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First Semester M.Tech. Degree Examination, February 2013
Concurrent Engineering for Manufacturing

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Discuss the major historical highlights that have occurred in manufacturing. (15 Marks)
b. List the factors that demand a significant change in our overall approach to design and manufacturing to achieve manufacturing competitiveness. (05 Marks)
- 2 Discuss the following aspects of lifecycle management:
 - a. Life cycle cost drivers. (06 Marks)
 - b. Configuration management. (06 Marks)
 - c. Life cycle management tools. (08 Marks)
- 3 a. Explain the major steps in creating a process map and making process improvement. (12 Marks)
b. Discuss the role of SWOT analysis in understanding and managing change. (08 Marks)
- 4 a. Discuss the 8 fundamental principles of concurrent engineering. (16 Marks)
b. List the various distinct technical sub-units of a product development team. (04 Marks)
- 5 a. Discuss the many advantages of the system engineering approach to concurrent problem solving. (12 Marks)
b. Illustrate the hierarchical decomposition of a product. (08 Marks)
- 6 a. With regard to foundation of information modeling, illustrate the 2 methods of representing solids. (10 Marks)
b. Discuss a 4-tier approach to information modeling and explain each building block. (10 Marks)
- 7 a. Discuss an enterprise data flow model. (10 Marks)
b. Discuss the group technology approach to minimize the cost of producing similar parts in small batches. (10 Marks)
- 8 Discuss the experience of HONDA, MAZDA, NISSAN and Matrushita companies who have adopted CE. (20 Marks)

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