# BBA (Shipping & Logistics) – Core Business Subjects

BSCB001	Introduction to the Shipping Industry	Credits 3
BSCB002	Geography of Sea Transport	Credits 3
BSCB003	Banking & Shipping Documentation	Credits 2
BSCB004	Logistics Management 1	Credits 2
BSCB005	Management of Dangerous & Hazardous Cargo	Credits 2
BSCB006	Maritime Law	Credits 3
BSCB007	Export Import Procedures	Credits 3
BSCB008	Economics of Shipping	Credits 3
BSCB009	Logistics Management 2	Credits 2
BSCB010	Supply Chain Management	Credits 2
BSCB011	Economics of Sea Transport	Credits 2
BSCB012	Chartering	Credits 2

Objective	To identify various dimensions and working of the shipping industry an different agencies in the industry.	d analyse
Content	Nature and Working of the Shipping Industry Hrs.)	(6
	<ul> <li>History of Indian shipping, Current scenario</li> <li>Types of Ships_ Hrs.)</li> </ul>	(6
	Research vessels, Fisheries vessels, Service ships, Cable-laying ship Merchant ships: Passenger ships, General cargo & bulk ships, Typ cargo carried.	-
	Future Trends     Hrs.)	(5
	Digital sensoring, Megaships, Greener shipping, Liquefied natural as fuel, Solar and wind power for ships.	gas (LNG)
	<ul> <li>Maritime Administration Hrs.)</li> </ul>	(5
	International Maritime Organization & Director General of Shippir and functions.	ng - Role
	<ul> <li>Shipping Agencies and their Functions Hrs.)</li> </ul>	(5
	Freight forwarders, Custom house agents, Vessel agents/shipping  Role of Customs and Documentation	agents. <b>(6</b>
	Hrs.)	(0
	<ul> <li>Custom clearance, Import procedure, Valuation, Legal provision.</li> <li>Carriers, Ports and Third Parties in Liner and Bulk Shipping Hrs.)</li> </ul>	(6
	Ship inward / outward at harbour and clearing of consignments, S terms and abbreviations used in industry.	hipping
	<ul> <li>Cargo Handling and Management Hrs.)</li> </ul>	(6
	Cargo handling equipment used at ports, Use and effective managories of equipment.	gement
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational viva /seminars / term papers/ assignments / presentations / self-study/casetc. or a combination of some of these. Sessions shall be interactive in enable peer group learning.	se studies
Suggested Reading	<ol> <li>Alan E. Branch – "Elements of Shipping" –Routledge - Taylor Group; 9<sup>th</sup> edition, 2014.</li> <li>Edward, S; Butterfield, CSJ; "Shipping Practice"- Sterling Boo Mumbai, 11<sup>th</sup> edition, 2009.</li> <li>Alderton P.M.; "Reeds Sea Transport"; Adland Coles Nautical, Lo edition, 2011.</li> </ol>	k House,
	4. Stopford, M; "Maritime Economics"; Routledge - Taylor & Francis ( edition, 2008.	Group; 3 <sup>rd</sup>

Objective	At the end of the course, students will be able to comprehend the nuances of the sea transport network in the world and analyse the impact of geographical features on shipping activities.
Content	World Geography     Hrs.)     World continents, Countries, Seas, Oceans, Location of ports, Canals, Water
	ways and their main trade.  Influence of Geographical Features: (10 Hrs.)
	Physical geographical features, Climate, Wind, Tides and currents, Seasons of bad weather and their influence on shipping.  • Transport Network (10)
	Hrs.)  Modes of transport and their advantages and disadvantages, Sea transport- importance, Factors affecting, Major oceans routes and their influence on shipping.
	Practical Geography     Hrs.)  (9
	Time zones, International date line, Concept of day light saving time, Load line zones and their influence on shipping.
	World Trade     Hrs.)  (9
	Factors affecting, Patterns of trade and the trade blocks like European Union, European Free Trade Association, North American Free Trade Agreement, Oil Producing and Exporting Countries, Association of South East Asian Nations, South Asian Association of Regional Countries, World Trade Organization.
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.
Suggested	1. Shinde, P; "Geography of Resources"; Sheth Publications; 2008 edition.
Reading	<ol> <li>Balachandran, S &amp; Gupta, S.P.; "Commercial Geography"; Insurance Institute of India: Mumbai, Latest edition.</li> </ol>
	3. Gupte, A.D. & Kapoor, A.N.; "Principles of Physical Geography: A Text book of Physiography"; S.Chand; 12 <sup>th</sup> edition 2009.
	4. Negi, B.S.; "Physical Geography"; Kedar Nath Ram Nath, Meerut; Latest Edition.
	5. Dr.Tikka, R.N.; "Physical Geography"; SJ Publications, Meerut, 2006 edition.
	6. Negi, B.S.; "Geography of Resources"; KedarNath Ram Nath, Meerut; 2010 edition.
	7. Monkhouse; "Principles of Physical Geography"; Hodder Education; 1970 edition.
	8. Lake, P; "Physical Geography"; Cambridge, University Press; 2014 edition.
	9. Heintzelmen&Highsmith, R.M.; "World Regional Geography";Prentice-Hall; 2011 edition.

