

**MERCHANT MARINE ACADEMY OF MACEDONIA  
SCHOOL OF ENGINEERS**

**STUDENT'S FULL NAME:**

**STUDENT NUMBER:**

**Academic year: 2015-2016**

**Exam period: June**

**Date: 24/6/2016**

**Semester: A**

**Instructor's name: Dr M. Tsompanoglou**

**FINAL EXAM (Retakes)**

**1. Underline the correct choice. (10 points)**

We use a (screwdriver, spanner, hammer) to tighten or loosen a nut.

A pair of (pliers, calipers, dividers) is used to measure thicknesses.

We smoothen and shape a surface with a (scraper, reamer, file).

For hexagonal screws we use a(n) (Allen key, open-ended spanner, ratchet wrench).

With a (screw-pitch gauge, feeler, reamer) we measure very small distances.

In order to hold an object firmly in its place while work is done, we use a (grinder, fitter's vice, lathe).

In order to cut internal threads we use (cutters, taps, snips).

In the 2-stroke diesel engine one cycle of operation is completed in (one, two) revolutions of the crankshaft.

The camshaft is connected to the rocker arm with the (push rod, piston rod, connecting rod)

**2. Complete the following sentences using the words given: (10 points)**

*cylinder, container, knots, routes, personnel  
galley, camshaft, drill, messroom, capacity,*

On a vessel the place where the cook cooks is called: .....

..... ships carry their cargo in special "boxes".

The ..... liner protects the cylinder by reducing friction.

The ..... carries the cams which operate the fuel pumps and exhaust valves.

..... ships can make holes on the seafloor.

Ferries operate on short sea .....

On a vessel the place where people eat is called: .....

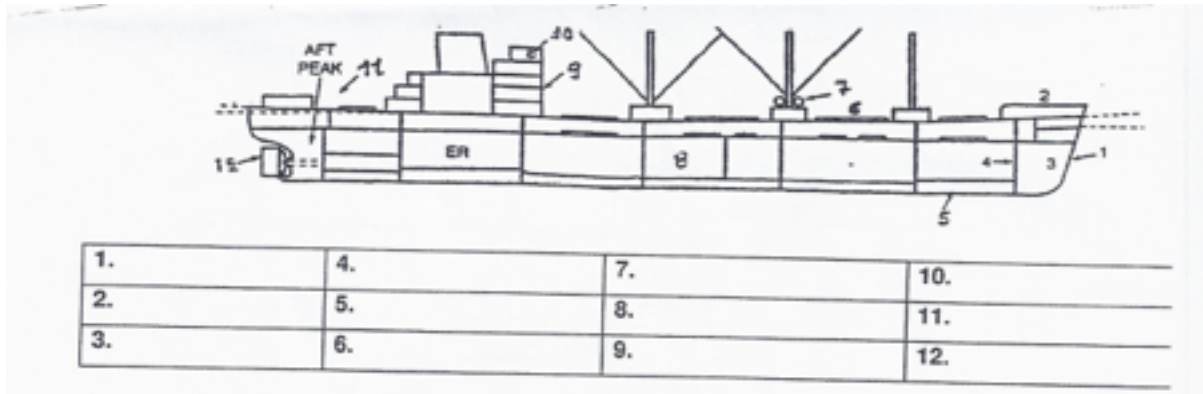
The Capricorn makes a speed of 14 ..... Her grain ..... is 328500 cubic feet.

The Chief Engineer is responsible for the E/R .....

