



**MSME- TECHNOLOGY CENTRE, GUWAHATI**  
**TOOL ROOM & TRAINING CENTRE**  
Ministry of Micro, Small & Medium Enterprises, Govt. of India



**COURSE NAME: e – Learning on Application of CNC Milling (Programming)**  
**Course Duration: 2weeks (2hrs/day)**

Sl no.	TOPICS
1	<b>HEALTH AND SAFETY IN WORKPLACE</b> <ul style="list-style-type: none"><li>• INTRODUCTION</li><li>• SAFETY AND ITS TYPES</li><li>• USE OF PPE</li><li>• CAUSES OF ACCIDENT &amp; SAFETY PRECAUTIONS</li><li>• FIRE SAFETY</li></ul>
2	<b>MEASUREMENT AND MEASURING INSTRUMENTS</b> <ul style="list-style-type: none"><li>• INTRODUCTION</li><li>• TYPES OF MEASURING INSTRUMENTS</li><li>• DIFFERENT PARTS OF MEASURING INSTRUMENTS</li></ul>
3	<b>THE CONVENTIONAL MILLING MACHINE</b> <ul style="list-style-type: none"><li>• INTRODUCTION TO MILLING MACHINE</li><li>• TYPES OF MILLING MACHINE</li><li>• PARTS OF MILLING MACHINE</li><li>• MILLING MACHINE SPECIFICATION</li><li>• MILLING MACHINE OPERATIONS</li></ul>
4	<b>CNC MILLING MACHINE</b> <ul style="list-style-type: none"><li>• INTRODUCTION TO CNC</li><li>• HISTORY OF CNC</li><li>• CNC MILLING AND ITS PARTS.</li><li>• AXIS DESIGNATION</li><li>• CNC MACHINE SPECIFICATION</li></ul>
5	

	<p><b>CO-ORDINATE SYSTEM</b></p> <ul style="list-style-type: none"> <li>• WHAT IS COORDINATE GEOMETRY.</li> <li>• TYPES OF COORDINATE SYSTEM</li> <li>• EXERCISE ON COORDINATE SYSTEM</li> </ul>
6	<p><b>MILLING INSERTS</b></p> <ul style="list-style-type: none"> <li>• TYPES OF MILLING TOOLS</li> <li>• MILLING INSERT NOMENCLATURE</li> <li>• MILLING TOOL HOLDER NOMENCLATURE</li> </ul>
7	<p><b>PROGRAMMING BASICS</b></p> <ul style="list-style-type: none"> <li>• PROGRAMMING NOMENCLATURE</li> <li>• BASIC CODES (PREPATORY FUNCTIONS &amp; MISCELENEOUS FUNCTION).</li> <li>• PROGRAMMING STRUCTURE.</li> </ul>
8	<p><b>CNC LINE PROGRAM</b></p> <ul style="list-style-type: none"> <li>• SIDE MILLING.</li> <li>• FACE MILLING</li> <li>• DRILLING CYCLE PROGRAM</li> <li>• TAPPING CYCLE PROGRAMMING</li> <li>• PROFILE CUTTING</li> <li>• POCKET CUTTING</li> <li>• SUB PROGRAMMING</li> <li>• LBL COMMAND</li> <li>• MIRROR COMMAND</li> </ul>
9	<p><b>SIMULATION</b></p> <ul style="list-style-type: none"> <li>• INTROCUCTION TO THE SIMULATION SOFTWARE</li> <li>• USER INTERFERENCE OF THE SIMULATION SOFTWARE</li> <li>• CNC PROGRAMMING USING SIMULATION SOFTWARE</li> <li>• ERROR DETECTION</li> </ul>