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BBA	SEMESTER III	CALICUT UNIVERSITY	COURSE CODE: BBA3CJ201

DOMESTIC LOGISTICS MANAGEMENT

EXAM REVISION NOTES

Complete Syllabus-Aligned Summary • Topics 1 to 20 • High-Yield Core Concepts

1. Logistics Definition

- **Definition:** Planning, executing, and controlling the physical flow and storage of goods.
- **Scope:** Encompasses inbound procurement, in-plant processing, and outbound distribution.
- **Dual flow:** Coordinates physical movement of **merchandise** alongside **information flow**.
- **Seven Rs:** Delivers **right product**, **quantity**, **condition**, **place**, **time**, **customer**, **cost**.
- **Customer satisfaction:** Maximizes order fulfillment service while minimizing total operating outlays.

2. History and Evolution of Logistics

- **Etymology:** Derived from Greek **logistikos** meaning practical calculation and provisioning.
- **Military origin:** Originated as military science for moving, quartering, and sustaining troops.
- **1950s–1960s:** Industrial evolution into **physical distribution** focused on outbound transport.
- **1970s–1980s:** Integration of inbound **materials management** with warehousing operations.
- **1990s onward:** Expansion into collaborative enterprise **supply chain management (SCM)**.
- **Contemporary era:** Digital transformation using **GPS tracking**, **RFID**, and telematics.

3. Objectives of Logistics

- **Rapid response:** Slashing order cycle lead times to satisfy customer requirements instantly.
- **Minimum variance:** Eliminating transit delays and operational fulfillment errors.
- **Minimum inventory:** Lowering working capital holding costs via high **inventory turnover**.
- **Movement consolidation:** Combining small shipments into economical **full truckloads (FTL)**.
- **Quality maintenance:** Preserving product physical integrity with zero transit damage.
- **Life-cycle support:** Handling warranty returns, product repairs, and **reverse logistics**.

4. Elements of Logistics

- **Order processing:** Capturing, validating, and allocating customer purchase orders.
- **Warehousing:** Providing secure storage, cargo consolidation, and order dispatch staging.
- **Inventory management:** Controlling stock levels to balance availability against storage costs.
- **Transportation:** Physically conveying freight across geographic corridors via selected carriers.
- **Material handling:** Moving goods internally within warehouses using mechanical equipment.
- **Protective packaging:** Safeguarding cargo with **primary**, **secondary**, and **tertiary packaging**.
- **Information monitoring:** Tracking inventory status and shipments through digital enterprise networks.

5. Logistics Management Definition

- **CSCMP definition:** Process of planning, implementing, and controlling forward and reverse flows.
- **Comprehensive scope:** Manages movement and storage of goods, services, and related information.
- **Origin to consumption:** Bridges spatial and temporal gaps between producers and final buyers.
- **Cost-service trade-off:** Optimizes operational balance between customer service and total distribution cost.

6. Process of Logistics Management

- **Demand planning:** Estimating customer sales volume to establish replenishment schedules.
- **Procurement alignment:** Coordinating raw material delivery dates with approved suppliers.
- **Inbound receiving:** Unloading, inspecting, and verifying supplier goods at factory receiving docks.
- **Inventory slotting:** Staging received stock into designated warehouse storage rack locations.
- **Order picking:** Retrieving requested item quantities from storage bins for customer fulfillment.
- **Unitization:** Consolidating pick items onto standard wooden **pallets** with stretch film.
- **Outbound shipping:** Loading freight onto line-haul transport vehicles with delivery manifests.
- **Proof of delivery (POD):** Securing consignee digital sign-off to confirm completed delivery.

7. Role of Logistics in Economic Development

- **Economic utilities:** Creates foundational **place utility**, **time utility**, and **possession utility**.
- **Macroeconomic impact:** Substantial GDP component (India targets single-digit GDP cost by 2030).
- **Trade competitiveness:** Reduces domestic freight costs, improving regional manufactured goods export pricing.
- **Infrastructure growth:** Drives multi-modal corridor investments under **PM Gati Shakti** initiatives.
- **Employment generator:** Provides extensive employment in commercial driving, warehousing, and logistics tech.
- **Price stabilization:** Equilibrates agricultural and industrial supply between surplus and deficit regions.