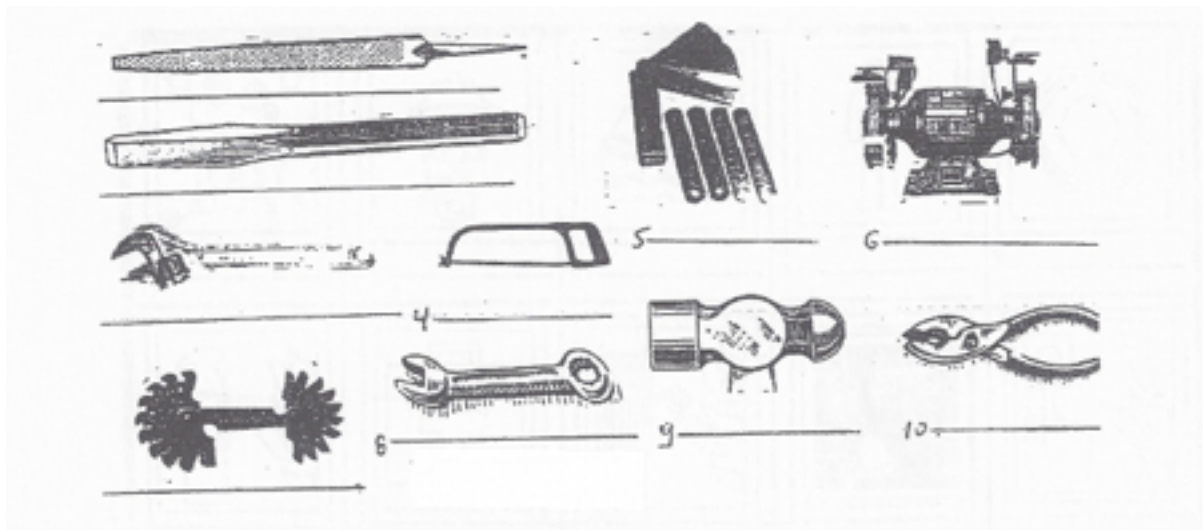
**3. Find the vessels which carry the following types of cargo. (10 points)**

1. Different types of vehicles:
2. Products which need refrigeration:
3. Liquefied natural gas:
4. Liquefied petroleum gas:
5. Passengers and cars:
6. Any type of cargo packed in containers of standard dimensions:
7. Dry loose cargo such as grain, iron, ore etc.:
8. Liquid loose cargo such as crude oil, diesel oil, etc.:
9. Any type of cargo in break-bulk form, eg. pieces of machinery, steel coils, rolls of wire, etc.:
10. Barges (Lighters):

**4. Name the following parts of the vessel. (18 points)**



**5. Name the following tools. (15 points)**



**6. Complete the sentences with a suitable preposition: *below, of, on, with, for, in.* (10 points)**

..... the forecastle, inside the bulbous bow, there is a forepeak tank.

The engine room is ..... the superstructure aft of the ship.

Feeler gauges consist ..... a number of thin blades.

Are you familiar ..... the LSA?

When you enter the lifeboat, you must be equipped ..... your lifejacket.

The bosun is responsible ..... the deck ratings.

The superstructure is ..... the main deck of a vessel.

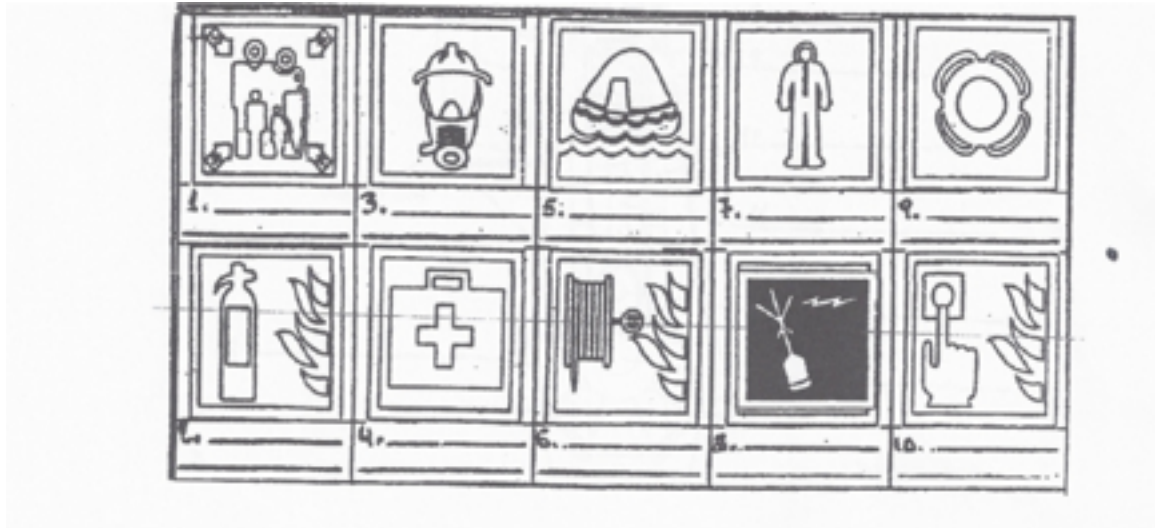
The chief engineer's office is ..... the port side ..... the ship.

Bulk carriers transport their cargo ..... bulk.

