

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

**Course: Maritime English**  
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**Name:**  
**Student number:**  
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**FINAL EXAM**

**A. Put the words below in the right gap. There are two extra words. (15 p.)**

*scavenge rotor crankpin B.D.C. T.D.C. running exhaust turbine diffuser  
compression crown stator combustion skirt crosshead pin silencer compressor*

- The three upper rings of the piston of a 4-stroke diesel engine are \_\_\_\_\_ rings.
- The \_\_\_\_\_ connects the piston rod to the connecting rod.
- The connecting rod is connected to the crankshaft with the \_\_\_\_\_.
- At the end of the 2<sup>nd</sup> 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 upper part of the piston is called \_\_\_\_\_ and the lower \_\_\_\_\_.
- The two main parts of a turbocharger are the \_\_\_\_\_ rotor and the \_\_\_\_\_ impeller.
- The turbine assembly has a \_\_\_\_\_, that is, stationary vanes which direct the exhaust gases to the \_\_\_\_\_.
- On the compressor's side of a turbocharger there is a \_\_\_\_\_ which contributes to further rising of the pressure of the compressed air.
- The \_\_\_\_\_ absorbs the noise of the vibration of the \_\_\_\_\_ components of the turbocharger.

**B. Complete the sentences with the correct form of the words in parentheses. (10 p.)**

- Salt water, evaporated into steam and then brought into a condenser produces \_\_\_\_\_ (**condense**), which is fresh water.
- In a sewage \_\_\_\_\_ (**treat**) plant human body waste is treated \_\_\_\_\_ (**biology**) before being discharged into the sea.
- Fin-stabilizers improve a ship's \_\_\_\_\_ (**stable**).
- The control systems on a shipboard boiler are designed to detect promptly \_\_\_\_\_ (**fail**) and malfunctions.
- The 4-stroke D.E. has lower fuel \_\_\_\_\_ (**consume**) than the 2-stroke one.
- The decrease in pressure causes the \_\_\_\_\_ (**expand**) of the steam.
- When the temperature of the steam falls below \_\_\_\_\_ (**permit**) limits \_\_\_\_\_ (**condense**) takes place.
- The main engines are used for the \_\_\_\_\_ (**propel**) of the ship.

**C. Supply a word (or words) of your choice that can fill the gap. (15 p.)**

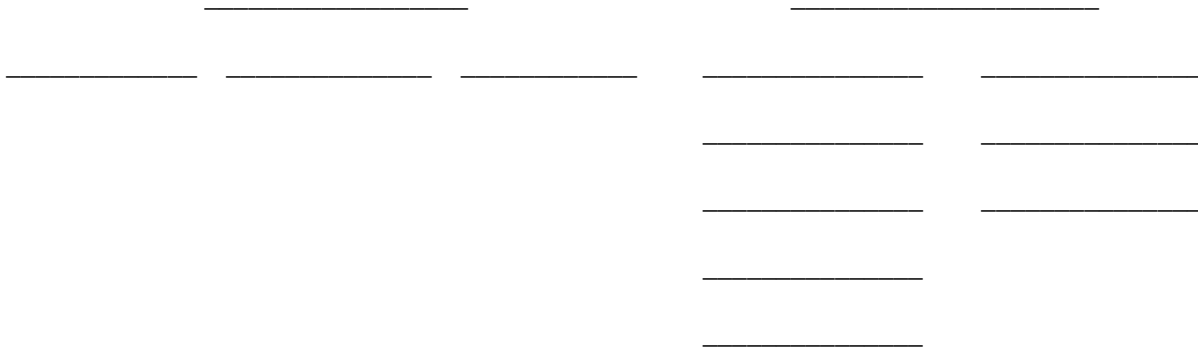
- There are two basic types of boilers: The \_\_\_\_\_ boiler and the \_\_\_\_\_ boiler.
- We can produce steam by heating water to its \_\_\_\_\_ point.
- The valve seats are housed on the cylinder \_\_\_\_\_.

- The cylinder block, the frame of the engine and the bedplate are connected together with the \_\_\_\_\_.
- In an impulse turbine the steam is directed from the \_\_\_\_\_ against the blades.
- Diesel engines are \_\_\_\_\_ combustion engines.
- The \_\_\_\_\_ actuates the valves.
- In a 2-stroke Diesel Engine the 2 strokes are called \_\_\_\_\_ and \_\_\_\_\_.

**D. Complete the diagram on pumps by filling in the 13 gaps. The words you need are given below. (13 p.)**

*lobe rotary double-acting diffuser centrifugal reciprocating volute  
regenerative single-acting gear-wheeled vane-type displacement screw-type*

**PUMPS**



**E. Match the following words to their synonym or explanation. There is an extra definition. (10 p.)**

emission malfunction attemporator fireproof stationary gauge  
evaporate inject charge combustion

- force liquid into.....
- fixed, not in motion.....
- turn from liquid into vapour.....
- measuring instrument.....
- irregular or abnormal function.....
- apparatus which increases temperature.....
- fill up with air.....
- not affected by fire.....
- discharge of gas, heat, radiation.....
- burning.....
- apparatus which decreases temperature.....

