**JAIPURIA INSTITUTE OF MANAGEMENT, INDORE**

**PGDM**

**FOURTH TRIMESTER (Batch 2020-22)**

**END TERM IMPROVEMENT EXAMINATION, DEC 2021**

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| Course Name | **Supply Chain Management** | Course Code | **OM 401** |
| Max. Time | **2 hours** | Max. Marks | **40** |

**INSTRUCTIONS:**

***Students can use the IT LAB computers during the exam which will be restricted to the use of excel sheets only. Use of any other material or internet is prohibited during the exam.***

***Students have to write the step-wise excel calculations in the answer sheet only for evaluation purpose.***

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**Questions.1 (10 Marks)**

DryIce, Inc., is a manufacturer of air conditioners that has seen its demand grow significantly. The company anticipates nationwide demand for the next year to be 180,000 units in the South, 120,000 units in the Midwest, 110,000 units in the East, and 100,000 units in the West. Managers at DryIce are designing the manufacturing network and have selected four potential sites—New York, Atlanta, Chicago, and San Diego. Plants could have a capacity of either 200,000 or 400,000 units. The annual fixed costs at the four locations are shown in the following table, along with the cost of producing and shipping an air conditioner to each of the four markets. Determine where should DryIce build its factories and how large should they be?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **New York** | **Atlanta** | **Chicago** | **San Diego** |
| Annual fixed cost of 200,000 plant | $6 million | $5.5 million | $5.6 million | $6.1 million |
| Annual fixed cost of 400,000 plant | $10 million | $9.2 million | $9.3 million | $10.2 million |
| East | $211 | $232 | $238 | $299 |
| South | $232 | $212 | $230 | $280 |
| Midwest | $240 | $230 | $215 | $270 |
| West | $300 | $280 | $270 | $225 |

**Questions.2 (5+5= 10 Marks)**

Walmart is one of the world’s leading multinational retail corporations with a huge turnover. It delivers quality merchandise for the lowest prices possible. Besides building a reputation, it always maintains a high position in terms of strong logistics, [supply chain management](https://www.sellerapp.com/blog/private-brand-supply-chain/), and efficiency. Walmart boasts over 11,700 stores and serves about 270 million customers. Its business strategy is mainly based on “*being competitive in terms of assortment, differentiating with the way people access, leading in terms of price, and delivering an incredible experience with the motto of EDLP (Every Day Low Prices)*.” Walmart boasts more than 150 distribution centers and is the main hubs of its business. Its distribution operation is world’s one of the most prominent activities, servicing clubs, direct deliveries, and stores to the customers. Every distribution centre measures over 1 million sq. ft. and has more than 600 personnel unloading as well as shipping on 200+ trailers on a daily basis. Each distribution centre is built across a radius of 150 or more miles and can hold 90 – 100 stores in it.

a) Illustrate with arguments to support the statement that Walmart has achieved good strategic fit between its competitive and supply chain strategies.

b) Demonstrate the challenges does it would face as it also plans to open smaller format stores in urban environments?

**Questions.3 (5+5=10 Marks)**

There is a huge problem in the diamonds industry when it comes to the working conditions under which they are extracted. Most of the times, diamonds are mined under violent circumstances or in unsuitable conditions. The biggest producers are, of course, in Africa. In the continent, sales of diamonds often serve for funding various conflicts in the region. On the bright side, De Beers, the world’s largest diamond producer, wants to put an end to this with the help of a blockchain supply chain program. Their program, Tracr, successfully tracked 100 diamonds from mine trough the cutter and polisher, up to the jeweler. In this program, actors in the blockchain upload photos and information regarding the color, quality and location of a processed diamond. More importantly, introducing Tracr to the diamond industry can prevent illegal actions when mining for diamonds all over the world.

In the light of the above scenario,

a) Express the rationale of blockchain technology adoption in Indian context by taking the example of any industry of your choice (different from the one mentioned in the question).

b) Express the implications of blockchain technology in building visibility and supporting the three pillars of sustainability in Indian context with suitable example.

**Questions.4 (10 Marks)**

Samsung Electronics Co., Ltd. is a South Korean multinational company that makes electronic and smart appliances. It has offshored its manufacturing to countries like the USA, a huge consumer of its products. The organization also has a new plant in India solely to manufacture smartphones. Additionally, it has offshored its customer support for Australian Samsung mobile users to the Philippines.

Inditex is a Spanish apparel company. It’s the parent company of Zara, one of the biggest fashion brands in the world. According to sources, Zara nearshored about 10% of its production to Morocco and Turkey.

Whirlpool is an American multinational manufacturer and marketer of home appliances. The company nearshored operations to Mexico in 1987. The Mexican facility exported 80% of the machines (like refrigerators, washing machines, compact refrigerators, and stoves) to the USA and Canada.

Express in detail that for products such as home appliances, toys, garments, and consumer electronics, what factors would influence selecting an onshore, near-shore, or offshore supplier?