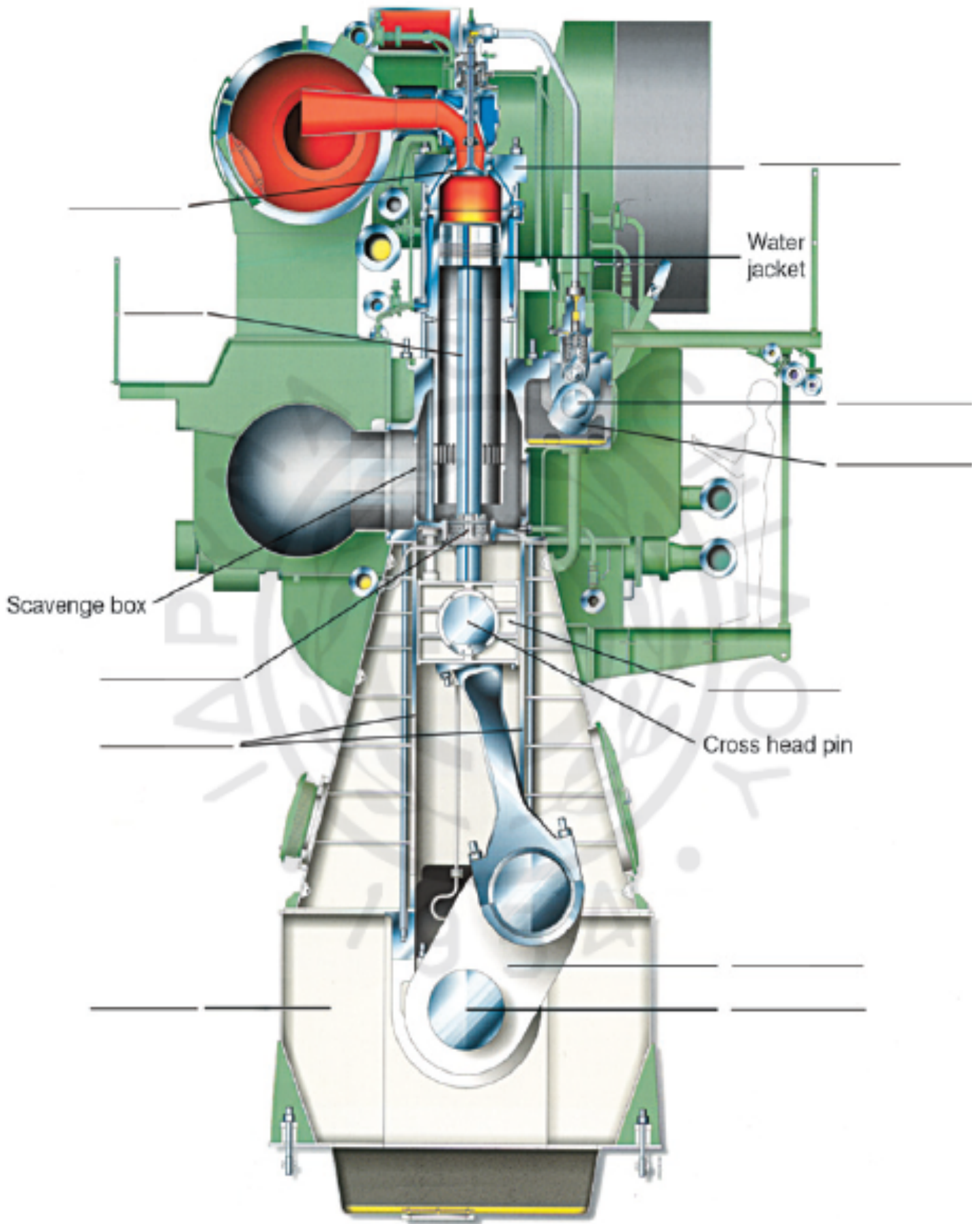
**7. Match the parts of the diesel engine to their functions. (10 points)**

1. crankshaft	opens the valves
2. camshaft	reduces friction
3. piston	compresses the air
4. cylinder liner	supports the whole engine
5. piston rod	reciprocates in the stuffing box
6. connecting rod	rotates and gives motion to the propeller
7. bedplate	gives rotating motion to the crankshaft
8. crosshead	connects the piston rod to the connecting rod
9. piston pin	connects the piston to the connecting rod
10. crank pin	connects the connecting rod to the crankshaft

**8. Name the following life saving equipment. (10 points)**



9. Name the parts in the following diagram of a 2-stroke diesel engine. (18 points)



***Two-stroke Diesel engine***