2.12 30212 MARINE ENGINEERING-1

UNIT-1

Pipes Ship pipelines, their material, fittings, methods of joining pipes, expansion joints, jointing, strainers, steam traps, care of piping.

UNIT-2

Valves Types of valves used-on-board and their applications- globe valve, gate valve, relief valve, quick closing valve, reducing valve, valve chests, shipside valves and their requirements, storm valve, butterfly valve, ball valve and Cocks. SD and SDNR valve. Detailed sectional drawing of globe valve, gate valve and butterfly valve only

UNIT-3

Fluid Pumps Types of pumps – Characteristics and Marine applications of reciprocating, centrifugal, rotary pumps used on ships. Definition and terminology, impeller characteristics, safety features, care and maintenance of pumps, testing of pumps, starting and stopping of pumps.

UNIT-4

Ship Systems Ship piping systems i.e. bilge and ballast, fresh water, hydrophore, steam piping, fuel oil and lubrication oil systems, compressed air piping, firefighting mains.

UNIT-5

Marine boilers Classification of boilers in Marine applications- Main, Auxilary, Exhaust gas, Composite boilers and packaged boilers (detailed construction not included). Fire tube and water tube boilers. Mountings and accessories and safety features. Air supply and fuel supply.

UNIT-6

Compressors Types- Reciprocating – single and multistage, centrifugal and rotary, Constructional features of reciprocating compressor only. Applications of compressors. Air receivers and mountings. Safety features.

Reference Books:

1. Introduction to Marine Engg by D.A. Taylor
2. Marine Auxiliary Machinery by David D Smith