Total No. of Questions : 8]

SEAT No. :

P4759

[Total No. of Pages : 2

[4760] -202

M.E. (Mechanical) (CADM & E)

AUTOMATED MANUFACTURING SYSTEM MODELING

(2012 Pattern) (Semester - II)

Time :3 Hours] *[Max. Marks :100*

Instructions to the candidates:

1) ***Answer any three questions from each section.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of calculator is allowed.***
5) ***Assume suitable data if necessary.***

SECTION - I

Q1) a) Discuss Performance Modeling Tools in detail. **[9]**

b) Explain Continuous Time Markov Chain Model with suitable example. **[9]**

Q2) Define Queuing Network? Discuss in detail the M/M/1 Queue and M/M/m Queue with suitable example. **[16]**

Q3) What is Birth & Death Process in Manufacturing Environment? Explain with suitable example and detailed analysis. **[16]**

Q4) a) Elaborate the concept of Stochastic Processes in Manufacturing. **[8]**

b) Describe Semi-Markov Processes in Manufacturing. **[8]**

P.T.O.

SECTION - II

Q5) Define Flexible Manufacturing System. Explain in detail all the elements of FMS. List advantages. **[18]**

Q6) a) What is Classical Petri Nets? Explain. **[8]**

b) Explain different types of Plant Layouts. **[8]**

Q7) a) Discuss Product Form Queuing Networks. **[8]**

b) Explain Extended Classes of Timed Petri Nets. **[8]**

Q8) a) Elaborate the concept of Semi-Markov Processes in Manufacturing. **[8]**

b) Explain Modeling of Kanban Systems. **[8]**

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