

**SREE NARAYANA GURU COLLEGE OF COMMERCE
CHEMBUR, MUMBAI-89
SYLLABUS- SYBTM (III)**

URBAN TRANSPORT PLANNING:

Module 1: Land use and Transportation System: Introduction-Urban system Components-Concepts and definitions-Criteria for measuring urban sprawl— Location theory-urban growth or decline

Module 2: Transportation Planning Process: Introduction-Definition-Factors to be considered; Land use transportation planning; systems approach-Stages-Inventory of Existing Conditions-Difficulties in implementation.

Module 3: Transport Surveys: Basic Movements- Study Area-Zones-Surveys-Planning of different types of surveys and interpretation, Travel demand; Traffic surveys for mass transit system planning.

Module 4: Trip Generation and Distribution: Factors governing trip generation and attraction Application of Regression Analysis- Methods of trip distribution; Growth and Synthetic Models-Calibration and Application of gravity model.- Category analysis. Problems

Module 5: Modal Split and Assignment: Factors affecting modal split; Modal split in transport planning; Principles of traffic assignment; assignment techniques. Problems

Module 6: Land Use Models— Lowry Model-Hansen's Accessibility Model-Density -Saturation Gradient Model-Problems (Except on Lowry Model)

COMMERCE & ICT APPLICATIONS

Introduction to IT and communications: needs in trade and multi-modal transport
Overview of the information and communications needs of the industry, the basis of existing, outmoded paper based systems

Data issues: Data specification for financial, operational, evaluation, marketing and decision support, Data flow analysis, Data collection methods, manipulation and transfer, Data protection; legislation, corruption, viruses, etc.

Network overview: LAN, WAN, VAN, Telecommunications networks, Internet, Connectivity and interoperability, Basic hardware requirements

General applications: Databases and database management systems, Expert systems, Electronic Data Interchange (EDI), including EDIFACT standard, Electronic mail systems, Electronic Commerce – trading environment and current technology, Computer Aided Design (CAD) Specific programme applications Customs and Excise, E-commerce in international trading and inter-modal transport, Advance consignment information, Terminal operations, Rail information, Routing and scheduling (load planning), Warehouse management, Barcodes and electronic article numbering (EAN), Fleet management, Asset management Specification, selection and implementation of systems Identification and definition of the business need, Development of a functional specification, Surveying the software market, Package, tailored package and bespoke solutions, System evaluation

The tendering process: Project planning and management of the implementation process Internet Identification of, and familiarisation with, relevant websites, Effective use of the internet Future developments New developments will be identified and included in the teaching programme.

WAREHOUSING & INVENTORY CONTROL

Introduction to Warehousing: Determine Product Handling Groups: Define product characteristics, determine storage characteristics, and determine handling characteristics.

Determine Warehouse Operating Areas: Goods inwards area, bulk storage area, picking area and dispatch area.

Determine the Flow Method: Principles of Warehouse flow, characterise 'Through' flow, characterise 'U flow'.

Identify Layout Constraints: Determine Short side handling and Long side handling, determine Health and Safety requirements and determine Fire Safety requirements.

Determine the Size of the Operating Areas: Size the goods inwards area, size the bulk storage area, size the picking area and size the dispatch area. Determine Methods for Goods Inwards; Determine Methods for Bulk Storage; Determine methods for Order picking; Determine Methods for Goods Outwards; Space Utilisation; Equipment Groups; Selecting Handling Equipment; Selecting Storage Equipment.

Inventory Control: Forecast Demand: forecast for short term, forecast for long term, forecast seasonality, improving forecast accuracy.

Plan When to Order: Calculate free stock level(stock on hand, stock on order; stock in transit from suppliers, stock allocated to customers and stock reserved for special purposes); Determine reorder point.

Plan How Much to Order: Plan fix order quantities, plan variable order quantities.

Select Order Systems: Select order system for fast moving items and select order system for slow moving items.

Determine Control Requirements: Determine stock holding targets and determine service level targets.

Inventory Operations: Input demand data, monitor review activity, produce orders, identify no usage items, create new item and maintain suppression list.

MANAGERIAL SKILLS DEVELOPMENT

Intrapersonal Skills Developing self-awareness; Values, Cognitive style, Attitude towards change and interpersonal orientation: Managing stress; Major elements of stress, eliminating stress and temporary stress reduction techniques: Effective problem solving skills; to provide a framework for rational problem solving:

Time Management & Delegation; importance, prioritization, advantage of delegation, when and whom to delegate and how to delegate effectively.

Interpersonal Skills Supportive communication; Definition, principles of supportive communication, principles of supportive listening: Motivating employees; performance, diagnosing work performance problems and enhancing ability, creating a motivating environment: Managing change and conflict; definitions, importance, change agents, managing change, Interpersonal conflict management, conflict response alternatives and collaborative approach to conflict resolution.

People Management Skills Leadership; characteristics of leadership, leaders vs. managers, modern day challenges for managers, women as leaders: Empowerment; inhibitors to empowerment, dimensions of empowerment and developing empowerment: Teamwork; developing teams and teamwork, advantages of teams and stages of team development.

