



Techno India NJR Institute of Technology

Academic Administration of Techno NJR Institute

Syllabus Deployment

Name of Faculty: Mrs. Nisha Patel	Subject Code: 6ME4-21
Subject : Computer Integrated Manufacturing Lab	Sem: VI
Department : Mechanical Engineering	
Total No. of Hours Planned: 16	Max. Marks: 75(IA:45, ETE:30)

COURSE OUTCOMES:

At the end of this course students will be able to:

- CO1: Create the G-code program (with a standard computer post processor) of a work-piece on a standard numerically controlled machine tool with CNC controls.
- CO2: Create basic and advanced CNC programs from imported CAD data using several CAM systems.
- CO3: Use effectively CAD / CAM systems in order to produce the final NC code for the manufacturing of various mechanical parts and carry out exchange of data between CAD and CAM systems.
- CO4: Compare the operation and programming of CNC machine tool using manual programming
- CO5: Compare the operation and programming of CNC machine tool using CAM systems.

SN	Agenda	Exposure
1	Coordinate System	Machine coordinate System, Work Coordinate System, Tool Offset and coordinate geometry
2	CNC Programming	Basic Programming Terms, Programming Formats, Word Address Format, Format Notation, Programming Tips , Absolute & Incremental mode of programming
3	G & M Code	Explanations of various codes with Syntax and Examples
4	Programming	Step turning using code G01 under absolute mode of programming

5	Programming	Step turning using code G01 under incremental mode of programming
6	Programming	Step turning & Chamfering using code G01 under absolute mode of programming
7	Programming	Taper Turning Operation using linear interpolation
8	Programming	Canned Cycle: Prepare above programs using canned cycle
9	Programming	Circular Interpolation: Clockwise and anticlockwise
10	Programming	Circular interpolation with Canned Cycle
11	Programming	Threading & Grooving with Canned Cycle
12	Programming	Drilling & Boring with Canned Cycle
13	Programming	Grooving Cycle
14	Programming	Multi tool Programming
15	Project	Programming & Fabrication of Screw Jack

TEXT/REFERENCE BOOKS

1. AUTOMATION, PRODUCTION SYSTEMS, AND COMPUTER-INTEGRATED MANUFACTURING BY MIKELL P. GROOVER, PRENTICE HALL, 2ND EDITION, 2001
2. PRINCIPLES OF COMPUTER AIDED DESIGN AND MANUFACTURING BY FARID M AMIROUCHE, PRENTICE HALL, 2ND ED. 2003