

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

**Course: Maritime English**

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**Name:**

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**Date:**

**Exam paper grade:**

**FINAL EXAM**

**1. Supply the missing words from the ones given below. There are two extra words. (15 p.)**

*wall header    generating    burners    diesel    incoming    closed    steam    water*  
*high    feed check valve    drum    economiser    circulating    superheated    low*  
*injection    bottom*

- The \_\_\_\_\_ feed water passes through an \_\_\_\_\_ first before it enters the lower part of the \_\_\_\_\_ drum.
- The \_\_\_\_\_ tubes take the feed water in the water \_\_\_\_\_, where water is heated by the combustion gases.
- Water changes into steam in the \_\_\_\_\_ tubes.
- Steam turbines need \_\_\_\_\_ steam.
- The \_\_\_\_\_ controls the entry of the water in the boiler.
- The safety valve is actuated when there is \_\_\_\_\_ pressure.
- The water \_\_\_\_\_ supplies water to the water wall tubes.
- The \_\_\_\_\_ may be placed either at the \_\_\_\_\_ of the boiler or at the top.
- All valves are \_\_\_\_\_ when the piston is almost at the T.D.C. and the fuel is sprayed into the cylinder by the fuel \_\_\_\_\_ valve.
- In \_\_\_\_\_ engines heat energy and mechanical energy are produced in the same apparatus.

**2. Write the names of the four strokes of a 4-stroke diesel engine and describe the first stroke. (10 p.)**

**Names of the four strokes: 1. \_\_\_\_\_ 2. \_\_\_\_\_**  
**3. \_\_\_\_\_ 4. \_\_\_\_\_**

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**3. Complete the following text with the words given below. There are two extra words. (15 p.)**

*compression valve combustion B.D.C. cylinder manifold ports  
downwards T.D.C. gases pressurised scavenge holes pressure  
expelling upwards self-ignited*

When the piston is at the \_\_\_\_\_ and before it starts its upward movement on its first stroke, the scavenge and exhaust \_\_\_\_\_ (or exhaust valve) are already open. \_\_\_\_\_ air has already entered the cylinder \_\_\_\_\_ the remaining gases through the exhaust ports (or \_\_\_\_\_). As the piston moves \_\_\_\_\_ on its first stroke, it covers the \_\_\_\_\_ ports first and then the exhaust ports. \_\_\_\_\_ starts. Pressure and temperature rise. When the piston is a little before the \_\_\_\_\_, the fuel is sprayed into the cylinder and is \_\_\_\_\_.

At the beginning of the second stroke, the fuel has already been burned. The \_\_\_\_\_ gases push the piston down. As the piston moves \_\_\_\_\_, it uncovers the exhaust ports first and the hot \_\_\_\_\_ escape through the exhaust manifold. \_\_\_\_\_ drops. So, when the piston uncovers the scavenge ports right after, air enters the \_\_\_\_\_ under pressure to push the remaining gases out during the scavenge phase.

**4. Circle the correct choice. (12 p.)**

- **Fire extinguishers / fire detectors** warn us of a fire in a place.
- **Motors / Generators** supply the ship with electrical power and lighting.
- We use the **windlass / capstan** for handling the anchor.
- 4-stroke diesel engines are connected to the propeller with **turning / reduction** gear.
- Fuel oil is cleaned in a **separator / evaporator**.
- When the viscosity of a fuel and/or lube oil is high, a **heater / cooler** can regulate it.
- A **service / bilge** pump is used to remove water from the machinery space.
- A lot of garbage can be burnt in the **incinerator / separator**.
- Fin-stabilisers are used to improve the ship's **manoeuvrability / stability**.
- In a(n) **impulse / reaction** turbine the steam is directed from the nozzles against the stationary blades and turns the rotor.
- In order to lower the boats to the sea we use the **steering / launching** gear.
- **Pumps / cranes** are used for loading and unloading liquid cargo.
- 4-stroke diesel engines are **medium-speed / slow-speed** engines, operating between **100 / 200** and **900 / 1500** rpm.





**8. Match the words to their synonyms/definitions. (5 p.)**

- |               |                                 |
|---------------|---------------------------------|
| 1. efficient  | -- fixed, not in motion         |
| 2. evaporate  | -- not affected by fire         |
| 3. submerge   | -- burning                      |
| 4. ignition   | -- capable of better output     |
| 5. charge     | -- grow larger, spread out      |
| 6. stationary | -- place under water            |
| 7. combustion | -- fill up (with air)           |
| 8. convert    | -- turn from liquid into vapour |
| 9. fireproof  | -- firing                       |
| 10. expand    | -- change into something else   |

***GOOD LUCK!!!***