IP/ME-804
B. E. (Eighth Semester) EXAMINATION, June, 2011
(Common for IP & ME Engg. Branch)
CAD/CAM/CIM
Time : Three Hours Maximum Marks : 100 Minimum Pass Marks : 35

Note : Attempt only *five* questions taking *one* question from each Unit. All questions carry equal marks.

1. (a) What is design process ? Explain the following steps in the design process : problem definition and engineering analysis. 10

(b) What do you understand by Production Activity Control ? Explain the classification of actual operations of PAC.   10

Or

(a)   Define Computer Integrated Manufacturing. Explain the different elements of CIM. . 10

(b)   Differentiate between conventional design procedure and computer aided design procedure. 10

Unit—II

(a) Explain, briefly about Engineering Data Management (EDM). 10

(b) Explain the- various graphic transformations required for manupulating the geometric information. 10

Or

4.   (a) List the graphic standards. How is IGES different from GKS ? 10

(b) An object is to rotated about an axis parallel to *-axis, but its origin passes through a point (x_c, y_c). Obtain the necessary transformation matrix in two diamensions. 10

Unit-III

5.   (a) Explain the *three* principal classifications of geometric modelling system and write about each of them. 10

(b) Give the parametric representation of a ruled surface. What are its applications ? 10

Or

6.   (a) What are the various three-dimensional construction methods suitable for mechanical engineering applications ? Explain. 10

(b) Differentiate between constructive solid geometry (CSG) and boundary representation (B-rep). 10

Unit-IV

7.   (a) What do you understand by the term 'Numerical Control' ? Explain briefly the functions that are expected to be served by NC in machine tools. 10

(b) Explain the function of preparatory functions. State the functioning of any *two* G codes used for the purpose. 10

Or

8.   (a) Explain the advantages to be gained by using CNC compared to NC. 10

(b) Define APT. Explain the types of statements specified in the APT language. 10

Unit-V

9.   (a) What are the various methods available for forming groups in group technology ? Explain. 10

(b) What is an automated guided vehicle ? State the advantages of an AGV in manufacturing shop. 10

Or

10. (a) Define robot. Explain briefly the classification of robots. 10

 (b) Explain the optiz coding system generally used in group technology. 10