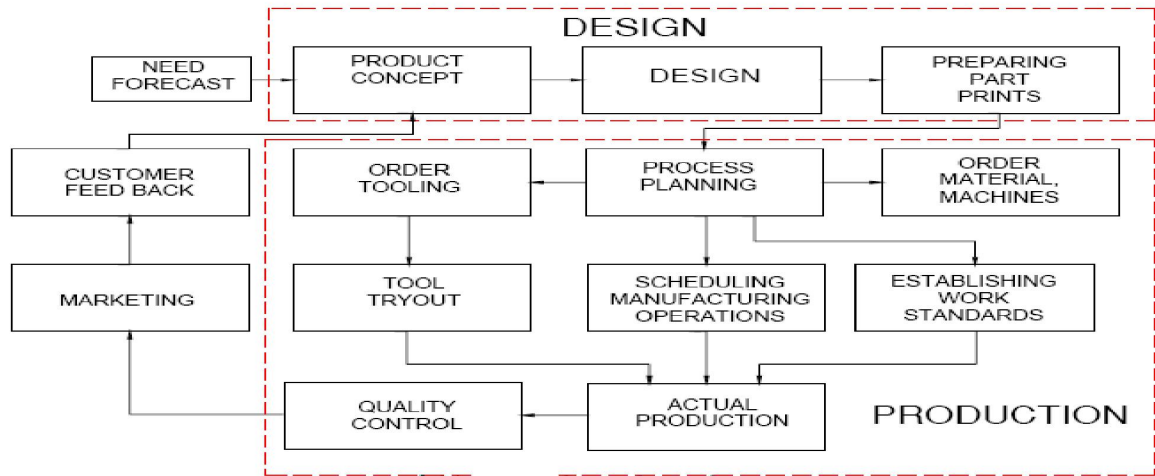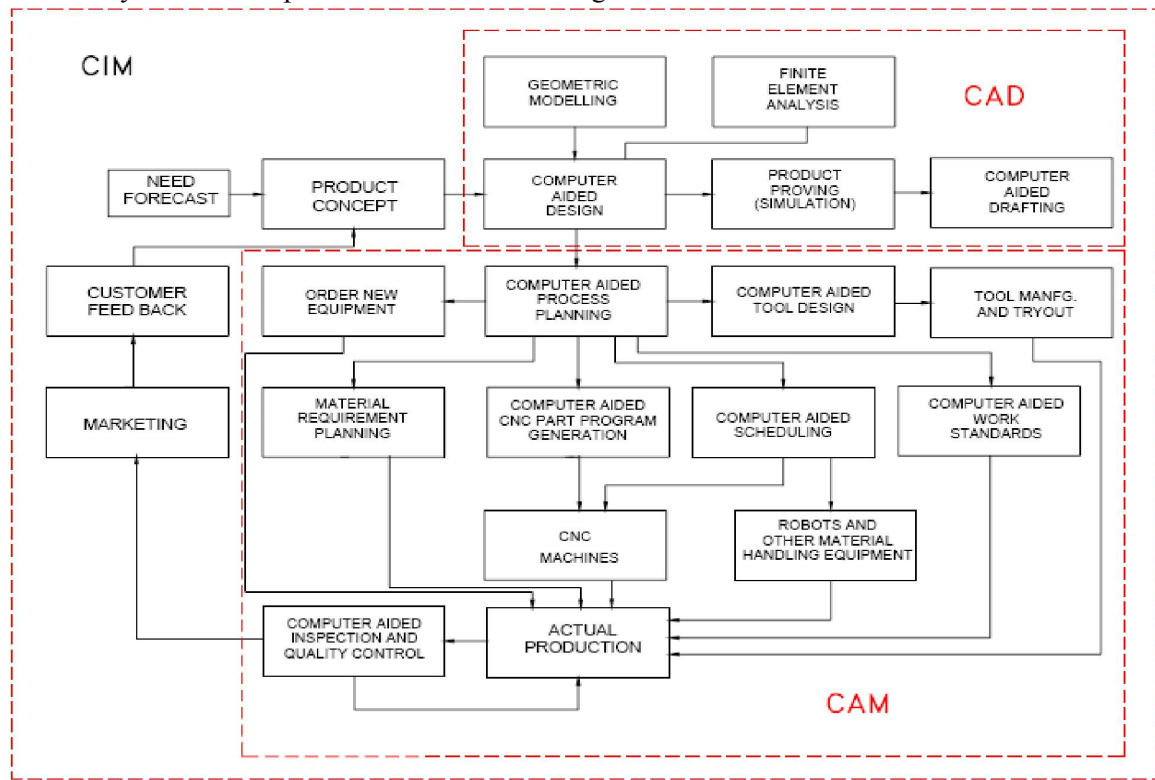# UNIT III
COMPUTER AIDED MANUFACTURING

