



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Vocation (B.Voc)

Semester: III

Branch: Production Technology

Subject Name: CAD-CAM Lab

Subject Code: 21130305

Type of course: Under Graduate

Prerequisite: None

Rationale: The course is intended to provide exposure of modeling techniques. It also includes topics on feature based modeling and assembly modeling. The manufacturing field has witnessed the development of major automation alternatives recently. CNC machines play a big role in manufacturing field. An attempt has been made to focus on CNC machine tools, related programming and their advanced features.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
0	0	2	2	0	0	30	20	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Practical / Hands on Exercise	Teaching Hrs.
1	Introductory exercise for 3-D modeling.	2
2	Exercise for advanced 3-D modeling.	2
3	Exercise for Assembly modeling.	2
4	Introductory exercise for 2-D Drafting.	2
5	To prepare part programming for plain turning, taper turning, step turning.	6
6	To prepare part program for threading operation.	2
7	To prepare part program for slot milling operation.	2
8	To prepare part program for drilling operation.	2
	Total	20

Major Equipment:

1. Computers / Workstations
2. CAD Software



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3. CNC Machine

Course Outcomes:

Sr. No.	CO Statement	Marks % Weightage
CO 1	To understand basic concept of 3D Modeling	25
CO 2	To Apply the knowledge related to Assembly Modeling	25
CO 3	To understand and apply the basic concept of part programming on CNC Turning	25
CO 4	To understand and apply the basic concept of part programming on CNC Milling	25

Reference Books:

1. CAD / CAM: Theory and Practice by Ibrahim Zied, McGraw-Hill
2. CAD / CAM and Automation, Farazdak Haideri, Nirali Prakashan
3. CAD/CAM/CIM by P. Radhakrishnan, New Age International Publishers

List of Open Source Software/learning website:

1. www.nptel.ac.in
2. Videos on CNC programming