



Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) – 201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2018-20) END TERM EXAMINATION (TERM - IV)

Subject Name – Supply Chain Management

Time: **02.00 hrs**

Sub. Code – PG32

Max Marks: **50**

Note:

1. Writing anything except Roll Number on question paper will be deemed as an act of indulging in unfair means and action shall be taken as per rules.
2. All questions are compulsory in Section A, B & C. Section A carries 5 questions of 2 marks each, Section B carries 2 questions of 10 marks each and Section C carries 2 Case Studies of 10 marks each

SECTION - A

02×05 = 10 Marks

- Q. 1 (A): Explain cycle view of the supply chain?
Q. 1 (B): Brief note on planning process of MRP?
Q. 1 (C): Explain Phase II of supply chain network design phases?
Q. 1 (D): List down modes of transportation and how IT helps in transportation?
Q. 1 (E): What is the impact of e-business on supply chain responsiveness?

SECTION - B

10×02 = 20 Marks

- Q. 2: What are the different modes of transportation and design options? Explain two modes and two designs in detail?
- Q. 3: Grey Wolf Lodge is a popular 500-room hotel in the Norht Woods. Managers need to keep close tabs on all room service items, including a special pine scented bar soap. The daily demand for the soap is 275 bars, with a standard deviation of 30 bars. Ordering cost is \$10 and the inventory holding cost is \$0.30/bar/year. The lead time from the supplier is 5 days, with a a standard deviation of 1 day. The lodge is open 365 days a year.
- a) What is the economic order quantity for the bar of soap?
 - b) What should the reorder point be for the bar of soap if management wants to have a 99 percent cycle service level?
 - c) What is the total annual cost for the bar of soap, assuming a Q system will be used?

SECTION - C**10×02 = 20 Marks****Q. 4: Case Study:**

Bhavana Synthetics Limited is deciding on a location for the production of synthetics. After a study of critical strategic issues, the choice has narrowed down to three possible places named site 'X', site 'Y' and site 'Z'. For its planned operating capacity, Bhavana estimates the costs at the different locations. The estimates on various categories are shown in Table 4. The possible locations are also evaluated for important qualitative factors such as community attitude and employee housing facilities. The weight assigned for community attitude and employee housing facilities are 0.4 and 0.6 respectively. Suggest the desirable site for locating the plant.

Table 4

Variables	Site X	Site Y	Site Z
Total Initial Investment (Rs.)	2,00,000	2,00,000	2,00,000
Total Expected Sales (Rs.)	2,50,000	3,00,000	2,50,000
Distribution Expenses (Rs.)	40,000	40,000	75,000
Raw Material Expenses (Rs.)	70,000	80,000	90,000
Power and Water Supply Expenses (Rs.)	40,000	30,000	20,000
Wages and Salaries (Rs.)	20,000	25,000	20,000
Other Expenses (Rs.)	25,000	40,000	30,000
Community Attitude	Indifferent	Want Business	Indifferent
Employee Housing Facilities	Poor	Excellent	Good

Q. 5: Case Study:

Use the master schedule shown below to answer the following:

- Is it make to order or stock, how long is planning period and how many production runs are required to meet the demand? Why there is no production in week 1?
- How to calculate projected inventory balance and how many end items will be exploded into component parts in the MRP system as a result of the MPS requirements during week 3? Does week 6 uses the full capacity or not?

Lead time 0	Lot size 25			Demand time fence 0					
On hand 30	Safety stock 0			Planning time fence 6					
Period	1	2	3	4	5	6	7	8	9
Forecast		20	20	20	20	20	20		
Customer orders (booked)									
Projected available balance	10	15	20	0	5	10			
Master Production Schedule		25	25		25	25			