

SYLLABUS FOR CNC OPERATION & PROGRAMMING.

Module-1

Introduction to Computer Numerical Control (CNC)

- Numerical control
- Functions of a machine tool
- Concept of numerical control
- Historical Development
- Definition
- Advantages of CNC machine tools
- Evolution of CNC
- Advantages of CNC
- Limitations of CNC
- Features of CNC
- The Machine Control Unit (MCU) for CNC
- Classification of CNC Machine Tools
- CNC MACHINING CENTERS
 - Classification
 - Features Of CNC Machining Centers

Module-2

Blue print reading

- Reading the machining sketches
- Different Geometrical Tolerance symbols.
- Reading Dimensional Tolerances.
- Understanding the Views.
- Concept of First angle & Third angle projection.

Module-3

Auto CAD basic (ACAD-01)

- Sketching Points line, Circles & Arcs.
- Simple exercises based on above.
- Isometric Views.
- Splines & poly lines
- Identifying the points in given drawing.

Module-4

Conventional milling Awareness

- Introduction to milling machine & its parts.
- Different operations of milling.
 - Plain milling
 - Step milling
 - Slot milling
 - Pocket milling
 - Co-ordinate drilling
 - Job setting in vice by dialing
 - Job setting on bed with clamps
- Knowledge of different cutting tool materials used
- Selecting speed feeds & depth of cut
- Indexing(simple & compounding)

Module-5

CNC Milling- Basic

- Fundamentals of CNC milling
- Familiarization of control panel
- Fundamentals of CNC programming
- Part programming techniques
- Machining practice on CNC Milling
- Practice session at Industry

Module-6

CNC Turning.

- Work piece setting methods
- Tool setting methods
- Practice on CNC Turning.
- Exercises on machine & Practice .