



**SIDDHARTH INSTITUTE OF ENGINEERING & 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

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|-----------|---|-------------|--------------|--------------|
| 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] |

UNIT –II**GEOMETRIC MODELING & SOLID MODELING**

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|-----------|---|-------------|--------------|--------------|
| 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] |

UNIT –III

NUMERICAL CONTROL & CNC PART PROGRAMMING

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|----|---|--|------|-------|-------|
| 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] |

UNIT –IV**GROUP TECHNOLOGY, FMS & COMPUTER AIDED QUALITY CONTROL**

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|-----------|--|-------------|--------------|--------------|
| 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] |

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]

Prepared by: Mr.J.MANI