

M.E. Second Semester (Mechanical Engineering (Adv. Manu.& Mech. Sys. Desig.)) (New-CGS)
13476 : Elective-II : (4) Computer Assisted Production Management : 2 MMD 5

P. Pages : 2

Time : Three Hours



AU - 3394

Max. Marks : 80

- Notes :
1. All question carry equal marks.
 2. Answer **three** question from Section A and **three** question from Section B.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.
 5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

- | | | | |
|----|------|---|---|
| 1. | a) | Explain the criteria for selecting CAPP system. | 6 |
| | b) | What activities are required to generate a process plan? | 7 |
| 2. | a) | How product mix is related to capacity utilization decision? | 7 |
| | b) | Explain in detail variant process planning. | 6 |
| 3. | a) | Sketch and explain layout plan of flexible inspection system. | 7 |
| | b) | Differentiate between contact and non-contact inspection techniques. | 6 |
| 4. | a) | What factors affect short range capacity planning. | 7 |
| | b) | A turning department wants to install enough semi-automatic lathes to produce 2,50,000 good components per year. The turning operation takes 1.5 minutes per component. But it is observed that the output of lathes will have 3 percent defectives. How many lathes will be Required, if each one is available for 2,000 hours of capacity per year? | 6 |
| 5. | a) | Justify the need of following core software used in CMM. | 9 |
| | i) | Probe calibration. | |
| | ii) | Part coordinate system definition. | |
| | iii) | Tolerance analysis. | |
| | b) | Discuss CMM application and benefits. | 5 |

SECTION - B

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|----|----|---|---|
| 6. | a) | Compare JIT purchasing with traditional purchasing. | 7 |
| | b) | Discuss in what ways preventive maintenance is absolutely necessary in JIT. | 6 |

7. a) Discuss MRP outputs and Benefits. 7
b) What do you mean by. 6
i) Gross Requirement.
ii) Net Requirement
iii) Master production schedule
8. a) Explain the steps in modeling methodology for situations. Why the understanding of this methodology is important for Computer Aided inventory control? 7
b) State and explain different techniques used to collect data from the factory floor (FDC system). 6
9. a) Compare and contradict the concept of push system and pull system. 7
b) Explain computer aided materials management. 6

10. The Shopkeeper has collected following data of demand with their probabilities for a brand of cellphone as follows. 14

Daily Demand	0	5	10	15	20	25
Probability	0.05	0.20	0.20	0.40	0.10	0.05

Using the sequence of random numbers given below, Generate the demand for next quarter ie for 12 weeks Also find average demand per week.

Random No's are

56, 94, 83, 35, 57, 36, 52, 90, 13, 23, 73, 34. <http://www.sgbauonline.com>