Objective	At the end of the course, students will gain competence in documentation work related to shipping activities.	managing
Content	Letters of Credit (L/C) Hrs.)	(6
	Types of L/C's: Meaning, Importance in international trade, To L/'C's,	ypes of
	Documents in a Letter of Credit.	
	Bills of Lading (B/L)	(6
	Hrs.)	
	Liner B/L, Various types of B/L, Functions of B/L, B/L's issued	under
	charter party (C/P), Functions of B/L in a C/P.	
	Shipping Documents	(6
	Hrs.) Tally Sheet, Manifest, Mate's receipt, Statement of facts, Tim	o choots
	Notice of readiness.	e-sneets,
	Documents for an Export Oriented Units	(6
	Hrs.)	(0
	Letter of Permission (LOP), Green card with LOP, Bonded war	ehouse
	license copy and other related documents.	
	Export Documentation Checklist	(3
	Hrs.)	
	Invoice, Packing List, Annexure, Statutory Declaration Form, I	mporter
	Exporter Code, Authorized Dealer Code.	40
	Dangerous Cargo Declaration	(3
	Hrs.)  Definition and meaning of dangerous goods declaration, Type	os of
	Documents.	<b>23 O</b> I
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/	
	training/ viva /seminars / term papers/ assignments / presentati study/case studies etc. or a combination of some of these. Sessio	
	interactive in nature to enable peer group learning.	iis siiaii be
Suggested	interactive in nature to enable peer group learning.	
Readings	1. Indian Institute of Banking & Finance; "Principles & Practices of	of Banking";
S	Macmillan, New Delhi; 3 <sup>rd</sup> edition 2016.	0 /
	2. Branch, A.E.; "Shipping & Airfreight Documentation for Ir	mporters &
	Exporters"; Routledge; 1998 edition.	iiporters a
	3. Keshkamat V.V.; "Documentary Letter of Credits Uniform	Customs &
	Practices"; VivekPublications; Latest edition.	Custonis &
	,	
	4. Bills of Lading &Bankers Documentary Credits; 2014 edition.	l:+ 1100
	<ol> <li>Beedu, R.R.; "Nabhi's Guide to Documentary Letter of Cred 600"; 2009 edition.</li> </ol>	
	<ol> <li>Bose, R.; "All about UCP 600"; Macmillan – Delhi; 2008 editio</li> <li>Astle, W.E.; "Bills of Lading Law"; Fairplay Publications; 1990</li> </ol>	

Objective	At the end of the course the students will get sensitized to the basics of logistics management, and understand the role of logistics providers.
Content	<ul> <li>Overview of Logistics Management         Hrs.)         Nature and concepts, Evolution of logistics and supply chain management,         Components of logistics, Integrated logistics system.</li> <li>Transportation         Hrs.)         Functions of transportation, Elements of transportation cost, Modes of transportation, Multimodal transportation.</li> <li>Distribution</li> </ul>
	<ul> <li>Distribution (6</li> <li>Hrs.)</li> <li>Physical distribution, Logistics outsourcing, Third party logistics (3PL), Fourth party logistics (4PL).</li> </ul>
	• Reverse Logistics (47 L).  • Reverse Logistics (5 Hrs.)  Challenges of products return, System design for reverse logistics, Reverse logistics a competitive tool.
	Government Policies & Regulations     Hrs.)  Government policies and regulations related to logistics, Key enablers and growth drivers of the Indian logistics industry.  (6)
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.
Suggested Reading	<ol> <li>Bhattacharya, S.K.; "Logistics Management – Definitions, Dimensions, and Functional Applications"; S.Chand; 2<sup>nd</sup> edition 2013.</li> <li>Shah, J; "Supply Chain Management; Text &amp; Cases"; Pearson Education; 2009 edition.</li> <li>Farahani, R.Z.; Rezapour, S.; Karday, L.; "Logistics Operations &amp; Management: Concepts &amp; Models"; Elsevier; 2011 edition.</li> <li>Lun, Y.H.V; Lai, HH.; Cheng, T.C.E.; "Shipping and Logistics Management"; Springer; 2010 edition.</li> </ol>

