

## **PORT AND TERMINAL MANAGEMENT – Group Two Syllabus**

### **AIM**

- 1) To ensure a thorough knowledge and understanding of Port and Terminal Management.
- 2) To develop relevant communication skills.

### **PORTS AND THEIR FUNCTIONS**

Thoroughly understand the role of ports in international trade and transport and how ports can benefit or detract from the economics development of countries and their sea-borne trade.

Understand the effect of globalisation on port choice and how changes in logistics and distribution patterns influence the development or decline of ports.

Be aware of the location of major world ports in liner, dry bulk and liquid trades.

Understand the geographic reasons for port location and the extent to which this may depend on the nature of their hinterland and natural resources.

Understand the different types of ports and access to ports (natural, man made, river, estuary) and the diversity of specialist port operations.

Understand the enhanced role of ports in a through transport context – hub ports, feeder/transshipment ports, intermodal interfaces.

Be aware of the role of national, regional local government in port provision.

Understand the different forms of the ownership structure of ports and of port services; public/private, landlord only, full or part service provider, terminal facilities within ports.

Be aware of the use of Free Port/Free Trade Zones as an economics tool.

### **SHIPS AND CARGOES**

Thoroughly understand the fundamental differences between dry bulk cargo ships, general-purpose ships, liners (container, break-bulk and Ro-Ro) and tankers, including Ore/Oil and Ore/Bulk/Oil carriers. (Students may be expected to produce sketches).

Understand that Tankers sub-divide into several categories including carriers for crude-oil, petroleum products, chemicals, liquid gases, vegetable oils etc.

Be aware of size ranges of bulk-carriers including Capesize, Panamax, Handy-size.

Understand the purpose and basic design and construction features of decks, holds, hatches, derricks, winches, cranes and other cargo handling gear.

Thoroughly understand the terminology of measuring ships including pseudo-tonnages – NT and GR. Actual tonnages – deadweight (dwt & dwcc) displacement (total and light). Capacities – bale cubic & grain cubic, TEU. Understand what information is contained in Stowage Plans.

Understand how particular ship types are required for the different cargoes and trade routes.

Thoroughly understand the basic characteristics of the main five commodities namely Coal, Ore, Grain, Fertilizers and Oil.

Be aware of the different sub-divisions within these categories.

Understand the hazards associated with the transport of certain commodities.

Understand the special requirements of unitised liner cargoes.

Understand the main places of origin and appropriate trade routes of other important cargoes plus any seasonal variations. Have a working knowledge of distances and voyage times.

A good grounding in maritime geography and access to an atlas is essential for this part of the syllabus.

## **PORT MANAGEMENT**

Understand the basic rationale of port business.

Thoroughly understand how ports structure the delivery of services and the relationship between infrastructure, conservancy, navigation and handling facilities.

Understand how the activities are organised to interface with one another and typical port organisational structure.

Be aware of the importance of ports being managed as commercial enterprises irrespective of their ownership.

Thoroughly understand how port performance can be measured – vessel turn round time, cargo volume, speed of cargo handling, damage and pilferage prevention.

Be aware how quality management systems and benchmarking can improve performance.

Understand the responsibility for and nature of marine operations – conservancy, dredging, navigation aids, navigation control etc.

Understand the management of cargo operations on board and ashore. Understand the prime importance of avoiding traffic and cargo congestion.

Thoroughly understand the importance of safety management.

Thoroughly understand the importance of security to prevent terrorism, illegal immigration, theft and smuggling.

Understand the role of trade unions and other labour organisations including ITF.

Understand the role of statutory bodies – Customs, Immigration, Port Health, Marine Safety etc.

Understand and meet the needs of port users – shipowners and operators, ship agents, forwarders, truckers, rail and barge operations.

Thoroughly understand the information flow requirements of the port, statutory bodies and port users.

Understand how these are met by port community computer systems.

## **PORT COMPETITION AND MARKETING**

Understand the nature of port competition, national and international.

Understand the need for market information including trade growth, vessel development, commercial needs and financial viability.

Thoroughly understand the relevance of geographic location to both vessel transit time and port rotation.

Understand the role of shipowners/ship operators, shippers/receivers, freight contractors, forwarders and other transport interests (e.g. railways, road hauliers).

Be aware of the various techniques of port promotion and how they assist with identification of potential users.

Understand the impact of inland transportation and inland depot/handling facilities.

Be aware of the scope for collaboration on through transport.

## **PORT PRICING**

Thoroughly understand both the nature and types of port charges including those incorporating statutory navigational services, services to vessels, services to cargoes.

Understand the cost factors in pricing including for infrastructure, navigation services, equipment, staff and labour, marketing, security and safety and for environmental services.

Understand pricing policy specifically 'not for profit', government influenced, fully commercial.

Understand the effects of competition on pricing policy and how pricing is used as a tool to influence demand.

Understand the various factors used in establishing pricing structures including lengths of time included in base charge for vessels and cargo; units on which charges are based; simplicity of application and transparency; volume rebates.

Be aware of the various regulatory mechanisms including user appeals against charges.

Understand the integration of port charges with charges of other port operators and inland transport organisations and through transport charges.

## **LEGAL ASPECTS OF PORT MANAGEMENT**

Be aware of the nature of port constitutions and the legal framework of ownership.

Be aware of Port laws and bye-laws, national legislation.

Be aware of the development of port facilities; the financing of port development.

Be aware of Laws relating to port security, operators liability and insurance.

Be aware of Laws and regulations relating to the employment of dockworkers.

Be aware of the freedom of port organisations to diversify their activities.

Be aware of development, ownership and control of Free Ports and Free zones.

Be aware of the impact of international conventions on ports.

## **PORT PLANNING**

Understand port development policy including the role of government, regional needs and competition.

Thoroughly understand planning principles and project planning and the role of traffic forecasts, analysis of demand factors, implications for marketing, involvement of users.

Thoroughly understand capacity calculations and the relationship between berth occupancy, service time and waiting time and also berth throughput.

Understand the principles behind port layout, physical constraints, terminal planning, specialised terminals, multipurpose terminals and support operations.

Understand the handling characteristics and requirements of break bulk, neo-bulk, special cargoes, dry bulk and liquid bulk commodities.

Understand flow analysis of cargo in a terminal and environmental factors and constraints.

## **PORT FINANCE**

Understand the importance of financial management in port operating, specifically budgets, capital and revenue expenditures and investment appraisal.

Be aware of the importance of financial and commercial objectives including the analysis and monitoring of costs and port cost accounting.

Understand the need for a corporate analysis of financial data and for budgetary planning and control.

Be aware of project evaluation and review techniques and the capital budgeting and also the financial and economic appraisal of port investment proposals and traffic forecasting.

Be aware of joint venture opportunities for financing or management and policies for both common and sole user terminals.

## **PORT EQUIPMENT**

Understand what is meant by port buildings, transit sheds, warehouses, maintenance workshops, amenity buildings, offices for port users etc.

Understand the different cargo handling equipment, types, their costs and the need for maintenance management.

Understand how future changes in vessel size and cargo handling techniques will impact on procurement and materials management.

## **PORT OWNERSHIP**

Be aware of the different types of ownership including national or local government owned and managed, other public sector-owned ports and port trusts and the trend towards deregulation of ports.

Be aware of the transfer of port from state to private ownership, methods of privatisation; sale of shares, management and employee buyouts.

Understand what is meant by private sector owned ports including the different types of ownership i.e. outright, public sector ownership of port infrastructure combined with private sector provision, public ownership of port superstructure with private management and/or operation and the associated issues of lease contracts and joint ventures.