8. Main Types of Transportation

- **Line-haul freight:** Long-distance inter-city bulk transport connecting central distribution hubs.
- **Feeder transport:** Regional pickup runs collecting freight from peripheral spoke terminals.
- **Local drayage:** Short-haul container shuttle runs connecting rail yards, sea ports, and nearby depots.
- **Last-mile delivery:** Final delivery stage conveying packages from urban hubs to end-consumer doorsteps.

9. Road, Rail, Air, and Water Transportation

- **Road transport:** Provides complete **door-to-door accessibility** and flexible departure dispatching.
- **Road limitations:** Constrained by highway traffic congestion, toll fees, and fuel cost spikes.
- **Rail transport:** Energy-efficient long-haul mover for heavy bulk freight (cement, coal, grain).
- **Rail limitations:** Restricted by fixed track routes, fixed timetables, and intermodal yard delays.
- **Inland water transport:** Lowest freight cost and lowest carbon emissions per ton-kilometer.
- **Water limitations:** Confined to navigable river channels and subject to slow transit speeds.
- **Air cargo:** Fastest transit velocity and highest security for high-value or emergency cargo.
- **Air limitations:** Highest freight cost per ton-kilometer with strict weight and volume ceilings.
- **Pipeline transport:** Automated, continuous 24/7 liquid and gas haulage immune to weather.

10. Barriers of Domestic Logistics Operations

- **Infrastructure bottlenecks:** Narrow highway corridors, deficient freight terminals, and rail rake shortages.

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- **Regulatory checks:** Interstate compliance inspections, local transit permits, and toll plaza delays.
- **High operating expenses:** High diesel fuel prices, vehicle maintenance costs, and empty return backhauls.
- **Industry fragmentation:** Heavy reliance on small unorganized truck fleet operators lacking modern technology.
- **Cold chain gaps:** Inadequate refrigerated transport fleet causing severe agricultural produce wastage.
- **Driver shortages:** Severe shortage of certified, skilled commercial heavy vehicle drivers.

11. Difference Between Domestic and International Logistics

- **Geographic boundary:** Domestic operates inside national boundaries; international crosses sovereign borders.
- **Modal choice:** Domestic relies on road and rail; international depends on ocean vessels and airliners.
- **Documentation:** Domestic requires local waybills; international mandates **bills of lading** and customs.
- **Currency risk:** Domestic transactions use single home currency; international incurs foreign exchange risk.
- **Transit lead time:** Domestic deliveries take hours to days; international transits take weeks to months.
- **Governing law:** Domestic obeys national motor vehicle acts; international follows **Incoterms** and treaties.

12. Documenting and Information Flow: Advices, Planning, FTL, and LTL

- **Dispatch advice:** Advance notification sent to buyers detailing item quantities and departure time.
- **Transport planning:** Matching freight weights, vehicle payload capacities, and route delivery sequences.
- **Full Truckload (FTL):** Dedicated single-shipper truckload moving directly from shipper dock to consignee.
- **FTL advantages:** Maximum transit velocity, zero cross-dock handling, and lowest cargo damage hazard.
- **Less-Than-Truckload (LTL):** Multiple small shipper consignments consolidated onto a single shared truck.
- **LTL advantages:** Cost-effective freight rates for small pallet loads, utilizing freight sorting terminals.

13. Documentation: Road Receipts, Truck Receipts, and Way Bills (RR / LR)

- **Lorry Receipt (LR):** Legal document issued by road freight carriers confirming cargo acceptance.
- **LR contents:** Explicitly states consignor, consignee, package count, freight rate, and cargo weight.
- **Railway Receipt (RR):** Formal freight title document issued by railway authorities upon cargo booking.
- **E-Way Bill:** Mandatory electronic tracking permit under Indian GST for freight movement exceeding ₹50,000.
- **Document functions:** Serves as **contract of carriage**, **freight receipt**, and **document of title**.

14. Consignment Note and CMR

- **Consignment note:** Standard shipping instrument detailing freight description, sender, and delivery address.
- **Contractual role:** Confirms carrier custody and legal obligation to transport freight under agreed terms.
- **CMR convention:** Standard international consignment note governing road freight carriage [verify].
- **Domestic application:** Domestic consignment note governs carrier transit liability and cargo loss claims.
- **Document distribution:** Issued in triplicate copies for the sender, transport driver, and receiver.

