

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

**Course: Maritime English**

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**Semester: B' (Retakes-old students before Manila)**

**Instructor: A. Birbili**

**Student's name:**

**Student number:**

**Exam period: February**

**Date:**

**Exam paper grade:**

**FINAL EXAM**

**A. Write the names of the four strokes of a 4-stroke diesel engine and describe the suction stroke. (20 p.)**

**Names of the four strokes: 1. \_\_\_\_\_ 2. \_\_\_\_\_**

**3. \_\_\_\_\_ 4. \_\_\_\_\_**

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**B. Fill in the gaps with the following words. There are two extra words. (10 p.)**

*scavenge    crankpin    B.D.C.    T.D.C.    exhaust    rotor*

*compression    crown    combustion    skirt    crosshead    impeller*

-- At the end of the 2nd stroke of a 4-stroke D.E. the piston is at the \_\_\_\_\_.

-- In a 2-stroke D.E. two phases, \_\_\_\_\_ and \_\_\_\_\_, happen at the same time.

-- The three upper rings of the piston are \_\_\_\_\_ rings.

-- The \_\_\_\_\_ connects the piston rod to the connecting rod.

-- The connecting rod is connected to the crankshaft with the \_\_\_\_\_.

-- The upper part of the piston is called \_\_\_\_\_ and the lower \_\_\_\_\_.

-- The two main parts of a turbocharger are the turbine \_\_\_\_\_ and the compressor \_\_\_\_\_.

**C. How do you report the following types of distress according to the SMCP? Add an appropriate sentence next to each distress case. (5 p.)**

1. **Collision:** .....
2. **Piracy:** .....
3. **Grounding:** .....
4. **Flooding:** .....
5. **List-capsizing:** .....

**D. Supply the missing words from the ones given below. (15 p.)**

*rotary    volute    displacement    vanes    reciprocating*  
*centrifugal    casing    screws    multi-stage    impeller*

There are two main groups of pumps: the \_\_\_\_\_ pumps and the \_\_\_\_\_ pumps. The 1<sup>st</sup> group is subdivided into \_\_\_\_\_ pumps in which a piston moves up and down, and \_\_\_\_\_ pumps in which the moving part rotates. The rotating part can be gears, \_\_\_\_\_, \_\_\_\_\_, etc. The centrifugal pump on the other hand consists of a(n) \_\_\_\_\_ which rotates at high speed inside the pump \_\_\_\_\_. The most common type of centrifugal pump is the \_\_\_\_\_ which has taken its name after the spiral case which surrounds the impeller. If the centrifugal pump has two or more impellers, it is \_\_\_\_\_.

**E. Match the terms to their explanation underneath. (10 p.)**

*gudgeon pin    main bearings    safety valve    soot blower    connecting rod*  
*feed check valve    main stop valve    salinometer    water jacket    crosshead*

- maintains the desired temperature of the cylinder \_\_\_\_\_
- a valve to control the entry of water to the boiler \_\_\_\_\_
- connects the piston rod to the connecting rod of a diesel engine \_\_\_\_\_
- a gauge to check the salinity of water \_\_\_\_\_
- connects the piston to the connecting rod \_\_\_\_\_
- a valve which controls the passage of steam to the engine \_\_\_\_\_
- a valve which releases the excess of steam \_\_\_\_\_
- they support the crankshaft within the engine bedplate \_\_\_\_\_
- it removes the black carbon particles from the tubes of the boiler \_\_\_\_\_
- a rod which connects the piston or crosshead to the crankshaft \_\_\_\_\_

**F. Insert the correct preposition in the gaps. (10 p.)**

- They forgot to switch \_\_\_\_\_ the hold ventilator and the perishable cargo was destroyed.
- Will you please turn the heat a little \_\_\_\_\_? I'm cold.
- Fill \_\_\_\_\_ the tank with petrol and get ready to start \_\_\_\_\_ the engine.
- The fire is toxic, don't attempt to put it \_\_\_\_\_.
- What repairs have been carried \_\_\_\_\_ so far?
- Remember to turn \_\_\_\_\_ the gas before you leave.
- The chief mate took \_\_\_\_\_ the command of the search and rescue operation.
- Do not alter course. You must stand \_\_\_\_\_.
- Despite the bad weather conditions last night they tried to pick \_\_\_\_\_ the survivors of the shipwreck.

**G. Match the words to their explanation. (10 p.)**

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|--------------------|---|
| 1. simultaneously  | a. width of the hull  |
| 2. freeboard       | b. throw away as garbage  |
| 3. beam            | c. vertical distance between water line and the highest point of a vessel |
| 4. draught         | d. a layer of oil on the sea surface                                      |
| 5. oil slick       | e. at the same time   |
| 6. dump            | f. keep within limits, restrain   |
| 7. skimmers        | g. the part of the hull of the ship above the water line                  |
| 8. air draught     | h. system used for clearing the water of any floating matter              |
| 9. contain         | i. the distance over the extremities, from stem to stern                  |
| 10. length overall | j. the maximum depth underwater   |

**H. Underline the correct choice. (10 p.)**

- In a **compressor / condenser** steam changes into water.
- In a **deaerating / balacing** tank water gets rid of air and other gases.
- An emergency reversal operation of the main engine(s) to avoid collision is called a **crash-stop / collision-stop**.
- In a(n) **impulse / reaction** turbine the steam is directed from the nozzles against the stationary blades and turns the rotor.
- When the temperature of the steam falls below permissible limits, **evaporation / condensation** takes place.
- The reaction turbine is **more / less** efficient than the impulse turbine.
- The main part of a steam turbine is the **piston / rotor**.
- In a steam plant of a reaction turbine, the **superheated / saturated** steam is fed into a **L.P. / H.P.** turbine first, where some of its **heat / mechanical** energy is converted into useful work.

**I. Which of the auxiliary machinery is used for... (10 p.)**

- reducing rolling of the ship? \_\_\_\_\_
- supplying the ship with electrical power and lighting? \_\_\_\_\_
- handling the cargo? \_\_\_\_\_
- transferring liquids from one place to another? \_\_\_\_\_
- burning the garbage? \_\_\_\_\_

***GOOD LUCK!!!***