

<b>CNC PROGRAMMING &amp; MACHINING - ADVANCE LEVEL</b>				
DAY	TOPICS	DESCRIPTION	OUT COME	DAY DURATION
Day 1	<b>SAFETY AND MACHINE MAINTENANCE &amp; INTRODUCTION TO MILLING</b>	Types of Safety Precautions Equipment of Safety procedures Types of CNC Daily, Weekly, Monthly periodical maintenance procedures Industrial safety and cleanliness and 5s procedures Introduction to Milling Machine Milling machine specifications	After completing the session, trainees will be able to understand the Industrial machinery safety and maintenance procedures & Machine specifications knowledge	8 Hrs
Day 2	<b>INTRODUCTION TO SIMENS 828D CONTROL PANEL &amp; WORK OFFSET AND TOOL OFFSET TAKING PROCEDURES</b>	Control Panel Functional keys explanation Operator panel Functional keys explanation Using G codes & M codes commands in MDI mode for changing tool, spindle speeds (CW or CCW) and coolant on, create new programs. Work co-ordinate system work offset (X, Y Axis) measurement taking procedure Work co-ordinate system Tool offset (Z, Axis) measurement taking procedure Work Co-ordinate system 4th Axis offset (Angular movement) measurement taking procedure	After completing this session trainees will be able to understand briefly what is G codes & M codes. Work offset and Tool offset taking procedure knowledge	8 Hrs
	<b>Exercise</b>	Hands on Practice of CNC Milling m/c how to take Machine Reference X,Y,Z & 4th,5th axis Work offset taking procedures		
Day 3	<b>CUTTING TOOLS AND PARAMETER SELECTION FOR MILLING &amp; TYPES OF WORK AND TOOL HOLD DEVICES</b>	Calculations of Cutting Speed, Spindle speed and Feeds Different types of CNC Tooling Systems Tool Clamping Fixtures and Accessories Various Types of Work Holding Devices, Tool Holders and inserts Nomenclature MTAB Milling Machine Working holding procedure 4th Axis (A) and 5th Axis(C)Tilting and rotating processing procedures	After completing this session trainees will be able to understand how to give the Axis movement of 4th & 5th Axis. Simultaneously Grab the knowledge of Tooling and workholding devices.	8 Hrs
	<b>Exercise</b>	Hands on Practice with 4th Axis and 5th Axis movements.		
Day 4	<b>CNC_PROGRAMMING_OPERATING INCLUDE 4TH AND 5TH AXIS</b>	Facing Operation Manual / Facing operation using cycle program Different types of profile programs apply (G40, G41 & G42) commands Chamfer & Radius Operations (G02 & G03) Contour Cycles Programming & Simulations Circular & Rectangular Pocket Milling Operations Drilling Cycles Spigot Milling Cycles Threading Cycles & High speed milling cycles 4th Axis & 5th Axis programming cycles and simulations	After completing this session trainees will be able to write any milling manual programs and cycle programs and see the Tool path simulations Individually and how to write the (3+2) Axis programming preparation knowledge.	8 Hrs
	<b>Exercise</b>	Hands on Practice Milling Programming manual & cycles all these Operations and Simulations		
DAY 5	<b>CNC_PROGRAMMING_OPERATING_MACHINING_PRACTICAL_INCLUDE 4TH AND 5TH AXIS</b>	Facing Operation Manual / Facing operation using cycle program Different types of profile programs apply (G40, G41 & G42) commands Chamfer & Radius Operations (G02 & G03) Contour Cycles Programming & Simulations Circular & Rectangular Pocket Milling Operations Drilling Cycles Spigot Milling Cycles Cam programs CL data files transfer, Post processing data Header and Footer changing methods	After completing this Practical session trainees will be able to take X,Y,Z and 4th, 5th axis measuring offset, programming simulations & Operating Machining including 4th,5th axis	8 Hrs

Exercise	Practical Assignment	
		Total = 40 Hrs