NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Business and Law
Program/s: MBA
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2021

Course Code: MG105 **Course Name:** Supply Chain Management
Date: 06/12/2021 **Total Marks:** 40
Time: 08:30 AM to 10:30 AM **Total Pages:** 02

Instructions:

→ *All questions are compulsory*
→ *Use of a calculator is permitted/not permitted*
→ ** COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q. No.	Details	Marks	COs*	BTL#
Q.1	Short notes on the followings: (a) SCOR Model (b) Two bin inventory system (c) Third Party Logistics (3PL) (d) Vendor Managed Inventory (VMI) (e) Collaborative Planning Forecasting & Replenishment (CPFR)	2×5=10	CO1, CO2, CO3, CO4	BT1, BT2
Q.2	What is strategic fit? Describe how OLA Electric can achieve strategic fit for its Electric scooter.	4	CO2, CO3	BT1, BT2, BT3
Q.3	What are the pros and cons of different transportation network design options?	4	CO1, CO2, CO3, CO4	BT1, BT2
Q.4	What is bullwhip effect? Describe different supply chain coordination initiatives to handle bullwhip effect.	4	CO2, CO3, CO4	BT1, BT2
Q.5	A TV manufacturer has demand for its latest 3D technology which is given below. The actual quarter-wise demand (in '000) for the past 3 years is given. Find forecasted demand for the year 2021.	4	CO2, CO3, CO4	BT4

	Sales (in '000)		
Quarter	2018	2019	2020
Q1	24	23	25
Q2	22	23	24
Q3	19	22	21
Q4	28	30	34

Q. No.	Details	Marks	COs*	BTL#
Q.6	The weightage of different criteria for selecting a location are: Size of the market : 40, Industrial relations: 20, Availability of cheap labour: 30 and Tax benefits: 10. Select the best alternative whose performance out of 10 are given below and	4	CO2, CO3, CO4	BT4, BT5

explain why.

    i.   Location 1 (Size of the market : 4, Industrial relations: 2, Availability of cheap labour: 7 and Tax benefits: 3)

    ii.   Location 2 (Size of the market : 6, Industrial relations: 2, Availability of cheap labour: 4 and Tax benefits: 4)

    iii.   Location 3 (Size of the market : 5, Industrial relations: 6, Availability of cheap labour: 9 and Tax benefits: 5)

    iv.   Location 4 (Size of the market : 5, Industrial relations: 5, Availability of cheap labour: 8 and Tax benefits: 7)

Q.7 The annual demand of a product is 36000 units. The average lead time is 2 weeks. The standard deviation of demand during the lead time is 150 units/week. The cost of ordering is Rs. 500 per order. The cost of purchase of the product per unit is Rs. 15. The cost of carrying per unit per year is 20% of the purchase price. The maximum delay in lead time is 1 week and the probability of this delay is 0.3. Assume a service level of 95% ($Z = 1.64$ for 0.95 service level). Answer the following:

(a) Find economic order quantity, Order interval and total inventory cost.

(b) What is the reorder level if Fixed Order Quantity System (Q System) is followed?

(c) What is the maximum inventory level, if Periodic Review System (P System) is followed?

CO2, BT1,
CO3, BT4,
CO4 BT5

4
3
3

*********** End of Question Paper ***********