

CODE NO: 07A6EC04

R07

SET No - 1

III B.TECH - II SEMESTER EXAMINATIONS, APRIL/MAY, 2011
CAD/CAM
(COMMON TO ME, MCT, AME)

Time: 3hours**Max. Marks: 80**

Answer any FIVE questions
All Questions Carry Equal Marks

- - -

- 1.a) With neat sketch, discuss the Product life cycle.
- b) Explain the benefits of CAD over conventional design process. [8+8]
- 2.a) What are the functions of graphic interactive design workstation?
- b) What are the needs of graphic standards with a neat sketch? [8+8]
- 3.a) What are requirements of geometric modeling?
- b) Write the parametric equation for Hermite cubic spline curve? [8+8]
- 4.a) Describe various commonly used primitives for solid modeling and explain the Boolean operations?
- b) Describe the properties that a solid model should capture mathematically? [8+8]
- 5.a) Discuss the various advantages of CNC system?
- b) With suitable examples, briefly explain about the Machining centers. [8+8]
- 6.a) What is Group technology? List out its benefits.
- b) Explain the following.
 - i) Composite component
 - ii) Design and manufacturing attributes.
 - iii) Hybrid structures. [8+8]
- 7.a) What are the techniques employed to achieve quality control?
- b) With neat diagram, explain the working principle of CMM. [8+8]
- 8.a) Describe a material handling system.
- b) Distinguish between CIM and CAD/CAM. [8+8]

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Time: 3hours

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Answer any FIVE questions
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- - -

- 1.a) Explain the basic structure and basic configuration of CAD/CAM software.
b) Briefly explain about Hard copy output devices. [8+8]
- 2.a) What are the functions of major modules of graphic software?
b) What is a Graphic system? Explain the various standards which work at various levels of graphic systems? [8+8]
- 3.a) What do you understand by C_0 , C_1 , and C_2 continuity conditions of the curves?
b) Explain how a Bezier curve is defined and also derive its parametric form. [8+8]
4. How do you define a solid model? Explain various modeling schemes with their applications and limitation. [16]
- 5.a) Discuss the importance of motion statements in APT.
b) Discuss the G codes and M codes in NC systems. [8+8]
- 6.a) Explain the optiz classification system.
b) Discuss the basic code structures used in GT? [8+8]
7. Explain the working principle of Image Processing and analysis. [16]
- 8.a) Discuss the role of computer networks in CIM.
b) With the help of block diagram explain the different typical modules of a shop floor control software. [8+8]

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SET No - 3

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Time: 3hours

Max. Marks: 80

Answer any FIVE questions
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- - -

- 1.a) Explain the basic structure and basic configuration of CAD/CAM software.
- b) Explain the principle of working of display device with suitable diagram. [8+8]
2. Describe briefly the various data exchange systems currently in use? [16]
3. Describe with the help of neat sketches the major surfaces entities provided by the CAD/CAM systems? [16]
- 4.a) Write a short notes on basic geometric commands.
- b) Write short notes on editing. [8+8]
- 5.a) What are the difficulties encountered in using conventional numerical control machines.
- b) What are the functions of CNC machine? [8+8]
- 6.a) What is Group technology? List out its benefits.
- b) Discuss the basic code structures used in GT? [8+8]
7. Explain the Scanning Laser system used for CAQC. [16]
- 8.a) What are the three major elements of ASRS? Explain.
- b) Explain with the aid of a block diagram the "Concept of CIM". [8+8]

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SET No - 4

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Time: 3hours**Max. Marks: 80**

Answer any FIVE questions
All Questions Carry Equal Marks

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1. Briefly explain the following:
 - a) Refresh display
 - b) Direct storage tube
 - c) Raster display. [16]

2. Explain how 2-D and 3-D transformations are done on graphics element? [16]

3. What is B Spline curve and also derive its parametric form? [16]

4. Write short notes on the following:
 - a) Display control commands.
 - b) Dimensioning. [16]

- 5.a) What are the basic elements of NC system? Explain them briefly.
 b) Briefly discuss about the coordinate system in NC system. [8+8]

- 6.a) Explain the following:
 - i) Composite component.
 - ii) Design and manufacturing attributes.
 - iii) Hybrid structures.
 b) Explain the optiz classification system. [8+8]

- 7.a) What are the various methods of automated inspection? Explain.
 b) With neat diagram explain the working principle of CMM. [8+8]

- 8.a) Distinguish between CIM and CAD/CAM.
 b) Explain with the aid of a block diagram the "Concept of CIM". [8+8]

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