Negotiation Skills Approaches to negotiation; Self-assessment, Negotiation styles, Techniques and Strategies of Influencing People, Understanding the Problem and Preparing for Negotiation, Distributive Bargaining, Integrative Negotiation, Communication and Social Psychology; What You Need to Know as a Negotiator, Power in Negotiation, Ethical Issues, Cross-Cultural Negotiations, How to Deal with Difficult Negotiations, Group Negotiations.

FACILITIES MANAGEMENT:

Function & Form

Ergonomics & User needs

Signage & Information

Space requirement
Access & Circulation

Security & Safety

TRANSPORT POLICY

Introduction to Policy Evolution of Transport Policy Early travel, imperialism and international shipping, the introduction of rail; the decline of the railway and the rise of motorized travel; the consolidation of regulation and the expansion of state control in passenger transport, the breakdown of state control and the move to deregulation and decentralisation, growth in airlines and airports

Transport Policies: U.S, Russian, China, UK, EU, India, Sri Lanka Policy Alternatives Nationalisation, Regulation, Privatization, De-regulation.

Issues for Policy Analysis: Economic and Regional Development, Ownership & Financing, Pricing & Affordability, Social & Cultural Impacts, Environment & Health, Handling Monopolies, Public Participation in Policy Formulation, Long-term Sustainability, International Links

Selected Application of Transport Policy: Urban Transport, Airports & Aviation, Ports & Shipping, Freight, Railways, Financing of Roads.

SYLLABUS- SYBTM (IV)

ANALYTICAL MODELLING IN TRANSPORT & LOGISTICS

Mathematical Modeling: Problem formulation, construction of Mathematical models Linear Models Linear programming, Simplex method, Transportation problem Integer Programming Dynamic Programming Characteristics, Deterministic Dynamic

programming Network Analysis Maximum flow problem, Minimum spanning tree, Minimum paths

Queueing Models

Reliability Models

Simulation Models

HEALTH & SAFETY

Safety Regulations Policy issues; safety and injury control programs Accident investigations Multidisciplinary approach to planning for safety and injury control -pre crash, crash, and post-crash models; roles of vehicle, roadway, traffic, driver, and environment; crash and injury causations; vehicle and occupant dynamics; Accident investigation, crash and injury control measures, Costs of injury and countermeasures

Occupational Health & Safety

Safety Audits

Statistical Analysis of Accidents

BUSINESS LAW

The Legal Systems

Types of Laws, Business Law, Judicial System, Torts & Liabilities

Contract Law

Property Laws

Employments Laws

Company Law

Cyber Law

MANAGEMENT INFORMATION SYSTEMS IN TRANSPORT & LOGISTICS

Introduction to management information systems, Types of Management Information systems Digital Firm and E Business Management of software and hardware assets Data analysis and database design for Management Information Systems Computer systems include Scheduling systems, Estimating systems, Cost control systems and Accounting systems etc. Use of general software such as MS Access and MS Excel for the development of Management Information systems.

INTERNATIONAL TRADE AND TRANSPORT

Evolution of international trade and transport Geography, Demographics and evolution of early Trade Routes, Growth of trade routes, formulation of trading centre, major ports and airports, Commodities of Trade, modes of freight transport and major freight carriers, Rise and fall of routes, trading centre and modes of transport. Factors that influence trade Economic Factors, Political events, Geographical Factors, Technical reasons, Trade Theories Introduction to Absolute and Comparative Economic advantage theories, Natural and Artificial trade barriers. Role of Transport in Economic Growth. Reduction of transport costs, generated demand, economic contributions, Types of Trade Flows Intra industry trade, Inter industry trade, Multinational Company trade-international product cycle, Economies of scale and Product differentiation as source of trade advantage. Semi knock down (SKD), Completely knocked down (CKD). Role of Trade organizations and international trading agreements WTO, GATT, UNCTAD, EU, ASEAN-AFTA and ICC SAARC-SAPTA. Free Trade, Protectionism, Quotas, Embargoes Application of Custom Tariffs Custom Regimes, Documentation, Licensing, Fiscal Rules, Anti trust laws-India

Transport Network System

Institutional Features

Policies & Regulations, Regulators Role (Regulation of Competition), Role of Operators & Passengers, Stakeholder Interests

Features of a Network

Origins, destinations, Nodes and links, Routes and transfers, Timetables, Speed and Capacity

Pricing

Pricing Policies, Price determination, Concession agreements, Transport provision Contracts

Planning Approaches

Demand Studies: Origin-Destination Matrices, Minimum paths (distance, time and cost), Route Planning, Special Services (schools, offices, rural, disabled, senior citizens etc), Application of Optimization Techniques to Operations

(headways, route lengths, stops etc)

Managing Network Infrastructure

Terminal and stops, Information Systems, Ticketing Systems

Customer Care

Safety, Security, Lost Luggage, Complaints & Investigations