Time allowed: 2 Hours 30 mins   Max Marks:50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** In case of rough work please use answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	3*5 = 15
B	2 out of 3 (Long Questions)	10 Marks each	3*10 = 20
C	Compulsory Case Study	15 Marks	15
		Total Marks	**50**

SECTION A

Q1. Goods can be transported either as (1) Bulk cargo, (2) Break-bulk cargo or (3) Unitized cargo. How they are different from each other?

Q2. What is a relationship between the service level and safety stock? Consider an item that is ordered once per month. The daily requirement is 200 and the lead time for supply is two days. There are 25 working days in a month. The cost of ordering is INR 300 per order and carrying cost is INR 150 per unit per year.
a. Draw a sketch showing the cyclic and pipeline inventory in the system.
b. What is the cost of this plan?

Q3. Logistics hubs in different regions would be driven by commercial and economic efficiency considerations rather than regulatory matters? Does GST/IGST had any impact on the given statement? Discuss?

Q4. Discuss the following, considering them as the part of transport operations? A. Cross Docking B. Consolidation C. Break Bulk D. Transhipment?

Q5.
a. International trade and business is often without balance, that is, the volume of imports may not be equal to that of exports. Under these circumstances, how is the balance of containers maintained across various markets across the world.
b. What are the different dimensions of containers that are used for international cargo movement today?

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SECTION B

Q1. "No corporation needs to be convinced that in today's scale driven, technology-intensive global economy partnership are supply chain's life blood"! One interesting fact is that, empirically, buyer-supplier relationship exist in surprisingly multifarious forms in different geographic regions and business sectors. Discuss in view of the above statement the multifarious buyer supplier relationships, the reason, impact and inventory management practices prevalent under it?

Q2. In order to participate in export, manufacturing to developed countries, supply chain actors (SCAs/VCAs) need to be on the radar of the lead firms/focal firm of their chains because the lead firm frequently makes the decisions on where products will be produced and who will produce them. This makes the role of governance important in particular way. Please share the role of governance in international supply chains and logistics domain, its determinants, reason for shift in their patterns?

Q3. A company was looking forward to redesign their distribution network, automate the warehouses, and make them lean and productive. The broad parameters of their products are that they used to build a pallet of 1.2 M X 1M X 1M. They had 200 SKUs most of which were fast moving. For Mother warehouse to distribute in the national capital region, they ideally wanted a warehouse in Haryana and for Delhi, a sales depot within the Delhi state in outskirts, where rent will be cheaper. Their main volume are some 13,000 cases into the mother warehouse. Some 13,000 cases went out of warehouse every day on 25 days working. The depot in Delhi would have 7500 cases in and 7500 cases out. Their inventory policy was simple- even day rolling stock and even day safety stock in the depot and 15 days in each mother warehouse. They would ideally like to completely racked warehouses with 1+4 pallet high with reach stacker, they also like to have dock levellers in the loading and unloading dock to improve productivity. Having good volume, they felt they should have a standalone contract warehouses and would like outsource end to end operation to a 3PL Company. Kindly help us in preparing request for quotation with suitable assumption clearly?

SECTION C

Mehar Exports Ltd is a Hyderabad-based company manufacturing Canvas cloth and Tarpaulins. As a value added item, they manufacture tents used for desert and relief camps.

They were also exporting all these items to many countries and they were registered suppliers to many UN organizations, including the UN relief commissioner. During 2007, there was a huge flood in Brazil and many people were displaced. The UN relief commissioner needed 100 tents (each weighing 500 kg). The only organization which had ready goods was Mehar Exports, and the tents were needed in 15 to 25 days' time. Mehar Exports got the order and they were given a maximum of 25 days to deliver the goods to Rio de Janeiro.

The company went back to the UN and said that only way their goods can reach the destination within the dates specified was by air. They ruled out shipping as minimum transit time by the fastest ship was 45 days, including rail transit from Hyderabad. They even considered sea-air route which also did not seem possible because of inland location of Hyderabad.

The original quote was CIF by sea, and the cost would go up substantially if shipped by air. The UN was willing to compensate the part of the cost up to ~ 100 per kg. Though this would not cover the cost of airfreight over the sea freight, the company accepted the order as it was a prestigious order and could pave way for many more.

Looking at the airfreight, the company's export manger, Sitarama Rao, asked his IATA agent Mr Sanjay Reddy of Blue Air to discuss this matter.

Sanjay checked up the dimensions of each package, which turned out to be 1.2 m x 1.2 m x 1 m pallet. He said that this cargo has to go on either in wide-bodied carrier PAX with lower holds or freighter aircraft with main deck and lower holds.

He also wanted to know the last date of delivery and also whether part shipments could be allowed. Rao had taken the clearance from the UN for partial delivery as long as total number of deliveries does not exceed five, which would mean a minimum of 10tonnes or 20 pallets.

Rao was enquiring whether it would be possible to ship the goods in one lot on a chartered fight. A night could come to Hyderabad airport and for such a volume, a good rate could be negotiated. Reddy gave several reasons as to why chartering will not be a feasible and economical option. They started exploring options together. Only Lufthansa offered freighter service once a week from Hyderabad. They had committed cargoes throughout year and were premium carriers. They had a lot of cargoes destined for Germany and the EU but the carriage from Frankfurt could not be confirmed. British Airways used Blue Dart to pick up larger dimensioned cargoes to connect to freighters from Chennai. However, their freighter schedule was erratic and timely carriage from London was an issue.

The other option Reddy suggested was to move the goods by truckloads by road (each truck taking 20 pallets and 10tonnes) to either Mumbai or Chennai and connect freighter or wide-bodied PAX aircraft. Unlike European airlines, some of the airlines of the Middle East or the Far East (like Hong Kong or Singapore) have more capacity for transit / through traffic. Airlines such as Cathay PaCific and Etihaad have far more capacity and both these airines operate freighter services; however, their transit times were more by a few days (seven to eight days as compared to five days of Lufthansa).

While Lufthansa's rates, ex Hyderabad, was <250 per kg, the one which Reddy could negotiate with the other airlines offering twice weekly capacity from either Chennai or Mumbai was <190per kg. The airlines were willing to offer 10 tonnes per lift, provided booking was done one week in advance. The transport rate from Hyderabad to either Chennai or Mumbai was 6,000 per truck and charges incurred in customs clearance, airport handling would be <10 per kg in Mumbai, <8per kg in Chennai, and <7 per kg in Hyderabad. For the Hyderabad shipment, local transport charges of <4000 per truck of 1O tonnes was also incurred. The transit time between Hyderabad and Chennai or Mumbai would be 24 to 30 hours.

While arithmetic is easy, what should be the strategy of shipment to ensure that goods reach within the last date? Reddy was asked to present a paper giving cost comparison of various options and present a strategically best shipment plan.

Discussion Question
Q1. Assume you were in Reddy's position and prepare the paper?