

R09

Code No: 09A70303

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November - 2013

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. [8+7]
- 2.a) What is rendering and explain its effects?
- b) Explain three dimensional transformations with an example.
- c) Explain the Z buffer algorithm for hidden surface removal. [4+3+8]
- 3.a) What are the requirements of geometric modeling?
- b) Describe with the help of neat sketches the major surface entities provided by the CAD/CAM systems. [8+7]
- 4.a) Explain the importance of vertex, edge and face tables in the boundary representation of solid modeling.
- b) Explain the constructive solid geometry for the representation of solids. [8+7]
- 5.a) Briefly discuss the following NC motion control systems of point-to-point, straight cut and contouring.
- b) Enumerate the advantages of computer assisted part programming when compared to manual part programming. [8+7]
- 6.a) Explain the MICLASS coding system with an example.
- b) Explain the part design and manufacturing attributes giving examples. [8+7]
- 7.a) Explain the benefits of application and advantages of CAQC with CAD/CAM systems.
- b) Explain the application of machine vision in computer aided inspection. [8+7]
- 8.a) With a block diagram, explain the computerized elements of CIM system.
- b) Discuss principle of material handling. Name and describe the five types of material handling devices. [8+7]

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