Objective	At the end of the course, students will be able to comprehend the classification, transportation and management of dangerous and hazardous cargo.		
Content	<ul> <li>Dangerous Goods         The classification of dangerous goods, Dangerous goods safety advisers' qualifications and training.</li> </ul>	rs.)	
	<ul> <li>International Maritime Dangerous Goods (IMDG) Code         Usage of the IMDG code in containerization &amp; MTO trade.     </li> </ul>	rs.)	
	Transportation of Dangerous Goods     Regulations for transporting dangerous goods by air, sea, road and rail transport, Documentation when moving dangerous goods, Marking and	rs.)	
	<ul> <li>labeling of dangerous goods, Suppliers' responsibilities.</li> <li>Packaging of Dangerous Goods for Transport (4 His Material classification, Packing groups, Packaging regulations.</li> </ul>		
	<ul> <li>Enforcement of Dangerous Goods Regulations (4 Hr Compliance and training.</li> </ul>	rs.)	
	Radiation Screening at Ports and Airports     Radiation equipment, Sources of radiation.  (4 Hi	rs.)	
Pedagogy	Lectures/tutorials/ laboratory work /field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.		
Suggested Reading	<ol> <li>Alan E. Branch – "Elements of Shipping" –Routledge - Taylor &amp; Francis Gro 9<sup>th</sup> edition, 2014.</li> <li>Edward, S; Butterfield, CSJ; "Shipping Practice"- Sterling Book Hou Mumbai, 11<sup>th</sup> edition, 2009.</li> <li>Alderton P.M.; "Reeds Sea Transport"; Adland Coles Nautical, London; edition, 2011.</li> <li>Code of Safe Practice for Cargo Storage and Securing – IMO, 1992 Edition.</li> </ol>	use,	
	5. Code of Safety for Nuclear Merchant Ships – IMO, 1995 Edition.		

Objective	At the end of the course, students will gain knowledge on fundamentals of various shipping related laws and international conventions relating to containerization.	
Content	<ul> <li>Maritime Lien         (2Hrs.)         Different types of maritime lien, Subjects of maritime lien, Procedure for arrest, Order of priorities.         <ul> <li>Health &amp; Health Regulations</li> <li>(2Hrs.)                 Responsibility of master, Indian port health rules.</li> <li>Liabilities and Responsibilities                 (9Hrs.)                  Deviation &amp; freight, Consequences of deviation, Reasonable deviation, Deviation &amp; prior damage to cargo, Liability to provide a seaworthy vessel, Definition of seaworthiness, Meaning of un-seaworthiness, Burden of proof, Limits on liability, Notice on loss, Measurement of damages, Noncontractual claims, Himalaya clause, Limitation of action, Jurisdiction and arbitration.</li> <li>Introduction to Various Acts</li></ul></li></ul>	
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	<ol> <li>"The Merchant Shipping Act, 1958"; Professional Book Publishers, Delhi; 2017 edition.</li> <li>Chandiramani, N.; "Carriage of Goods by Sea Multimodal Transport"; Avinash Publications; 1997 edition.</li> <li>"Maritime Law of India –In International Context"; Bhandarkar Publications, Bombay; Latest edition.</li> </ol>	

4.	Bundock, M.:	"Shipping Law	Handbook":	Routledge:	2011 edition.
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5. Chorley & Giles; "Shipping Law"; Pearson Education Limited; 8th edition, 1987.

