Course Code: 19ME0313 **R19**

SIDDHARTH INSTITUTE OF SCIENCE AND TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
Siddharth Nagar, Narayanavanam Road – 517583
QUESTION BANK (DESCRIPTIVE)

Subject with Code: CAD/CAM (19ME0313) **Course & Branch**: B.Tech - MECH

Regulation: R19 **Year & Sem:** III-B.Tech & I-Sem

UNIT –I

INRODUCTIO OF AUTOMATION AND COMPUTER GRAPHICS

1	**a**	Draw the product cycle and CAD/CAM product cycle with neat sketch.	**[L2]**	**[CO1]**	**[6M]**
	b	Explain the product cycle and CAD/CAM product cycle.	**[L2]**	**[CO1]**	**[6M]**
2		Discuss clearly the functions of a graphics package.	**[L6]**	**[CO1]**	**[12M]**
3		Draw With neat sketch explain the main elements of CIM systems.	**[L2]**	**[CO1]**	**[12M]**
4	**a**	Explain the CAD Tools.	**[L2]**	**[CO1]**	**[6M]**
	b	Identify and List the Evaluation criteria CAD standards.	**[L1]**	**[CO1]**	**[6M]**
5		Briefly explain the term scaling, translation and rotation used in Graphics.	**[L2]**	**[CO1]**	**[12M]**
6	**a**	Explain briefly about the Component of CAD system.	**[L2]**	**[CO1]**	**[6M]**
	b	Describe the Utilization in a Industrial Environment of CAD.	**[L3]**	**[CO1]**	**[6M]**
7		Illustrate detail about 2D and 3D transformations?	**[L2]**	**[CO1]**	**[12M]**
8		Define the computer graphics and Graphics package functions and explain it.	**[L2]**	**[CO1]**	**[12M]**
9		Describe briefly about the Co-ordinate systems.	**[L6]**	**[CO1]**	**[12M]**
10	**a**	Briefly explain about homogeneous transformations.	**[L1]**	**[CO1]**	**[6M]**
	b	Write short notes on Rotation about a Fixed Point ,Reflections and Shears.	**[L2]**	**[CO1]**	**[6M]**

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UNIT –II

GEOMETRIC MODELING & SOLID MODELING

1		Discuss various types of geometric modeling with neat sketches.	**[L6]**	**[CO2]**	**[12M]**
2		Discuss clearly the Constructive Solid Geometry (CSG) method to create models.	**[L2]**	**[CO2]**	**[12M]**
3		Explain detail about Methods of Creating Solid Models.	**[L2]**	**[CO2]**	**[12M]**
4		Describe briefly Parametric and non Parametric representations.	**[L2]**	**[CO2]**	**[12M]**
5		Illustrate the surface modeling and their representation.	**[L5]**	**[CO2]**	**[12M]**
6	**a**	Write a short notes on analytic representations.	**[L4]**	**[CO2]**	**[6M]**
	b	State and write briefly about synthetic representations.	**[L2]**	**[CO2]**	**[6M]**
7	**a**	Define the solid modeling and Explain any one type of solid modeling briefly.	**[L1]**	**[CO2]**	**[6M]**
	b	Compare 2-D and 3-D wire frame models.	**[L2]**	**[CO2]**	**[6M]**
8		Describe briefly the following methods of surface modeling with a few application examples. (a) B-spline surface. (b) Bezier surface.	**[L1]**	**[CO2]**	**[12M]**
9	**a**	Describe about boundary representation approach.	**[L2]**	**[CO2]**	**[6M]**
	b	What are the Fundamentals of solid modeling?	**[L1]**	**[CO2]**	**[6M]**
10		Explain detail about solid modeling and their representation.	**[L5]**	**[CO2]**	**[12M]**

