

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, VII-Semester

ME- 704 CAD/CAM /CIM

The purpose of this laboratory is to provide the complete practical exposure of Computer aided design software tools such as Solid works, CATIA, Unigraphics etc., Computer assisted manufacturing processes such as CNC Turning, CNC Milling, CNC Drilling etc as well Computer integrated manufacturing (i.e. demonstrating remotely over the internet the operations of actual CIM cell established in the dept of Institute /industry) to the students so that they will become industry ready just after completing their graduation.

Suggested list Experiments; (PI expand it)

1. 2D and 3D modeling on CAD software
2. Use of CAM software for writing CNC programs
3. Study of automatic and semi automatic control system and writing the electrical analogy.
4. Production & layout for GT for group of jobs to be manufactured
5. A case study / tutorial using CAPP Software
6. Writing M & G codes for given operations.
7. Robot and AGV programming
8. Modelling and simulation of computer integrated manufacturing system'
9. Modelling, offline manual part programming and simulation of the operation of 3 axis CNC milling machine
10. Programming and operation of a 5 axis robot Manipulator
11. Remote monitoring and operation of Computer integrated manufacturing system
12. To write the part program for any component (stepped cylindrical rod) . Assuming the work piece is Aluminum and the speed is 1200 rpm, feed 20 mm/min and maximum depth of cut is 1 mm.
 - a. With Canned cycle
 - b. Without Canned cycle.

Evaluation:

Evaluation will be continuous and integral part of the class as well as through external assessment (Viva/voce)