15. Booking, Invoicing, and Information Flow

- **Freight booking:** Shipper reserves vehicle cargo payload space with a carrier for an assigned pickup date.
- **Commercial invoice:** Financial accounting document listing merchandise descriptions, tax values, and sale prices.
- **Electronic Data Interchange (EDI):** Direct computer-to-computer electronic transmission of freight data.
- **Advance Shipping Notice (ASN):** Pre-delivery electronic notice transmitting carton and barcode specifications.
- **Digital velocity:** Instantaneous digital document exchange completely eliminates manual paper clearance delays.

16. GPS and RFID in Logistics

- **GPS tracking:** Satellite positioning system delivering real-time vehicle geographic coordinates and speed.
- **Geofencing:** Virtual route boundaries triggering automated operational alerts upon vehicle deviation.
- **Active RFID:** Battery-powered tags continuously broadcasting radio frequency tracking signals across long ranges.
- **Passive RFID:** Low-cost battery-free tags energized by reader radio waves during warehouse dock passage.
- **Operational gains:** Automates carton scanning, eliminates manual inventory counts, and prevents cargo theft.

17. Vehicle Selection and Types of Vehicles

- **Selection criteria:** Evaluates cargo weight, cube volume, perishability, route road quality, and urgency.
- **Light Commercial Vehicles (LCVs):** Small delivery trucks (Tata Ace, pick-ups) used for intra-city urban distribution.
- **Medium Commercial Vehicles (MCVs):** Rigid two-axle freight trucks (6–12 ton payload) for regional deliveries.
- **Heavy Commercial Vehicles (HCVs):** Multi-axle rigid trucks (16–28 ton payload) for long-haul national transit.
- **Articulated prime movers:** Heavy tractor units pulling detachable semi-trailers for massive payload volume.
- **Specialized vehicles:** Insulated reefer vans, road milk tankers, car carriers, and flatbed container trailers.

18. Load Types and Characteristics

- **Dry bulk cargo:** Homogeneous loose materials (sand, coal, grain, ores) requiring dump or hopper bodies.
- **Break-bulk cargo:** Individually packaged items (boxes, crates, drums, sacks) requiring manual piece handling.
- **Unitized cargo:** Freight bundled onto standard pallets or in containers handled via forklifts as single units.
- **Liquid bulk:** Liquid chemicals, milk, and petroleum fuels transported inside sealed cylindrical road tankers.
- **Perishable cargo:** Fresh fruits, vegetables, meat, and vaccines demanding active climate-controlled refrigeration.
- **Hazardous cargo:** Flammable, toxic, or corrosive materials requiring statutory warning placards and safety permits.

19. Main Types of Vehicle Body

- **Flatbed body:** Open horizontal platform without fixed side walls, ideal for heavy steel plates and machinery.
- **Closed container body:** Fully sealed weatherproof steel or aluminum box protecting goods against weather and pilferage.
- **Curtainsider body:** Rigid roof with sliding tarpaulin fabric side walls allowing rapid forklift side dock loading.

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- **Refrigerated (Reefer) body:** Heavy insulated walls fitted with an active mechanical chiller unit for cold chain goods.
- **Tanker body:** Pressurized cylindrical container designed for safe transport of bulk liquids and gases.
- **Tipper body:** Open truck bed tilted backwards by hydraulic pistons to dump aggregate, gravel, and mining ores.

20. Transport Resource Requirements, Vehicle Routing, and Scheduling

- **Driver scheduling:** Managing commercial driver duty shifts, mandatory rest breaks, and regulatory driving caps.
- **Fleet maintenance:** Performing scheduled preventive vehicle checks, tire maintenance, and statutory fitness tests.
- **Vehicle Routing Problem (VRP):** Designing optimal delivery vehicle travel sequences to minimize total kilometers driven.
- **Drop sequencing:** Staging vehicle loading in reverse delivery order (Last-In, First-Out) to ease dock drops.
- **Backhaul planning:** Booking return leg freight cargo to eliminate wasteful unladen empty truck miles.

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