UNIT I

SHIP SIZE

Archimedes' principle

A ship fully afloat displaces water equal to its own weight.

For that reason a ship's weight is expressed in terms of displacement.

Displacement is defined as

light displacement

and

load displacement

Light displacement is the weight of liquid displaced by a vessel when floating with no cargo, fuel, stores or any other weights not forming part of the hull or machinery or fixed equipment of vessel.

Load displacement is the weight of liquid displaced by a vessel when floating with cargo, fuel, stores any other weights.

DEADWEIGHT

The difference between the load displacement and the light displacement is the deadweight.

Deadweight (DWT) is the cargo-carrying capacity of the vessel

TONNAGE

Tonnage is a measurement of the enclosed volume of a ship used to describe her cargo capacity and does not indicate displacement

Gross tonnage is the volumetric capacity of the spaces in the ship's hull and of the enclosed spaces above the deck available for cargo, stores, fuel, passengers, and crew..

Net tonnage is the moulded volume of cargo spaces, the number of passengers carried, moulded depth, and service draught; net tonnage gives an indication of the ship's earning capacity.

ANSWER THE QUESTIONS

1-What do you understand by Archimedes' principle?

2-What is light displacement?

3-Is tonnage and displacement the same?

A- Fill in the blanks with appropriate adjectives given below.

different / salt / even / enclosed / international / similar

1-The dimensions of containers and size of ships are regulated by ……rules.

2-The draught change whether the ship in fresh water or ……water.

3-If the ship has no trim, this means the ship is on an ……keel.

4-Displacement and tonnage are …… terms.

5-Some ……spaces of a ship must be protected against fire.

B-Fill in the blanks with suitable prepositions.

At(2)-on(2)-in(4)-across-through(2)-into(2)-onto-from-to

1- Egyptian ships traded …….. the Mediterranean.
2- Steamships travelled …… Europe ……. China by passing …….. Suez Canal.
3- Platforms were built for defence ……. the fore and aft ends.
4- Diesel engines were first used …….. vessels ……..1912.
5- Ships are built ……. shipyards.

6- …… the past, drawings were prepared for every part of the ship ……. a mould loft.

7- The design is passed …….. numerically controlled cutting machines.

8- The design of ship's structure is translated …….. digital signals.

9- Ships are assembled …….. the sloping ways .

10- The cargo is loaded or unloaded …….. hatches by derricks

11- The people on board are accommodated …….. cabins.

12 The liquid petroleum products are pumped …….. the tanks.

“The weight of water displaced by a ship when floating with no cargo, stores, fuel etc.”

a. gross tonnage

b. load displacement

c. light displacement

d. net tonnage

e. tare

“The weight of water displaced by a ship when floating with no cargo, stores, fuel etc.”

c. light displacement