

Code No: 09A70303

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year I Semester Examinations, June/July - 2014****CAD/CAM****(Common to ME, AE, AME)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Define the term product life cycle. Also compare and contrast between the product cycle in a conventional manufacturing environment and in a computerized manufacturing environment.
- b) Explain the benefits of computer aided design.
- 2.a) What is the need for removal of hidden lines and surfaces? List out various types of hidden line and hidden surface removal algorithm.
- b) What are the projections commonly used in engineering practice? Explain them.
- c) Explain the Z buffer algorithm for hidden surface removal.
- 3.a) How do you classify the various modeling systems on the basis of their capabilities.
- b) What is meant by sweep? Discuss in detail the various types of sweep techniques.
- 4.a) What is importance of layers in drafting? Explain with an example.
- b) What are the CSG tresses? Explain their importance in the construction of CSG solid models.
- 5.a) Differentiate between:
 - i) Absolute and incremental position system
 - ii) Fixed and Floating zero method
- b) Discuss the different NC words used in part programming techniques
- c) Discuss the basic feedback control system used in CNC machine tools.
- 6.a) Discuss the benefits of group technology:
- b) Explain the Optiz classification and coding systems in GT
- c) Explain the part design and manufacturing attributes giving examples.
- 7.a) What the working principle of a computer vision system is as applied to quality control?
- b) Explain the application of machine vision in computer aided inspection.
- 8.a) Distinguish between automation and CIM.
- b) Discuss the steps needed to analyze a material handling problem.

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