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ME/IP/IEM - 804

B.E. VIII Semester

Examination, June 2013

CAD / CAM / CIM

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks :35

Note: Attempt five questions with consideration of internal choice.

1. a) Define lead time. Explain how it changes with the concurrent engineering practices. 10
- b) Define aggregate production planning. Explain briefly the various inputs required for aggregate production planning. 10

OR

2. a) Define computer integrated manufacturing. Explain the different elements of CIM. 10
 - b) Define master production scheduling. How a master production schedule can be developed with an economical lot size of a small batch. 10
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3. a) State the database for graphic modelling. Explain the requirements for a graphic database. 10
 - b) What are the various graphic transformations required for manipulating the geometric information? Explain briefly. 10

[2]

OR

4. a) What is the need for concatenation of transformations? Explain the care to be taken in such cases. 10
- b) What do you understand by CAD standards? How is IGES different from GKS. 10

5. a) What is knot values in B-spline curves and how they affect the curve shape? Explain. 10
- b) Differentiate between B-Rep and CSG representation of solid modelling. 10

OR

6. a) Compare 2D and 3D wireframe modelling with respect to their utility for an engineering industry. 10
- b) Explain the importance of parametric representation of curves. Why is it more used compared to non-parametric representation? 10

7. a) State the principle of numerical control. Explain the functions that are expected to be served by numerical control in machine tools. 10
- b) Explain the function of the preparatory functions. Describe the functioning of GDI code used for the purpose. 10

OR

8. a) Why is a recirculating ball screw universally used in the actuation system in CNC machine tools? Explain. 10
- b) Explain the concept of floating datum and set point with reference to CNC part programming. What is their relationship? Explain. 10

[3]

9. a) What do you understand by the term group technology? Explain the DCLASS coding system as used in group technology. 10
- b) Explain the difference between retrieval and generative type of computer aided process planning. Which is better? Explain. 10

OR

10. a) What is an Automated Guided vehicle? State the various guidance methods available for an AGV. 10
- b) Define robot. Explain the geometric configuration. in which robots are available. 10
