

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

P. Pages : 2

Time : Three Hours



AW - 3563

Max. Marks : 80

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

SECTION - A

1. a) What is computer aided process planning ? Explain the approaches to CAPP. 8
b) Explain the benefits of CAPP over manual process planning. 5
2. a) What is artificial intelligence ? How AI is applied in CAPP ? 7
b) Explain the strategies used in short term planning and long term planning. 6
3. a) Explain the construction and working of a coordinate measuring machine (CMM). 7
b) Differentiate between traditional and modern quality control techniques. 7
4. a) Explain the various contact and non-contact inspection methods. 7
b) Explain the working principle of machine vision. 6
5. a) Explain the concept of capacity planning. What are the factors influencing capacity planning. 7
b) Explain the role of product mix in the decision of capacity utilization. 6

SECTION - B

6. a) Explain the concept of Just in Time (JIT) How JIT is applied in manufacturing and purchasing. 8
b) What are the crucial factors emphasized by JIT in minimizing waste. 6
7. a) Define Kanban system. Explain the role of push production control system with suitable example. 7
b) What is CAMM ? State the applications of CAMM. 6

8. a) What is material requirement planning (MRP) ? Explain the various factors influencing MRP. 7
- b) Explain Bill of materials (BOM) in the context of MRP. 6
9. a) Explain the various methods used to collect data from factory floor. 5
- b) The probability distribution for a product is given in table 1. Simulate the demand for 10 days and find average demand. The random number are - 36, 25, 90, 14, 81, 11, 53, 60, 48, 77. 8

Table 1 :

Daily demand	0	10	20	30	40	50
Probability	0.05	0.25	0.35	0.20	0.05	0.10

10. a) Explain gross and net requirement. 5
- b) Complete the material requirement plan for product P given in table 2. The product P has an independent demand and a safety stock of 35 is maintained. The order quantity is 70 and lead time is 04 weeks. 8

Table 2 :

Product P		WEEK											
		1	2	3	4	5	6	7	8	9	10	11	12
Projected requirement		20	20	25	20	20	25	20	20	30	25	25	25
Receipts			70										
On hand at end of period	65												
Planned order release													
