



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Syllabus for Master of Business Administration (Part - Time), 4<sup>th</sup> Semester**  
**Subject Name: Sustainable Business through Green Supply Chain**  
**Subject Code: 5549985**

**1. Learning Outcome:**

Learning Outcome Component	Learning Outcome
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> <li>Understand the relevance of design elements of a green supply chain and how its effectiveness and efficiency may vary given the different sectors of Business / Industry.</li> </ul>
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> <li>Evaluate the various innovations in design and operation of Green Supply Chains, their evolution and impact on Stakeholder satisfaction.</li> </ul>
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> <li>Compare practices of Green Supply Chain across the globe.</li> </ul>
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> <li>Analyse how organizations have been sensitive to the needs of the market place as regards design and control of the various elements of green supply chain and the benefits reaped therefore.</li> </ul>
Effective Communication (EC)	<ul style="list-style-type: none"> <li>Analyse the engagement of internal and external stakeholders in the design of Green Supply Chain and how it has satisfied needs of the stakeholders in particular and the community at large,</li> </ul>
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> <li>Study the engagement of Leaders and Team Members for continuous innovation in creation of effective Green Supply Chains</li> </ul>

**LO – PO Mapping: Correlation Levels:**

**1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High), “-“= no correlation**

Subject : 5549985	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
LO1: Understand the relevance of design elements of a green supply chain and how its effectiveness and efficiency may vary given the different sectors of Business / Industry.	3	3	2	-	2	3	3	3	3
LO2: Evaluate the various innovations in design and operation of Green Supply Chains, their evolution and impact on Stakeholder satisfaction.	3	3	3	3	2	3	3	3	3
LO3: Compare practices of Green Supply Chain across the globe.	3	3	3	1	3	-	-	-	3
LO4: Analyse how organizations have been sensitive to the needs of the market place as regards design and control of the various elements of green supply chain and the benefits reaped therefore.	3	3	3	-	3	2	3	2	3
LO5: Analyse the engagement of internal and external stakeholders in the design of Green Supply Chain and how it has satisfied needs of	3	2	3	3	2	3	3	2	3



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the stakeholders in particular and the community at large									
LO6: Study the engagement of Leaders and Team Members for continuous innovation in creation of effective Green Supply Chains	3	2	3	3	2	3	3	2	3

2. **Course Duration:** The course duration is of 40 sessions of 60 minutes each.

3. **Course Contents:**

Module No:	Module Content	No. of Sessions	70 Marks (External Evaluation)
<b>I</b>	<ul style="list-style-type: none"> <li>• <b>Sustainable Supply Chain</b></li> <li>• Introduction, Sustainable Supply chain as a critical success factor for sustainability, Ingredients of sustainable supply chain strategy</li> <li>• <b>Business Models &amp; Strategies in Sustainable supply chain</b></li> <li>• Business Implications of sustainability in supply chains</li> <li>• Moving from product based economy to service based economy for sustainable future</li> <li>• Closed loop supply chain</li> <li>• Risk &amp; Uncertainty Management for sustainable supply chain</li> <li>• <b>Green Supply chain as Mitigation strategy</b></li> <li>• Green Supply Chain – Concepts, Need, from traditional to green supply chain, Enablers &amp; Barriers, green supply chain framework, Supply chain integration, circular economy &amp; green supply chain</li> </ul>	<b>10</b>	<b>17</b>
<b>II</b>	<ul style="list-style-type: none"> <li>• <b>Managing Environmental aspects in supply chain</b></li> <li>• Life cycle assessment – Benefits, goals</li> <li>• Carbon footprint minimization across the supply chain – Carbon measurement, carbon minimization, monitoring &amp; reporting</li> <li>• Water footprints assessment in supply chain</li> <li>• Sustainable Non- Renewable Materials Mgmt,</li> <li>• Disclosing &amp; reporting Environment sustainability of supply chain</li> </ul>	<b>10</b>	<b>18</b>
<b>III</b>	<ul style="list-style-type: none"> <li>• <b>Operational &amp; Marketing aspects of Sustainable Supply chain</b></li> <li>• Principles of eco-design in sustainable supply chains</li> <li>• Green logistics, Green inventory management, Green facility location,</li> <li>• Operational implications of environment regulations,</li> <li>• Green procurement&amp; sourcing,</li> <li>• Green technology, lean &amp; green supply chain,</li> <li>• Green packaging, Reverse logistics</li> <li>• Green marketing</li> </ul>	<b>10</b>	<b>18</b>



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<b>IV</b>	<ul style="list-style-type: none"> <li>• <b>Social dimension of sustainable supply chain</b></li> <li>- Green Supply chain performance evaluation– Benefits, methodology; improving social &amp; environment performance in global supply chain, social responsibility in supply chain, cross sector partnerships for sustainable supply chain</li> </ul>	<b>10</b>	<b>17</b>
<b>V</b>	<ul style="list-style-type: none"> <li>• <b>Practical:</b></li> </ul> <p>Select a company, analyse its present Supply Chain and discuss the impact of government regulations (e.g., carbon taxes/pricing, take-back legislation, etc.) on its supply chains and the resultant changes in its business strategies and operations. Your analysis could include facility location, distribution channels and networks, energy supply, manufacturing technology choices, material selection, recycling, supply network choices, etc. Please document and support your statements and suggestions with facts.</p>		<b>30</b> <b>(marks CEC)</b>