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UNIT –III

NUMERICAL CONTROL & CNC PART PROGRAMMING

1	**a**	List out and Explain about basic components of an NC system and CNC system.	**[L2]**	**[CO4]**	**[6M]**
	b	Write a short notes on motion statement.	**[L5]**	**[CO3]**	**[6M]**
2		Illustrate Brief about NC motion control systems.	**[L2]**	**[CO3]**	**[12M]**
3	**a**	Differentiate Manual part programming and Computer assisted part programming	**[L2]**	**[CO3]**	**[6M]**
	b	What are the advantages and disadvantages of Numerical control?	**[L1]**	**[CO3]**	**[6M]**
4	**a**	Briefly explain about NC Coordinate systems.	**[L2]**	**[CO3]**	**[6M]**
	b	Explain various applications of NC and CNC system.	**[L3]**	**[CO4]**	**[6M]**
5		Discuss Briefly about various NC procedure and Explain types of Numerical Control.	**[L2]**	**[CO3]**	**[12M]**
6		Describe the Computer Assisted Part Programming with example.	**[L5]**	**[CO4]**	**[12M]**
7	**a**	State and Draw a neat sketch of the cutter radius compensation.	**[L2]**	**[CO4]**	**[6M]**
	b	Write a short notes on Manual part programming.	**[L2]**	**[CO4]**	**[6M]**
8		Differentiate NC and CNC and Basic CNC input data and Explain detail about.	**[L4]**	**[CO4]**	**[12M]**
9		With neat sketch and describe the canned cycles.	**[L2]**	**[CO3]**	**[12M]**
10		Explain briefly about cutter radius compensation and length compensation.	**[L2]**	**[CO3]**	**[12M]**

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UNIT –IV

GROUP TECHNOLOGY,FMS & COMPUTER AIDED QUALITY CONTROL

1		Illustrate FMS and explain about material handling systems with neat sketch**.**	**[L2]**	**[CO5]**	**[12M]**
2		Determine briefly about production flow analysis (PFA) and Benefits of Group Technology.	**[L2]**	**[CO5]**	**[12M]**
3	**a**	Define Part families and Write Short notes on Part families.	**[L2]**	**[CO5]**	**[6M]**
	b	Write the advantage and disadvantage of Group Technology.	**[L1]**	**[CO5]**	**[6M]**
4		Briefly explain about the integration of CAQC with CAD/CAM.	**[L2]**	**[CO5]**	**[12M]**
5		Discuss briefly the various contact inspection method.	**[L2]**	**[CO5]**	**[12M]**
6	**a**	What is mean by Machine cell design and explain it?	**[L3]**	**[CO5]**	**[6M]**
	b	Discuss optical non-contact inspection methods.	**[L2]**	**[CO5]**	**[6M]**
7		Explain detail about contact inspection and non-contact inspection methods	**[L2]**	**[CO5]**	**[12M]**
8		State and Explain briefly about terminology in quality control.	**[L2]**	**[CO5]**	**[12M]**
9	**a**	Write Short notes on manufacturing system.	**[L2]**	**[CO5]**	**[6M]**
	b	Determine the components of FMS.	**[L2]**	**[CO5]**	**[6M]**
10		Write brief notes on Group Technology and Parts classification and coding.	**[L1]**	**[CO5]**	**[12M]**

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UNIT –V

COMPUTER AIDED PROCESSES PLANNING & COMPUTER INTEGRATED PRODUCTION PLANNING

1		Enumerate the Retrieval type system with neat sketch and explain the Benefits of CAPP.	**[L2]**	**[CO6]**	**[12M]**
2		Illustrate the Generative CAPP type system with neat sketch.	**[L2]**	**[CO6]**	**[12M]**
3		What is Computer Aided Process Planning(CAPP)? Explain the any one type of CAPP with neat sketches.	**[L2]**	**[CO6]**	**[12M]**
4		Discuss briefly about Capacity planning and MRP-I.	**[L5]**	**[CO6]**	**[12M]**
5		Explain briefly MRP-II With neat sketch and explain CIM Benefits.	**[L2]**	**[CO6]**	**[12M]**
6		Briefly explain about Retrieval type system and Generative type.	**[L2]**	**[CO6]**	**[12M]**
7	**a**	Differentiate MRP-I and MRP-II.	**[L2]**	**[CO6]**	**[6M]**
	b	Write Short notes on MRP-II and advantage and dis advantage.	**[L2]**	**[CO6]**	**[6M]**
8	**a**	Brief about the shop floor control	**[L1]**	**[CO6]**	**[6M]**
	b	Define the shop floor control and write Short notes on function of shop floor control.	**[L2]**	**[CO6]**	**[6M]**
9	**a**	Write advantage and dis advantage of computer aided processes planning.	**[L3]**	**[CO6]**	**[6M]**
	b	Explain about Machinability data systems.	**[L2]**	**[CO6]**	**[6M]**
10		State and Explain briefly about computer integrated production planning and Capacity planning	**[L2]**	**[CO6]**	**[12M]**

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