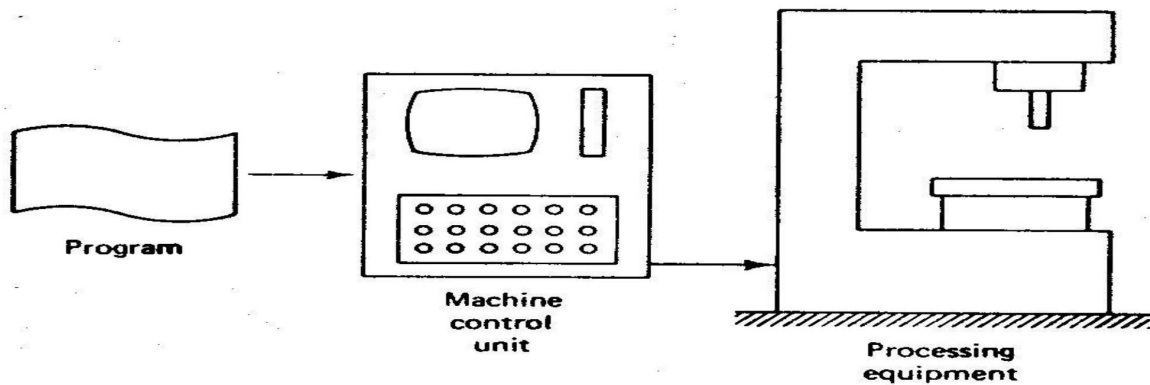Product cycle of a traditional Manufacturing system

Product cycle in a Computer Aided Manufacturing Environment

Benefits of CAM:
- Flexibility in design
- Increased Productivity
- High operating Flexibility
- Minimized Maintenance
- Less lead time
- Better Management control
- Less Scrap
- No Rework

NC SYSTEM:
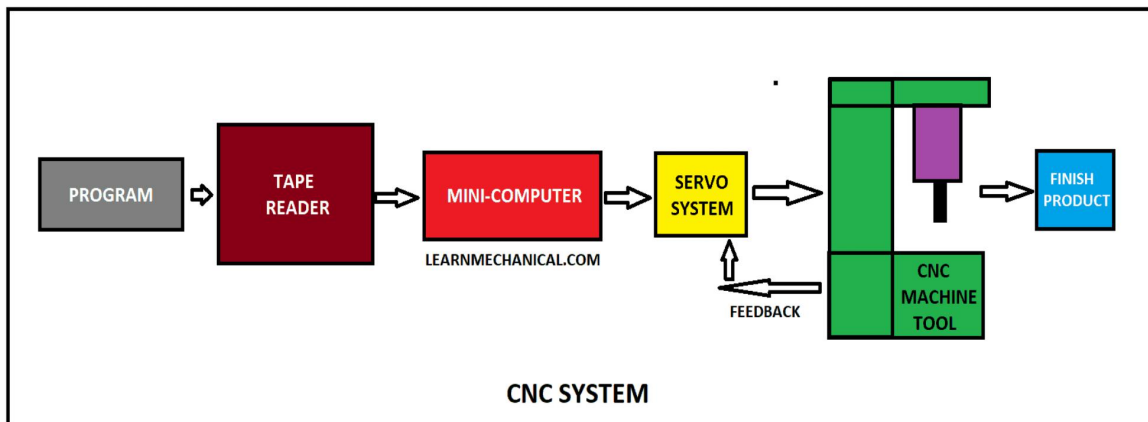

FIGURE 8.1   Basic components of an NC system.

Basic components:
Program
Machine control unit
Machine tool
CNC SYSTEM:

Components of cnc system
- Tape reader
- 2) Mini or micro computer
- 3) Computer hardware and Servo system
- 4)Machine tool
- Tape reader:
  The main purpose of tape reader is to read the part program instructions from tape reader once and loading the part program in to mini or micro computer
  Mini or micro computer:
  It is the important unit of CNC SYSTEM.
  It replaces MCU and its functions is to store part program from punched tape and store in memory
  Its converts part program instructions in to action of machine tool
- Computer hardware and servo system:
  Its function is to convert part program instructions in to mechanical motions
- Its function is to perform useful work on the work piece and finally made finished product
   Machine tool:

Advantages:
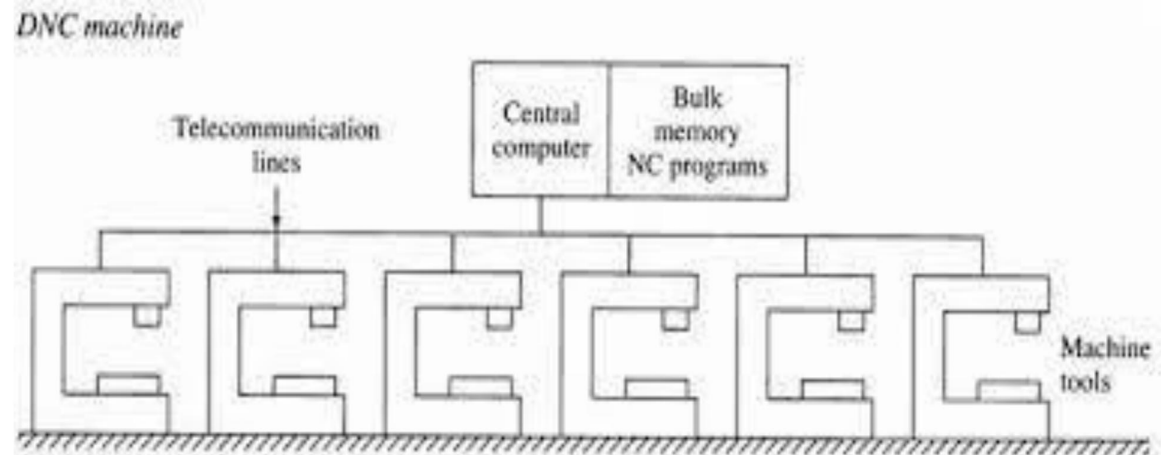   Part program and tape reader used once.
   memory storage to store data
   program can be used repeatedly because stored in memory
   modifications and design changes can be done easily
   more flexible

DNC SYSTEM:

Components of DNC system:
Central computer
Bulk memory program
Telecommunication lines
Machine tools