#### BSCB007

### **Export Import Procedures**

Credits 3

Objective	At the end of the course students will be sensitized to export-import procedures and acquainted with governmental policies for smooth functioning of export-import procedures.
Content	<ul> <li>Introduction to Export-Import         Hrs.)         Definition, Classification, Export marketing, Registration, Formalities, Licensing, Selection, Identification of markets, Methods of exporting, Pricing quotations, Payment terms, LC, Schemes.</li> <li>Export-Import Documentation         Hrs.)         Documentation system, Commercial invoice, Mates receipt, Bill of lading, GR form, ISO 9000, BIS 14000, Types of marine insurance policies, Bill of entry, Transport documents, Certificate of inspection, Certificate of measurement, Freight declaration.</li> <li>Export-Import Procedure         Hrs.)         Steps, Contract, Forward cover, Finance, Institutional framework, Excise clearance, Pre-shipment inspection, Marine insurance, Role of clearing and forwarding agents, EDI system, Negotiations, Realization. Pre-import procedure, Legalities, Customs formalities, Warehousing, Exchange control, Retirement of export documents.</li> <li>Policies of Export-Import         (9         Hrs.)         Foreign trade policy, Export assistance and incentives, Export promotion organizations.</li> </ul>
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.
Suggested Reading	<ol> <li>Kale, N.G., Ahmed, M.; "EXIM Procedures &amp; Documentation"; Vipul Prakashan, Mumbai; 2009 edition.</li> <li>Dr.Chandisamani, N.M.; "Guide to Customs Act, 1962"; Latest edition.</li> <li>Paul, A. &amp; Aserkar, R.; "Export-Import Management"; Oxford University Press; Latest edition.</li> <li>Laxman, R; "An Introduction to Foreign Exchange and Financial Risk Management"; SHROFF Publication – Mumbai; 2009 edition.</li> <li>Dun &amp; Bradstreet; "Foreign Exchange Markets"; Tata McgrawHill Pub. Co. Ltd., New Delhi; Latest edition.</li> </ol>

Objective	At the end of the course, students will have competency in analysing	various
	factors that impact costs in shipping industry.	
Content	Economy, Trade & Shipping     Hrs.)  An introduction, Shipping's 'industrial revolution', The global economic Role of maritime shipping, Shipping, Transportation economic development.  Strategic Planning & Cost Control An Introduction	
	<ul> <li>Strategic Planning &amp; Cost Control-An Introduction Hrs.)         An introduction, Concepts and approaches in strategic plannin of budgeting, Costs of shipping operations, Acquisition and calcosts.     </li> </ul>	-
	<ul> <li>Rate of Exchange         Hrs.)         Impact of changes in rates, Buying &amp; selling rate, Maxim-While quoting rates, Typical rate sheet, Forward rates, Dealing room Foreign Exchange Management Act (FEMA) relating to shippin companies (Aim of exchange control), Environmental Crisis Management (ECM) relating to shipping companies.</li> <li>Shipping Finances         Hrs.)         Types of finance (Equity, Debt, Mezzanine &amp; Leasing, Uniform Customs and Practice for Documentary Credits, Leading finance</li> </ul>	, g <b>(10</b>
	<ul> <li>Institutions for Shipping Industry), Shipping Finance, Moving for west to east.</li> <li>Acquisition and Disposal of Ships         Hrs.)         Sale and purchase of ships, Process, Role of brokers, Inspection valuation, Memorandum of Agreement, Role of brokers, Acquivaluation, Memorandum of Agreement, Role of brokers, Acquivaluation, Ship acquisitions procedure, Purchase requirements, Purchase decisions, Registration and other form Economics of scrapping &amp; Laying up ships.     </li> </ul>	(12 n and isition
	<ul> <li>Shipping Accounts         Hrs.)         Preparation of voyage accounts, Disbursements, Various heads under disbursement, Time charter, Final accounts.     </li> </ul>	<b>(9</b>
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vortaining/ viva /seminars / term papers/ assignments / presentation study/case studies etc. or a combination of some of these. Sessions interactive in nature to enable peer group learning.	s / self-
Suggested Reading	<ol> <li>Alan E. Branch – "Elements of Shipping" –Routledge - Taylor &amp; Group; 9<sup>th</sup> edition, 2014.</li> <li>Edward, S; Butterfield, CSJ; "Shipping Practice"- Sterling Bool Mumbai, 11<sup>th</sup> edition, 2009.</li> </ol>	

3.	Alderton P.M.; "Reeds Sea Transport"; Adland Coles Nautical, London;
	6th edition, 2011.
4.	Stopford, M; "Maritime Economics"; Routledge - Taylor & Francis
	Group; 3 <sup>rd</sup> edition, 2008.
5.	Packard, W.V.; "Sale & Purchase"; Fairplay Publications; 1988 Edition.
6.	Keshkamat, V.V.; "Foreign Exchange - An Introduction"; Vivek
	Publications,Bombay; Latest edition.