**4. Pedagogy:**

- ICT enabled Classroom teaching
- Case study
- Practical / live assignment
- Interactive class room discussions

**5. Evaluation:**

**Students shall be evaluated on the following components:**

<b>A</b>	<b>Internal Evaluation</b>	<b>(Internal Assessment- 50 Marks)</b>
	Continuous Evaluation Component	30 marks
	Class Presence & Participation	10 marks
	Quiz	10 marks
<b>B</b>	<b>Mid-Semester examination</b>	<b>(Internal Assessment-30 Marks)</b>
<b>C</b>	<b>End –Semester Examination</b>	<b>(External Assessment-70 Marks)</b>

**5. Text & Reference Books:**

No.	Author	Name of the Book	Publisher	Year of Publication /Edition
1	Yann Bouchery, Charles J. Corbett, Jan C. Fransoo, Tarkan Tan	Sustainable Supply chains – A Research based text book on operations and strategy	Springer	Latest
2	Balkan Cetinkaya, Richard Cuthbertson, Graham Ewer	Sustainable Supply Chain Management: Practical Ideas for moving towards best practice	Springer	Latest
3	Mehmood Khan, Matloub Hussain, and Mian M. Ajmal	Green Supply Chain Management for Sustainable Business Practice	IGI global	Latest
4	Charisios Achillas, Dionysis D. Bochtis, Dimitrios Aidonis	Green Supply Chain Management	Routledge	Latest



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5	Joseph Sarkis	Handbook on sustainable supply chain	Edward Elgar	Latest
6	Stuart Emmett, VivekSood	Green Supply chain : An action Manifesto	Wiley	Latest
7	Richard Cuthbertson , Balkan Cetinkaya , Graham Ewer, Thorsten Klaas-Wissing , WojciechPiotrowicz , Christoph Tyssen	Sustainable Supply Chain Management Practical Ideas for Moving Towards Best Practice	Springer	Latest
8	Joseph Sarkis Yijie Dou	Green Supply Chain Management A Concise Introduction	Routledge	Latest
9	OzlemBak	Sustainable and Green Supply Chains and Logistics Case Study Collection	Kogan page	Latest
10	Sadia samar Ali, Rajbir kaur, Jose antonio marmolejo saucedo	Best Practices in Green Supply Chain Management: A Developing Country Perspective	Emerald Publishing Limited	Latest

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

**7. List of Journals/Periodicals/Magazines/Newspapers / Web resources, etc.**

- Journal of Cleaner Production, April 2019. Circular supply chain management: A definition and structured literature review by Farooque, M., Zhang, A., Thürer, M., Qu, T., Huisingh, D., <https://doi.org/10.1016/j.jclepro.2019.04.303>
- International Journal of Physical Distribution & Logistics Management, 2018. Green supply chain management and the circular economy: Reviewing theory for advancement of both fields by Junjun Liu, Yunting Feng, Qinghua Zhu, Joseph Sarkis. <https://doi.org/10.1108/IJPDLM-01-2017-0049>
- Sustainable Supply Chains, 2017. Blass, V., Chebach, T.C., Ashkenazy, A. (2017). Sustainable Non-Renewable Materials Management. In: Bouchery, Y., Corbett, C., Fransoo, J., Tan, T. (eds) Sustainable Supply Chains. Springer Series in Supply Chain Management, vol 4. Springer, Cham. pp 87–118. [https://doi.org/10.1007/978-3-319-29791-0\\_5](https://doi.org/10.1007/978-3-319-29791-0_5)
- International Conference on Advances in Education and Management. ISAEBD 2011: Applied Economics, Business and Development. Liu, Xw., Wang, Zg. (2011). The Performance Evaluation of Green Supply Chain of Enterprise. In: Zhou, Q. (eds) Applied Economics, Business and Development. ISAEBD 2011. Communications in Computer and Information Science, vol 208. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-23023-3\\_46pp](https://doi.org/10.1007/978-3-642-23023-3_46pp) 304–309
- Competitiveness Review, 2016. Sustainable green supply chain management: trends and current practices by Amol Singh, Ashish Trivedi. Singh, A. and Trivedi, A. (2016), "Sustainable green supply chain management: trends and current practices", *Competitiveness Review*, Vol. 26 No. 3, pp. 265-288. <https://doi.org/10.1108/CR-05-2015-0034>



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- Sage Open, 2021 Sustainable Supply Management Practices and Sustainability Performance: The Dynamic Capability Perspective. Raza, J., Liu, Y., Zhang, J., Zhu, N., Hassan, Z., Gul, H., & Hussain, S. (2021). Sustainable Supply Management Practices and Sustainability Performance: The Dynamic Capability Perspective. *SAGE Open*, 11(1). <https://doi.org/10.1177/21582440211000046>
- Guide, V., Kumar Neeraj, et al. “Cellular Telephone Reuse: The ReCellular Inc. Case.” *Managing Closed-Loop Supply Chains*. Case: Part 6, (2005): 151–56.
- Mark, K. “Whirlpool Corporation: Reverse Logistics.” Richard Ivey School of Business. Case: 9B11D001, August 8, 2011.
- Blanco, E., and E. Olivetti. *WidgetCo–Carbon Footprint Case Study* (PDF).