NARSIMHA REDDY ENGINEERING COLLEGE
UGC AUTONOMOUS INSTITUTION
Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India
UGC - Autonomous Institute
Accredited by NBA & NAAC with 'A' Grade
Approved by AICTE
Permanently affiliated to JNTUH

Year/Sem: III/I

Course Title: CAD/CAM

Course: ME

Prerequisites: To learn the importance and use of computer in design and manufacture

Course objectives: To provide an overview of how computers are being used in design, development of manufacturing plans and manufacture. To understand the need for integration of CAD and CAM

Course Outcomes:

CO1: Understand geometric transformation techniques in CAD.

CO2: Develop mathematical models to represent curves and surfaces.

CO3: Model engineering components using solid modeling techniques.

CO4: Develop programs for CNC to manufacture industrial components.

CO5: To understand the application of computers in various aspects of Manufacturing and Design

UNIT WISE QUESTION BANK

Unit-I

Part–A(Short Answer Questions)					
S No		**Question**	**BT**	**CO**	**PO**
1		Define CAD and CAM, explaining how they are related within the manufacturing process	L1	CO1	1,3,9
2		What are the key benefits of using CAD/CAM technology in product design and manufacturing?	L1	CO1	1,3,9
3		List three primary types of 3D modeling techniques used in CAD software	L1	CO1	1,3,9
4		Explain the concept of "parametric design" in CAD and its advantages	L1	CO1	1,3,9
5		What is a "wireframe model" and when is it typically used in the design process?	L1	CO1	1,3,9
6		Differentiate between "solid modeling" and "surface modeling" in CAD, providing an example for each?	L2	CO1	1,3,9
7		What is the role of a "toolpath" in CAM software, and how is it generated?	L1	CO1	1,3,9
8		Name three common file formats used for data exchange between CAD and CAM systems .	L1	CO1	1,3,9
9		Briefly explain the concept of "G-code" and its significance in CNC machining .	L2	CO1	1,3,9
10		What are the main considerations when selecting a CAD/CAM software package for a specific manufacturing application?	L2	CO1	1,3,9
Part–B (Long Answer Questions)					
11	a)	Explain the concept of CAD/CAM, defining what "CAD" and "CAM" stand for individually, and how they work together in a product development process.	L2	CO1	1,3,9
	b)	List and explain the key stages involved in a typical CAD/CAM workflow, from initial design concept to final manufactured part	L3	CO1	1,3,9
12		Describe the different types of CAD modeling techniques, including wireframe, surface, and solid modeling, highlighting their advantages and limitations in different design scenarios	L2	CO1	1,3,9
	b)	Discuss the different types of CAM machining processes that can be programmed using CAM software, including milling, turning, drilling, and their applications	L2	CO1	1,3,9
14	a)	What are the key considerations when selecting a CAD/CAM software package for a specific industry or application?	L3	CO1	1,3,9

b)	State the mechanism of material removal, transfer media ,and energy sources used for Un Conventional Machining Process?	L3	CO1	1,3,9