#### BSCB009 Logistics Management 2

Credits 2

Objective	At the end of the course the students will understand the concepts and functions of logistics management.
Content	<ul> <li>Stores Organisation         Hrs.)         Types of stores, Stores location, Building and layout, Storage facility, Stockyard, Safety and security.         <ul> <li>Material Identification (7 Hrs.)</li> <li>Material identification system, Need of coding, Item codification, Classification, Monitoring the codification system.</li> <li>Material Handling (5 Hrs.)</li></ul></li></ul>
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.
Suggested Reading	<ol> <li>Bhattacharya, S.K.; "Logistics Management – Definitions, Dimensions, and Functional Applications"; S. Chand; 2<sup>nd</sup> edition 2013.</li> <li>Shah, J; Supply Chain Management; Text &amp; Cases; Pearson Education; 2<sup>nd</sup> edition 2016.</li> <li>Farahani, R.Z.; Rezapour, S.; Karday, L.; "Logistics Operations &amp; Management: Concepts &amp; Models"; Elsevier; 1<sup>st</sup> edition 2011.</li> <li>Lun, Y.H.V; Lai, HH.; Cheng, T.C.E.; "Shipping and Logistics Management"; Springer; 2010 edition.</li> </ol>

Objective	At the end of the course, the students will have the ability to identify and manage	
	supply chain processes.	
Content	<ul> <li>Concept of Supply Chain         Hrs.)         Integrated supply chain, Growth of supply chain, Strategic decision in supply chain.         <ul> <li>The Value of Information</li></ul></li></ul>	
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	<ol> <li>Bhattacharya, S.K.; "Logistics Management – Definitions, Dimensions, and Functional Applications"; S. Chand; 2<sup>nd</sup> edition 2013.</li> <li>Shah, J; Supply Chain Management; Text &amp; Cases; Pearson Education; 2<sup>nd</sup> edition 2016.</li> <li>Jespersen, B.D.; Skjott-Larsen, T.; "Supply Chain Management: In Theory &amp; Practice"; Copenhagen Business School Press; 2005 edition.</li> <li>Fredendall, L.D. &amp; Hill, E.; "Basics of Supply Chain Management"; St. Lucie Press; 2000 edition.</li> </ol>	

Objective	At the end of the course, students will be able to comprehend the importance and	
	need of various components of sea transport.	
Content	<ul> <li>Sea Transport Services Market         Determinants of demand and supply, Factors affecting demand and supply, Economics of manning, Economies of scale.</li> <li>International Trade</li></ul>	
Pedagogy	Lectures/tutorials/field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	<ol> <li>Alan E. Branch – "Elements of Shipping" –Routledge - Taylor &amp; Francis Group; 9<sup>th</sup> edition, 2014.</li> <li>Edward, S; Butterfield, CSJ; "Shipping Practice"- Sterling Book House, Mumbai, 11<sup>th</sup> edition, 2009.</li> <li>Alderton P.M.; "Reeds Sea Transport"; Adland Coles Nautical, London; 6<sup>th</sup> edition, 2011</li> <li>Stopford, M; "Maritime Economics"; Routledge - Taylor &amp; Francis Group; 2008 Edition.</li> <li>Branch, A.E.; "Elements of Port Operations &amp; Management"; Springer; 2011 edition.</li> <li>"The Maritime Law of India" (2000); Bhandarkar Publications, Mumbai; 2008 edition.</li> <li>Ewart, W.D.; "Bunkers – A guide for ship operators"; 2011 edition.</li> </ol>	

Objective	At the end of the course the students will comprehend the various concept and practices of chartering.	
Content	<ul> <li>Hrs.) Calculation of lay time, Meaning of certain Lay time terms and their implications for various types of transport such as Bulk carrier, Contain Tankers.</li> <li>Freight Market Hrs.) The market structure &amp; factors affecting freight markets for various ty of transport, Baltic Freight Index (BFI), Importance &amp; workings of BFI, I and don'ts for a chartering manager.</li> </ul>	e or go 3 4 er, pes Do's
Pedagogy	Lectures/tutorials /field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	<ol> <li>Alan E. Branch – "Elements of Shipping" –Routledge - Taylor &amp; Fra Group; 9<sup>th</sup> edition, 2014.</li> <li>Edward, S; Butterfield, CSJ; "Shipping Practice"- Sterling Book Ho Mumbai, 11<sup>th</sup> edition, 2009.</li> <li>Alderton P.M.; "Reeds Sea Transport"; Adland Coles Nautical, Londor edition, 2011.</li> <li>Weale, J; "Tramp Ship Arithmetic"; Fairplay Publications; Latest Editions.</li> <li>Packard W.V.; "Voyage Estimating"; Fairplay Publications; 1978 Editions.</li> <li>Packard, W.V.; "Laytime Calculating"; Fairplay Publications; 1979 Editions.</li> </ol>	ouse, n; 6 <sup>th</sup> on. n.

