- Supply chain risk is multi-dimensional — from geopolitics to climate to cyber threats.

Questions : Answer following questions :

(a) What were the key internal and external risks faced by SonaPhanna?

(b) How did the use of a risk heat map and scenario planning assist in prioritizing actions?

(c) What rôle did supplier diversification play in SonaPharma's recovery?

(d) Which technological or organizational changes were most impactful for resilience?

(e) If SonaPharma wanted to prevent future regulatory risks in the EU, what long-term strategy should it adopt?

[This question paper contains 8 printed pages.]

Your Roll No..............

Sr. No. of Question Paper : 3417 **J**

Unique Paper Code : 6132373602

Name of the Paper : Strategic Supply Chain Management

Name of the Course : **B.A. (Vocational Studies) Materials Management**

Semester : VI (NEP)

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. Attempt any **five** questions.

3. **All** questions carry equal marks.

1. A startup in the electric vehicle sector is evaluating whether to invest in a centralized or decentralized supply chain. Explain the various principles of supply chain strategy should guide this decision.

2. A pharmaceutical firm must ensure cold chain integrity across its network. How would you design a supply chain network that balances compliance, cost, and reliability?

3. A company uses simulation modeling to test different distribution center locations. How does this tool support strategic supply chain decisions, and what kind of data is essential for accurate modelling?

4. Discuss how would you structure a long-term strategic partnership with a key supplier to foster innovation and reduce lead times.

5. Describe a scenario where effective negotiation led to a win-win contract in a global procurement setting. What were the key tactics used?

6. You are implementing a new supplier sustainability program. Discuss the metrics and assessment tools that you would use to evaluate supplier environmental and social performance.

Regulatory Intelligence Team: Set up a dedicated team to track and adapt to policy changes in key export countries.

Results and Long-Term Benefits:

- Risk Exposure Reduced: Supply disruptions decreased by 60% in the following two quarters.
- Production Recovery: Normal production levels were restored within 45 days.
- Improved Visibility: Dashboard-based risk tracking provided real-time alerts.
- Stronger Supplier Collaboration: Built trust and responsiveness with new regional suppliers.

Organizational Learning: Introduced supply chain risk management as a permanent business function.

Lessons Learned:

- Risk management must be proactive, not reactive.
- Geographic diversification and technology investment are essential for resilience.
- Collaborating with suppliers on risk mitigation can be a competitive advantage.

Risk	Probability	Impact	Risk Level
API supplier delays	High	Critical	Very High
Port congestion	Medium	High	High
Regulatory changes	High	Medium	High
ERP cyberattack	Low	High	Medium
Flood disruption	Medium	Medium	Medium

Step 3: Mitigation and Risk Response Strategies

Actions Taken:

Supplier Diversification: Onboarded two new API suppliers in Vietnam and India to reduce reliance on China.

Inventory Buffer: Increased safety stock for critical raw materials by 20%.

Technology Upgrade: Implemented cyber security improvements and backup systems for ERP.

Logistics Resilience: Shifted some shipments to alternate ports and air freight during peak crisis.

7. Explain the Rationals behind Tata JLR deal and also critically examine the outcome of this Deal?

8. **Case Study: Supply Chain Risk Management at SonaPharma Ltd.**

   SonaPharma Ltd. is a global pharmaceutical company headquartered in Hyderabad, India. It specializes in the development and distribution of generic medicines and life-saving drugs. With a global footprint across 60+ countries, its supply chain involves:

   - Raw material suppliers (mainly APIs from China)
   - Manufacturing units across India
   - Global distributors and logistics providers
   - Hospitals and retail pharmacies as end customers

   The Challenge: Supply Chain Disruption During a Global Crisis

   In 2023, a combination of geopolitical tensions, port closures due to weather, and API supply constraints in China caused massive disruptions in SonaPharma's supply chain. The following risks materialized:

- Procurement Delays: API shipments delayed up to 5 weeks.
- Compliance Risk: New import-export policies delayed customs clearance.
- Production Halts: Two manufacturing sites had to reduce capacity due to input shortages.
- Reputation Risk: Hospitals reported medicine shortages, impacting patient trust.

Step 1: Identifying Supply Chain Risks

SonaPhanna conducted an emergency supply chain audit and used risk identification tools, including:

SWOT Analysis (focusing on supply chain vulnerabilities)

Supplier Risk Mapping

Failure Mode and Effects Analysis (FMEA)

Scenario Planning for political, economic, and climate-driven disruptions

Key Risks Identified:

Risk Category	**Description**
Supplier Risk	Overdependence on China for key APIs
Logistics Risk	Congestion at international ports
Regulatory Risk	Changes in drug import rules in the EU
Natural Disaster Risk	Flooding at port city impacted transit
Cyber Risk	One ERP system was hacked, delaying orders

Step 2: Risk Assessment and Prioritization

Using a Risk Heat Map, SonaPharma evaluated each risk by:

- Probability of Occurrence (Low to High)
- Impact on Business (Low to Critical)