

| Trimester: September 2024 - January 2025 Examination: End Term Examination | | |
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| Programme code: 01 Programme: Master of Business Administration (Operations-Minor) | Class: SY | Trimester: V (SVU 2024) |
| Name of the Constituent College: K. J. Somaiya Institute of Management | Name of the department/Section/Center: Operations Management | |
| Course Code: 217P01M550 | Name of the Course: Sustainable Supply Chain Management (Minor) | |

Maximum Marks: 25
Time: - 1.5 hours
Date: 16/1/2025
Notes:
1. Question No. 1 is compulsory.
2. Answer any three questions from Question 2 to Question 5.

| Question No. | | Max. Marks |
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| Q1. | <p>EcoPack Industries, a mid-sized manufacturer of packaging materials based in India, specializes in producing plastic and paper-based packaging solutions for FMCG companies. With increasing pressure from regulators, consumers, and global partners to adopt sustainable practices, EcoPack decided to revamp its supply chain to align with circular economy principles.</p> <p>The company faced multiple challenges:</p> <p>Resource Intensity: Their production relied heavily on virgin plastic and pulp, which are resource-intensive and unsustainable.</p> <p>Waste Management: Post-consumer packaging waste, especially plastics, was a growing environmental concern.</p> <p>Supply Chain Visibility: Tracking suppliers and ensuring sustainability compliance across the supply chain was difficult.</p> <p>Cost Pressures: Transitioning to sustainable materials and processes increased operational costs in the short term.</p> <p>The management team, led by the Supply Chain Head, was tasked with:</p> <p>Reducing reliance on virgin resources.</p> <p>Improving waste collection and recycling processes.</p> <p>Collaborating with suppliers and customers to create a circular supply chain.</p> | 10 |

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| | <p>The Solution</p> <p>EcoPack took the following steps:</p> <p>Material Substitution: Partnered with suppliers to procure recycled plastic resins and FSC-certified paper. Invested in R&D to create bio-based and compostable packaging solutions.</p> <p>Reverse Logistics: Launched a take-back program in collaboration with key FMCG clients, allowing the collection of used packaging for recycling. Created incentive programs for consumers to return packaging waste via drop-off points.</p> <p>Supplier Engagement: Audited suppliers for sustainability practices using a “Green Procurement Policy.” Educated key suppliers on reducing carbon emissions and adopting cleaner technologies.</p> <p>Digital Transformation: Implemented blockchain technology to trace and verify the use of recycled materials across the supply chain.</p> <p>KPIs for Sustainability: Developed sustainability KPIs: carbon footprint reduction, recycled material usage, and waste diversion rates.</p> <p>Over 18 months, EcoPack reported:</p> <p>A 40% reduction in virgin material usage. An increase in customer loyalty due to eco-friendly packaging. Improved collaboration with suppliers and reduced supply chain risks. Enhanced brand image and alignment with global sustainability goals (SDGs 12 and 13).</p> <p>However, challenges remain:</p> <p>Higher costs of sourcing recycled materials. Scaling the take-back program to rural areas. Balancing profitability with sustainability investments.</p> <p>Based on the above, please answer the Questions below</p> <p>i) What are the key challenges faced by EcoPack in transitioning to a circular supply chain?</p> <p>ii) How can the company balance cost pressures while implementing sustainable practices?</p> <p>iii) What role do consumers play in the success of EcoPack’s circular supply chain?</p> <p>iv) Identify strategies EcoPack could adopt to scale its initiatives without compromising profitability.</p> | |
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| Q2 | Explain the role of the triple bottom line (TBL) in SSCM. | 5 |
| Q3 | Describe the role of reverse logistics in achieving supply chain sustainability | 5 |
| Q4 | Explain how companies can balance profitability and sustainability in supply chain management. | 5 |
| Q5 | Discuss the role of alternative fuels (e.g., biofuels, hydrogen, electric power) in reducing the environmental impact of freight transportation. | 5 |