

CE/BOS/CE E74/0210

K L UNIVERSITY

DOCK AND HARBOUR ENGINEERING (09 - CE E74)

SYLLABUS

L	T	P	Cr
3	0	0	3

UNIT – 1 Introduction

Ports and harbors as the interface between the water and land infrastructure; Wave conditions inside harbor, water circulation; breakwaters, jetties & quay walls; mooring, berthing and ship motion inside the port; Indian Ports: Major and Minor Private Partnership in ports ship buildings & repairs. Examples of modern ports like Krishnapatnam, vallarpadam, Mazagao Dock, Vishakhapatnam Dry Dock.

UNIT – 2: Port Operations

Allowable wave conditions for cargo handling, wave conditions for human safety on quays and breakwaters, forecasting/now casting of wave & current conditions for port operations.

UNIT – 3

Sea port layout with regards to (1) wave action (2) siltation (3) navigability berthing facilities. Planning and Design of port infrastructures with regards to (1) cargo handling (2) cargo storage (3) integrated transport of goods, planning multipurpose port terminals. Planning for container ships and bulk material handling

UNIT – 4: Role of Dredging Co operation of India

Dredging and navigability, hazard scenarios; VTMS & management of computerized container terminal, safety & environment (handling of fire, oil spill, rescue, etc.).

UNIT – 5: Construction Aspects

Planning and construction of expansion and renovation of existing Inland Port Infrastructure.

Sustainability: Global trade and port restructuring/reforms, impact of possible climate change scenarios, sustainable development strategies for cities and ports.

TEXT BOOKS:

1. Port Engineering by Pera Bruun, Gulf Publishing Company
2. Coastal Hydraulics Sea and Inland Port Structures by Muir Wood, A.M., and Fleming. C.A Hall stead press.

REFERENCE BOOKS:

1. Dock and Harbor Engineering by Ozha & Ozha, Charota Books, Anand.
2. Dock and Harbor Engineering by Seetharaman, S, Umesh Publications.
3. Website of Ministry of Transport (Shipping).