## BBA (Shipping & Logistics) – Elective Subjects

BSOS001	Warehouse Management	Credits 2
BSOS002	Inventory Management	Credits 2

Objective	At the end of the course, students will develop the ability to efficiently manage warehouse operations.	
Content	Warehouse Functions Hrs.) Logistics support for inward/ outward transportation, Loading/ unloading, Inspection, Receipt and issue of materials, Controlling movement of materials.  Warehouse Types Hrs.) Own warehouses, Hired warehouses, Private warehouses, Public warehouses, Government warehouses, Co-operative warehouses, Distribution warehouses, Fulfilment /consolidation warehouses, Bonded warehouses, Export and import warehouses, Automated warehouses, Climate-controlled Warehouse, Cold storage, Agricultural warehouses, Merits and demerits.  Warehouse Location and Acquisition Hrs.) Warehouse design and layout, Stores location systems.  Internal Operations Hrs.) Logistics in the warehouse, Localization of materials in a warehouse, Identification and classification of materials and products in the warehouse, Problems and issues in shipment processes. Material handling equipment and automation of material handling equipment.  IT for Warehouse Management (WM) Hrs.) Warehouse documentation, Information flow in the warehouse, Enterprise Resource Planning, Warehouse Management Systems, Bar code, Radio Frequency Identification.	
Pedagogy	Lectures/tutorials /field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	<ol> <li>Saxena, J.P.; "Warehouse Management and Inventory Control"; Vikas Publishing House Pvt. Ltd.; 2015 edition.</li> <li>Richards, G.; "Warehouse Management: A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse "; Kogan Page; 2017 edition.</li> <li>Emmett, S.; "Excellence in Warehouse Management: How to Minimise Costs and Maximise Value"; Wiley Publications; 1<sup>st</sup> edition, 2005.</li> <li>Schmidt, T &amp; Hompel, M.; "Warehouse Management: Automation and Organisation of Warehouse and Order Picking Systems"; Springer; 2010 edition.</li> </ol>	

Objective	At the end of the course, students will develop ability to analyse the processes and techniques in managing inventory.	
Content	<ul> <li>Introduction to Inventory Management         Definition of inventory, Importance of inventory management, Maintaining inventory levels, Factors influencing inventory.     </li> <li>Types of Inventory         Hrs.)         Raw Materials, Consumables, Work-in-process, Finished goods, Spare parts.     </li> <li>Forecasting Techniques         Hrs.)     </li> </ul>	
	Need for forecast, Types of forecasts, Dependent demands, Independent demands, Semi-dependent demands, Lead time management, Demand forecasting techniques.	
	Inventory Control & Service Level     (4	
	Hrs.) Objectives of inventory control, Concept of selective inventory control, Inventory categorisation and analysis.	
	Replenishment of Inventory	
	Hrs.) Concept of economic order quantity (EOQ), Functions of safety stock, Safety stock v/s service level.	
	Inventory Cost and Accounting     Hrs.)  (7	
	Purchase/acquisition cost, Inventory carrying cost, Under stocking cost (KU), Overstocking cost, Stock out cost, Total acquisition cost, Accounting of raw materials, Work-in-process and finished goods stock, Stock valuation methods, Accounting for loss.	
	Codification and Standardization (4)	
	Hrs.) Characteristics of codes, Types of codification systems, Analysing standardization system.	
Pedagogy	Lectures/tutorials /field work/outreach activities/ project work/ vocational training/ viva /seminars / term papers/ assignments / presentations / self-study/case studies etc. or a combination of some of these. Sessions shall be interactive in nature to enable peer group learning.	
Suggested Reading	1. David J. Piasecki; "Inventory Accuracy: People, Processes, & Technology"; Ops. Pub.; 2003 edition.	
ricauling	<ol> <li>J P Saxena, "Warehouse Management and Inventory Control"; Vikas Publishing; 2015 Edition.</li> <li>Max Muller; "Essentials of Inventory Management"; AMACOM; 2011 edition.</li> <li>Steven M. Bragg; "Inventory Best Practices"; Wiley; 2011 edition.</li> </ol>	