University Of Kerala

Discipline	ECONOMICS				
Course Code	UK4SECECO201				
Course Title	Logistics and Transportation Economics				
Type of Course	SEC				
Semester	IV				
Academic Level	200 - 299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours/Week
	4	4 hours	-	-	4
Pre-requisites	Basic Knowledge on economics				
Course Summary	This course helps to enhance skills in fundamental logistics and supply chain management, including transport demand, private and social transport costs, market structures, competition, and pricing strategies in transportation markets.				

Detailed Syllabus:

Module	Unit	Content	Hrs
I		**Concepts of Logistics and Supply Chain**	10
	1	Importance of Logistics in global Sourcing, Production and consumption	
	2	Dimension of Logistics: Macro and Micro aspects	
	3	Key components of logistics: transportation, warehousing, inventory	
		management, and information systems.	
	4	Supply chain contours: Backward and forward linkages- Supply chain efficiency	
II		**Logistics and Procurement**	10
	5	Logistics as a Support function of Procurement and Vendor Facilitation	
	6	Logistics as interface function of Demand Forecasting, Global procurement, Tracking inward shipments and Storage Planning	
	7	Logistics as an enabler of Just-in-Time (JIT), Kanban (A scheduling system for lean inventory), Vendor Managed Inventory (VMI) for Vendors and the firm.	
	8	Measuring Performance, Comparing Performance, Analysing a Supply Chain, Improving Performance	
	9	Environmental costs of logistic infrastructures – containing the environmental costs	
III		**Transportation Economics**	10
	10	The subject matter of transportation economics - economic characteristics of transport	
	11	Transportation Demand - Divisible Goods Case, Discrete Good Case	
	12	Firm Production and Cost in Transportation - The Long Run and Short Run	
	13	Direct Costs of Transport -Factors influencing the supply of transport - Fixed and variable costs	
	14	Economies of scale, scope, density, experience, and commonality	
	15	Problems of common cost allocation: the road and rail track cases	
	16	Transport user costs and the notion of generalized costs	
	17	The bunching of public transport services	
	18	Transportation Investment	
IV		**Pricing of Transport**	10
	19	Matching supply with demand -Marginal cost pricing	
	20	Price differentiation, price discrimination, and yield management - Pricing with stochastic demand	
	21	The problem of the peak -Indirect pricing	

	22	Containing the Environmental Costs of Transport - The OECD's 'polluterpays principle'	
	23	Transport subsidies and the environment	
V		**Activity**	5
	24	Analyze the logistics industry in India: https://data.gov.in/search?title=logistics	
	25	Find the trends of transport sector in the world using the data set: OECD. International Transport Forum. 2012. "Trends in the Transport Sector: 1970-2009". http://www.oecdilibrary. org.prx.library.gatech.edu/	
	26	Using the database in the website: https://portwatch.imf.org/, analyse the activities of the port in different parts of the world	

References

1. Sahay B.S, Supply Chain Management for Global Competitiveness, Macmillan India Ltd., New Delhi.
2. Reguram G , Rangaraj N , Logistics and Supply Chain Management Cases and Concepts, Macmillan India Ltd., New Delhi..
3. Coyle, Bradi & Longby, T h e Management of Business Logistics, West Publishing Co. Martin Christopher, Logistics and Supply Chain Management
4. Paul R. Murphy Jr. and Donald Wood, Contemporary Logistics
5. Harvard Business Review, Managing Supply Chains
6. Alan E. Branch, Global Supply Chain Management and International Logistics
7. Simchi-Levi, Kaminsky & Simchi-Levi, Managing the Supply Chain: The Definitive Guide
8. McCarthy, P. 2001. Transportation Economics: Theory and Practice . Chapters 3 and 4. Malden, MA: Blackwell Publishers, Inc.
9. Button, K., Transport Economics (4th ed.), Edgar Elgar, 2022.

Course Outcomes

No.	Upon completion of the course the graduate will be able to	Cognitive Level	PSO addressed
CO-1	Familiarize with the critical role of logistics in global operations	R, U	PSO-1,2
CO-2	Analyze logistics as a support and interface function in procurement	R, U, Ap, An	PSO-3
C0-3	Analyze the cost-benefits of logistics and transportation industries	R, U, Ap, An	PSO-2,3
CO-4	Evaluate the economic characteristics of transportation and pricing strategies in transportation	R, U, Ap, An, E	PSO-2
CO-5	Devise policies for addressing environmental issues related to logistics and transportation sector	R, U, Ap, An, E, C	PSO-1, 4
CO-6	Evaluate the logistics industry using relevant databases and create models	R, U, Ap, An, E, C	PSO-3, 4
CO-7	Design innovative strategies to solve logistic inefficiency and transportation challenges.	R, U,Ap, An, E, C	PSO-1,2,3,4

R-Remember, U-Understand, Ap-Apply, An-Analyse, E-Evaluate, C-Create

Note: 1 or 2 COs/module

Name of the Course: Credits: 4:0:0 (Lecture: Tutorial:Practical)

CO No.	CO	PO/PSO	Cognitive Level	Knowledge Category	Lecture (L)/Tutorial (T)	Practical (P)

1	Familiarize with the critical role of logistics in global operations	PO - 1 PSO-1,2	R, U	F, C	L	
2	Analyze logistics as a support and interface function in procurement	PO -2 PSO-3	R, U, Ap, An	P	L	
3	Analyze the cost-benefits of logistics and transportation industries	PO- 2 PSO-2	R, U, Ap, An	P	L	
4	Evaluate the economic characteristics of transportation	PSO-2	R, U, Ap, An, E	P	L	
5	Evaluate pricing strategies in transportation	PO-3 PSO-1, 4	R, U, Ap, An, E, C	P	L	
6	Evaluate the logistics industry using relevant databases	PO-2, 3 PSO-3, 4	R, U, Ap, An, E, C	M	T	
7	Design innovative strategies to solve logistic inefficiency and transportation challenges.	PSO-1,2,3,4	R, U,Ap, An, E, C	P	T	

F-Factual, C- Conceptual, P-Procedural, M-Metacognitive

Mapping of COs with PSOs and POs :

CO No.	PSO1	PSO2	PSO3	PSO4	PO1	PO2	PO3	PO4	PO5	PO6	Average
CO-1	3	3	-	-	3	-	-	-	-	-	3
CO-2	-	-	2	-	-	3	-	-	-	-	2.5
CO-3	-	2	-	-	-	3	-	-	-	-	2.5
CO-4	2	-	-	3	-	-	3	-	-	-	2.67
CO-5	2	-	2	2	-	3	3	-	-	-	2.4
CO-6	-	-	3	3	-	-	2	-	-	-	2.67
CO-7	2	3	3	3	3	3	3	-	-	-	2.86
Average	2	3	2.67	2.75	3	3	2.75	#DIV/0!	#DIV/0!	#DIV/0!	

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Internal Exam
- Assignment
- Project evaluation
- End Semester Examinations

Mapping of COs to Assessment Rubrics :

CO No.	Internal Exam	Assignment	Project Evaluation	End Semester Exam
CO-1	✓	-	-	✓
CO-2	✓	-	-	✓
CO-3	✓	-	-	✓
CO-4	-	✓	-	✓
CO-5	-	✓	-	✓
CO-6	-	-	✓	✓
CO-7	-	✓	✓	✓