Code No: NR410302 **NR**

IV B.Tech I Semester Supplementary Examinations, April/May 2005
CAD-CAM
(Common to Mechanical Engineering, Mechatronics and Production Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the benefits of CAD over conventional design process.
   (b) Explain with the help of a block diagram the hardware structure of a CAD work station.
2. (a) Define Geometric model. Explain how a 3-D object is represented by a wire frame model.
   (b) Distinguish between 2-D and 3-D wire frame models.
3. Describe following with reference to a surface patch.
   (a) Sub dividing
   (b) Regenerative surface
4. Discuss the following for B - representation.
   (a) How to represent surface normals and neighbourhoods.
   (b) How to develop a classification algorithm.
   (c) How to combine classifications.
5. (a) State the advantages and disadvantages of Numerical Control.
   (b) Draw the block diagram of Adaptive Control with Optimization system for milling machine and explain briefly.
6. Explain the following classification and coding systems used in GT.
   (a) The code system
   (b) The MICLASS system
7. (a) Discuss briefly the steps needed to analyze a material handling problem.
   (b) How the following factors effect the choice of material handling equipment.
      i. Required path of travel
      ii. Nature of materials.
8. (a) Explain briefly the 3 types of database models used in CIM environment.
   (b) What is the working principle of a computer vision system as applied to quality control.

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