COMPUTER AIDED MANUFACTURING AND ROBOTICS LAB

Course Code: 15ME2120

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Course Outcomes: At the end of the course, the student will be able to

CO1: Create the part model using CAM software

CO2: Use NC part program for CNC turning and milling operations

CO3: Generate the tool path and NC part program for drilling and milling operations using CAM software

CO4: Demonstrate the tool path for turning operation using CAM software

CO5: Write a program for performing pick and place operations

List of Experiments

1. Creating a 2D part and contour tool path using CAM software
2. Creating 3D geometry in CAM software
3. Tool path simulation and NC code generation for drilling operations using CAM software
4. Tool path simulation and NC code generation for facing and contouring operations using CAM software
5. Tool path simulation and NC code generation for pocket milling operations using CAM software
6. Tool path simulation and NC code generation for facing, plane and step turning operations using CAM software
7. Tool path simulation and NC code generation for threading operations using CAM software
8. Mode selection and tool setting on CNC lathe machine - Practice
9. CNC part programming for facing and step turning on CNC lathe machine
10. CNC part programming for taper turning on CNC lathe machine
11. CNC part programming for circular turning on CNC lathe machine
12. CNC part programming for threading on CNC lathe machine
13. Practice in G & M code based CNC programming for the use on a machining center / milling machine

14. Practice in Robot programming and its languages
15. 3-D Robot simulation for operation of pick-place robot

Software: MasterCAM, CATIA, Robo-X