

PT472 SCHEDULING AND PLANNING FOR PRINT PRODUCTION

(REGULATIONS 2004)

Time : 3 hrs

Max Mark:100

ANSWER ALL QUESTIONS

Part – A (10 x 2 = 20 Mark)

1. What are the types of organisation?
2. Do you think the study of ergonomics necessary for printing?
3. How do we solve simple sequencing problems?
4. Expand - LCM, VAM, VAM.
5. Differentiate between setup cost and purchase-cost?
6. Justify the need for calculating safety stock?
7. Give three main classification of inventory management?
8. Why do we need to calculate the transit inventory?
9. Write a short note on CRP?
10. Mention few advantages of BOM.

Part – B (5 x 16 = 80 Mark)

11. Write elaborately the significant feature and types of organisation in details which is appropriate for a carton making company.
12. a. A company has three plants and four warehouses. The supply and demand in units and the corresponding transportation cost are given in below table.

Plants	Warehouse				Supply	
	1	2	3	4		
A	7	3	8	6	6	0
B	4	2	5	10	1	0
C	2	6	5	1	4	0
Demand	20	50	50	80	2	0

Answer the following questions, giving brief reasons:

- 1). Find the solution feasible by NWC? (4 Marks)
- 2). Is the solution degenerate and optimal? (4 Marks)
- 3). Does this problem have more than one optimal solution? (8 Marks)

OR

- b. i) Determine the optimal sequence and obtain the value of T, total elapsed time from the below given data if the processing the order is M1-M2-M3. (10 Marks)

Job	J1	J2	J3	J4	J5	J6
M1	12	10	9	14	7	9
M2	6	5	6	4	2	4
M3	7	6	6	5	4	4

ii) Using the following cost matrix find

- i) Optimal job assignment (3 Marks)
- ii) The cost of assignment. (3 Marks).

Men	JOB			
	A	B	C	D
1	45	40	51	67
2	57	42	63	55
3	49	52	48	64
4	41	45	60	55

13. a. A company purchases the flutes for cartons from another company. From the past records, the EOQ is 3600 units with the average of 50 units per day. The normal lead time is 6 days and the carrying cost per unit is Rs 10 per year. The cost of being cost out for this component is estimated to be Rs.50 per unit and the company places 5 orders per year.

Usage during re-order period	150	200	250	300	350	400	450
No. Of times the Quantity was used	3	4	6	68	9	7	3

1. Find the SS and the reorder level for the component.

OR

b. A Company has a contract to supply 5,000 units of an item per year to a dealer. For this item, the company estimates that the ordering cost is Rs.150 every time that an order is made while the carrying cost (p.a.) is reckoned to be 20 percent of the unit price. The company is negotiating with a dealer who offers to give the following quantity discount.

Order size	Price per unit (Rs.)
Less than 1,000	500
1,000 – 2,999	450
3,000 – 4,999	400
5,000 or more	350

Recommend to the company the best inventory policy with regard to this item.

14. a. From the following information determine ES, EF, LS, LF, FF, IF and TF for each activities.

Activity	A	B	C	D	E	F	G	H	I	J	K
predecessor	1-2	1-3	1-4	2-5	3-5	3-6	3-7	4-6	5-7	6-8	7-8
Time (days)	2	7	8	3	6	10	4	6	2	5	6

OR

b. The following data related to a project.

Activity	Activity time		Activity cost	
	Regular	Crash	Regular	Crash
1-2	7	6	700	750
1-3	8	6	650	750
2-4	9	7	800	900
2-5	11	8	1600	1800
3-5	8	5	750	1000
3-6	10	7	1900	2100
4-7	12	10	1200	1300
5-7	13	11	1300	1400
6-7	14	10	1500	1800

1. Draw the network and find the CP along with the duration of the project. (5Marks)
2. Find the crash cost and crash time ? (6 Marks)
3. What is the probability of completing the project within 25 days? (5 Marks)

15 a. Define: MRP. Write the functions, inputs and output of MRP using neat flow chart.

OR

b. Discuss elaborately the important ergonomics specification required for a paper making company.