Green Logistics and Supply Chain Management

Course Objectives

The aim of this course is to make the students aware of the impacts of business on the environment and how these can be tackled through green design and green products and by adopting green practices in supply chain management.

Syllabus

Sustainable Development, Green Logistics, Supply Chain Management, Evolution of Green Supply Chain Management from Supply Chain Management, Comparison of Traditional and Green Supply Chains, Green Logistics, Reverse Logistics, Regulatory Requirements.

Expected Outcome

After the successful completion of this course, the students are able to develop an understanding about Green and sustainable supply chains including Reverse Logistics by learning tools and techniques required to analyze and design environmentally sustainable supply chain systems and also critically assess strategic choices related to Green SCM design.

References

1. Vogt, J J; Pienaar, W J; de Wit, P W C, Business Logistics & Management - Theory and Practice. Oxford University Publications, 2002

2. Gilbert, M. Masters, Introduction to Environmental Engineering and Science, Pearson Education, 2015

3. Hsiao-Fan Wang, Surendra M. Gupta, Green Supply Chain Management: Product Life Cycle Approach, McGraw-Hill Professional, 2011

4. Mackenzie Leo Davis and Susan J. Masten, (2008). Principles of Environmental Engineering and Science, McGraw Hill Education India Private Limited, 2013.

5. Charles J. Kibert, Sustainable Construction: Green Building Design and Delivery, Kindle edition, NY: Wiley. 2016

6. Stuart Emmet and Vivek Sood, Green Supply Chains: An Action Manifesto, Wiley International, 2010

COURSE PLAN

1 Introduction: Supply Chain Traditional View: Supply chains, sustainability of business and environment, impacts of business in environment, Traditional View - Procurement, Warehousing, Materials Handling – Packaging, Containerization, Transportation – Inbound Vs Outbound, Modal Control – Rail, TL, LTL, Parcel, Customer Service – Geographic, Product Line Specific, Planning Group – Facility Location, Network Design.

2 Supply Chain Modern View: Green Supply Chain Management, Reduction of energy use & renewable alternatives, Cutting water volumes & countering, contamination, Reducing, scrubbing or sequestering GHGs, Decreasing quantities of waste, 3R – Reducing, Recycling, Reusing, Packaging Material Reductions, Reverse Logistics.

First Internal Examination

3 Sustainable Development: Bio Diversity, Atmospheric pollution- Global warming and Ozone Depletion-ODS, El Nino and climate changes, Eco friendly products, Green movements, Green philosophy -Environmental Policies, Environmental Impact Assessment, Reverse Logistics –Return of Unsold Goods, Reusable Packaging, Refusal of the products in the cash on delivery (COD), Remanufacturing, Waste Management, End of Life Manufacturing, Warranty Management.

4 Regulatory Framework: Regulatory requirements of re-manufacturing, take back obligations of manufacturers, initiatives by the European Union and the USA, WEEE and RoHS Directives, rules related to product return, reverse logistics, life cycle assessment, and design for environment in the context of supply chains.

Second Internal Examination

5 Sustainability of supply chains: environmental concerns and green practices as a supply chain requirement, Indian initiatives in green practices, closed-loop supply chain examples in Indian context, scope of sustainability in manufacturing by green practices in India.

Final Examination