PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF MANAGEMENT

MAKEUP EXAMINATION- JAN 2023

Course Code: MGI 244

Course Name: Supply Chain Modelling

Program & Sem: BBA

Date: 20/01/2023

Time: 09.30am to 12.30pm

Max Marks:100

Weightage: 50%

Instructions:
(i) Read the question properly and answer accordingly.

Part A (Memory Recall Questions)

Answer all the Questions. Each Question carries TWO marks.   (10Qx2M=20M)

1. List out at least four types of SCM Software   (C.O.No.2) [Comprehension]
2. Write down all the process that are involved in replenishing retailer inventory in a SCM process   (C.O.No.1) [Comprehension]
3. Automakers cancelled orders for microprocessors early in the COVID-19 outbreak, fearing a sharp decline in vehicles sales. This is an example of which kind of events, in SCM context. Explain its meaning.

   (C.O.No.4) [Comprehension]
4. Supply chain VUCA situations can go from "unknown unknowns" to "known unknowns". In this context describe using an example, the meaning of VUCA in the supply chain context.   (C.O.No.4) [Comprehension]

5. With an example, describe the meaning of stock out cost.

   (C.O.No.3) [Understanding]
6. Bring out at least two differences between continuous review and periodic review of inventory management techniques   (C.O.No.3) (Comprehension)
7. What is meant by seasonality in demand forecasting? Substantiate your answer with an answer.

   (C.O.No.1) [Comprehension]
8. Where is Linear Regression Equation used? .Write down the basic formula for a linear regression equation.   (C.O.No.1) [Comprehension]
9. What is the linkage between the Supplier, Manufacturer, and Customer and what involves the process of planning, implementing and controlling supply chain operations? Give some examples of this linkage.   (C.O.No.2) [Comprehension]
10. Which among the following is 'NOT' the benefits of cloud computing over the supply chain?
    a. Interconnected.
    b. Intelligent
    c. Costlier
    d. Innovative.

   (C.O.No.2) [Comprehension]

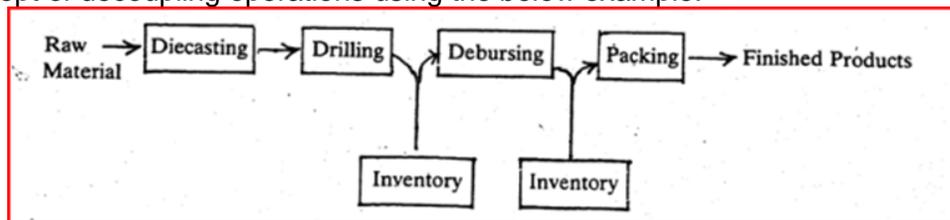**Part B (Thought Provoking Questions)**

Answer all the Questions. Each Question carries TEN marks.   (4Qx10M=40M)

11. Each of the drivers answers specific questions and relates to a particular element of the business process. Explain the importance of the drivers of supply chain for design and modelling the SCM process.   (C.O.No.1) [Comprehension]

12. How can product recovery system improve the ecosystem and builds profitability for an organization? Explain with context of a toy manufacturing company?
                                                                                (C.O.No.2) [Comprehension]

13. Analyze the inventory situation in an organization one to two years period of a deterministic Inventory Models. What type of control activities do you propose for each type of item? (C.O.No.3) [Understanding]

14. When Hurricane Maria hit Puerto Rico in September 2017, it caused damage to the supply chains of two of the island's most important industries- pharmaceuticals and medical devices. Authorities had to ensure that critical drugs and medical supplies did not run out. The effects spread throughout the United States as the storm knocked out many of the facilities in Puerto Rico that make sterile saline bags. Hospitals were forced to ration saline, and patients thousands of miles away were affected too. This demonstrate the dramatic consequences and interdependence of supply chain entities, as well as their vulnerability to destructive events. But with the right mitigation strategies, they can significantly reduce the impact of a disruptive event with the same basic approach as all other supply chain disruption events and risks. Discuss some of the basic approaches that could be proactively done by firms.   (C.O.No.4) [Comprehension]
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Part C [Problem Solving Questions]

Answer all the Questions. Each Question carries TWENTY marks.   (2Qx20M=40M)

15. Suppose you own an engineering firm. Since debursing & packing could continue to operate from inventories should die-casting and drilling be shut down or they can be decoupled from the production processes that precede them (See Fig below). Explain the concept of decoupling operations using the below example.

                                                                                (C.O. No.3) Application]

16. Read the case and answer the question.

One of the biggest and most important artificially dug waterways is the Suez Canal in Egypt, which divides the African from the Asian continent and connects the Mediterranean Sea with the Red Sea. The Canal itself is about 120 miles long and 105 meters wide, with a usage capacity of up to 19.000 ships with a net tonnage of 1.17 billion tons. All this indicates that the Suez Canal plays a crucial role in connecting the eastern and western world, as well as enabling the transport of natural gas, cargo and oil. On the 23rd March 2021, a large container vessel named Ever Given sailed from Malaysia to the Netherlands through the Canal. The 400 meters long, weighing 20.000 tons and capable to carry around 20.000 containers, the Ever Given is one of the largest cargo vessels in the world. Although it has crossed the Suez Canal many times before, the huge vessel got stuck at the southern end of it, causing a blockade, as well as major and critical disruptions in the global supply chains. This incident caused delivery delays, interruption of supply, production losses and higher costs of transportation, products and services.
In the context of the above,

1. Explain how this event went down as one of an international Supply chain issue within hours at the Suez Canal in 2021. 5 marks

2. How was the container vessel freed and what all steps were followed? 5 marks

3. Explain briefly the VUCA concept in SCM world using the above context. 10 marks

(C.O.No.4) [Application]

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