

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 4

Marine Engineering

Subject Name Basic Ship Structure and Construction (Institute Elective I)

| Sr. No. | Course content |
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| 1. | Ship Terms: Various terms used in ship construction. General Classification of Ships, Stresses in Ship's structure and strength members to counteract the same. |
| 2. | Sections and materials use: Types of sections used in ship construction. Riveting & Welding, testing of welds, fabricated components. |
| 3. | Bottom & Side Framing: Double bottoms, Water tight floors, Solid and bracket floors, Longitudinal framing keels, side framing like Tank side brackets, Beam Knee, Web frame etc. Shell & Decks, Plating systems for shells, deck plating & Deck girders, mid-ship section of ships. Bulkheads, Water tight bulkheads, water tight openings through bulkheads for electric cables, pipes and shafting. Deep tank for oil fuel or oil cargo corrugated bulk heads. |
| 4. | Fore – End Arrangements: Stem construction, arrangement to resist panting, panting stringers, Forepeak – collision bulk heads, Bulbous bows, Anchor and cable arrangements. |
| 5. | After – End - Arrangements: Types of Stems, Stem frame and rudder. Types of rudders, Supporting of rudder, Locking pintle bearing pintle, Pedastal bearing, Shaft tunnel, Tunnel bearings. |
| 6. | Loadline and Tonnage: Definition of freeboard and various assigning conditions, Loadline surveys, tonnage regulations, calculation as per 1969 convention, details of markings permanently carved, Shipyard Practice, Basic difference of construction in various types of ships. |
| 7. | Ship Surveys: Survey rules, Functioning of classification Societies, Surveys during construction, Periodical surveys as per statutory regulations, retention/suspension of class for a ship, constructional features and rule guidelines for a merchant vessel as per Manpol regulations. |

Reference Books:

1. Reed's Ship Construction for Marine students- Thomas Reed publication, 19 - Bridge Road, Hampton Court, Ess Moksey, Surrey KT 8 9 EU U.K.
2. Merchant Ship Construction by H.J.Pursey
3. Ships And Naval Architecture by Munro Smitch.