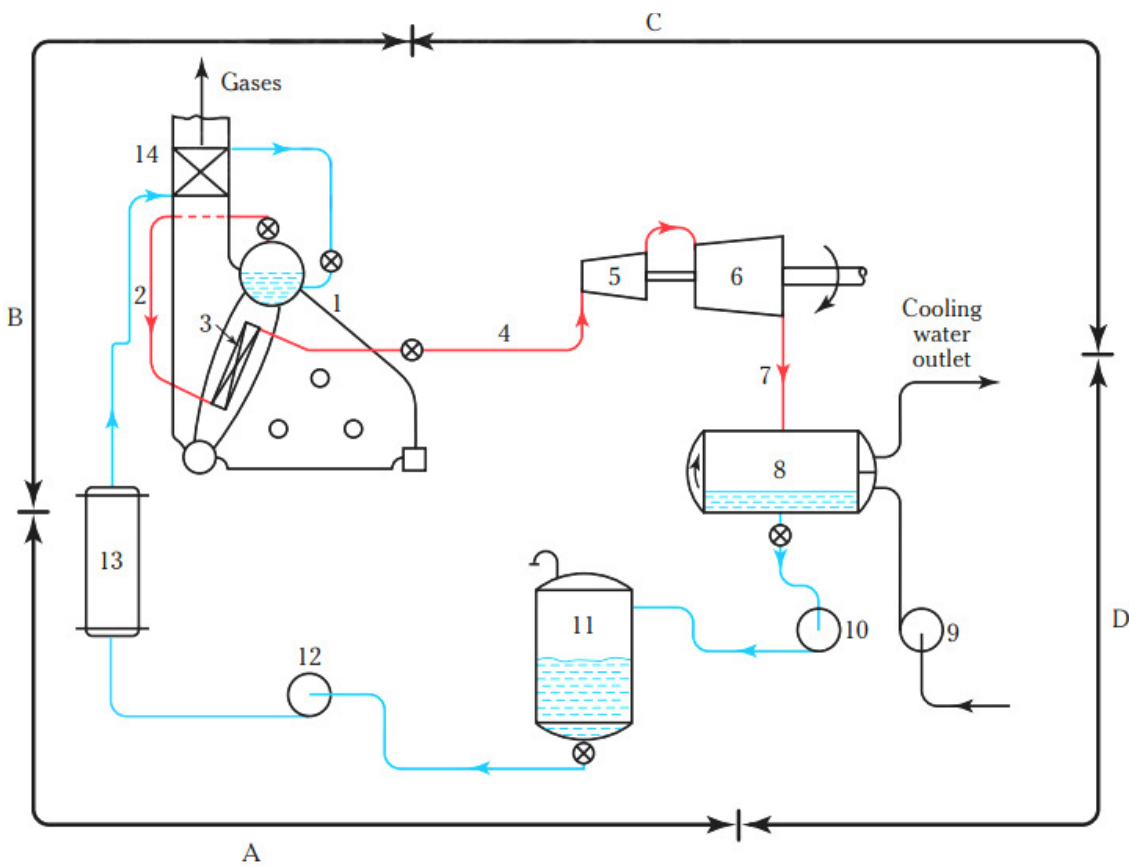
**F. Which of the auxiliary machinery is used for... (12 p.)**

- reducing rolling of the ship? .....
- providing forced ventilation to holds? .....
- removing water and dirty particles from fuel? .....
- transferring liquids from one place to another? .....
- lifting heavy objects, containers, etc? .....

- supplying the ship with electrical power and lighting? .....
- burning the garbage? .....
- increasing the temperature of fuel and improving its viscosity? .....

**G. The terms below are parts of a steam power plant of a reaction turbine. Write what is shown in the diagram. (18 p.)**

- |                      |                                    |                        |                  |
|----------------------|------------------------------------|------------------------|------------------|
| Economiser           | Condensate pump                    | Boiler                 | Steam generation |
| Preheater            | L.P. steam turbine                 | Superheater            | Condensation     |
| DFT                  | Feed pump                          | H. P. steam turbine    | Feeding          |
| Exhaust Pipe         | Condenser                          | Superheated steam pipe | Expansion        |
| Saturated steam pipe | Sea water cooling circulating pump |                        |                  |



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
- A. \_\_\_\_\_
- B. \_\_\_\_\_

8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_

**H. Describe the second stroke of a four-stroke diesel engine. (07 p.)**

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**GOOD LUCK!**