M.E. First Semester (Mechanical Engineering) (CAD/CAM) (F.T.) (CGS)
## 13486 : Elective-I : Concurrent Engineering : 1 MCC 5

P. Pages : 1

Time : Three Hours

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Max. Marks : 80

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Notes : 1. All question carry equal marks.
2. Answer **three** question from Section A and **three** question from Section B.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Illustrate your answer necessary with the help of neat sketches.
6. Non programmable electronic calculator permitted.
7. Use of pen Blue/Black ink/refill only for writing the answer book.

## SECTION - A

1. a) Explain with suitable examples Axiomatic design and failure mode and effect analysis. 7

   b) Distinguish between Technical and Economic process models with suitable examples. 7

2. a) What is the significance of computer application in concurrent engineering? 7

   b) Discuss various piece part fabrication processes. 6

3. a) What do you mean by concurrent design of products and systems? 7

   b) Explain with neat sketches various layouts used in different manufacturing systems. 6

4. a) Explain how a process model can be used as a part of control strategy for process improvement. 7

   b) Why process models are important? Discuss reasons. 6

5. Enlist and Explain the key factors affecting the implementation of Concurrent Engineering. 13

## SECTION - B

6. a) Describe the concept of batching and balancing for job-shop system with suitable example. 7

   b) Describe preliminary system feasibility analysis. 6

7. a) Give preliminary evaluation procedure to perform economic evaluation of the task. 7

   b) What do you mean by process consolidation? Explain its advantages. 7

8. a) Distinguish between depreciable investment and capital recovery. 7

   b) Discuss strategic issues related assembly workstation design. 6

9. a) Explain in detail how work content analysis is carried out. 6

   b) Explain brief how Part Families are defined using Group Technology. 7

10. Describe three major aspects of problem of single assembly work station designing. 13

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