

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

**Academic year: 2012 - 2013**

**Exam period: September**

**Semester: C**

**Instructors: K. Grigoroglou, Dr. E. Botonaki, A. Birbili, A. Papadopoulou**

**Student's full name:**

**A.G.M.:**

**Date:**

**FINAL EXAM IN MARITIME ENGLISH**

**A. Insert an appropriate word in the gaps. (15 p.)**

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 an \_\_\_\_\_ 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 \_\_\_\_\_.

**B. Fill in the blanks with the following words. (10 p.)**

*high      grooves      film      lubricators      return      rings*  
*neutralises      fuel      wear      storage*

The lubrication of the cylinder is very important, first because it forms an oil \_\_\_\_\_ between piston rings and cylinder liner, thus reducing friction, and secondly because it \_\_\_\_\_ the acid products of combustion and reduces cylinder \_\_\_\_\_ considerably. The cylinder oil has \_\_\_\_\_ viscosity and a high TBN value. It is drawn from the cylinder oil \_\_\_\_\_ tank to a small service tank by separate pumps. From there, the oil is supplied to \_\_\_\_\_ by gravity and is led through drillings onto the liner surface where \_\_\_\_\_ distribute it circumferentially around the liner, and the piston \_\_\_\_\_ spread it up and down the surface of the liner. There is not

\_\_\_\_\_ of the used oil because it is finally burnt with the  
\_\_\_\_\_.

**C. How do the following parameters of fuels affect combustion or the engine parts? (10 p.)**

1. Ash content: \_\_\_\_\_  
\_\_\_\_\_
2. Carbon: \_\_\_\_\_  
\_\_\_\_\_
3. Sulphur: \_\_\_\_\_  
\_\_\_\_\_
4. Water and sediment: \_\_\_\_\_  
\_\_\_\_\_
5. CCAI: \_\_\_\_\_  
\_\_\_\_\_

**D. Match the words to their explanation. (5 p.)**

- |                             |                                      |
|-----------------------------|--------------------------------------|
| 1. insulate                 | a. balancing/mixing tank             |
| 2. buffer tank              | b. go down, sink                     |
| 3. pressure retaining valve | c. increase, enhance                 |
| 4. sludge                   | d. disperse through outward movement |
| 5. settle down              | e. excess                            |
| 6. centrifuge               | f. protect against heat dispersal    |
| 7. boost                    | g. control, adjust                   |
| 8. regulate                 | h. pressure reducing valve           |
| 9. purify                   | i. remove impurities, clean          |
| 10. surplus                 | j. mud, deposits of fuel             |

**E. Write down the lubricant additive(s) which would help with the problem. (5 p.)**

1. Major accumulation of deposits on piston crown and cylinder liner: .....
2. Difficulty in pumping the lube oil at low temperatures: .....
3. Scored, scratched cylinder liner surface: .....
4. Fouled surfaces: .....
5. Signs of corrosion on metal surfaces: .....

**F. Write five important procedures before bunkering and five during bunkering. Include the following terms in your sentences. (10 p.)**

*barge bunker hose fenders sampler scuppers drip trays valves  
ullages manifold loading rate countersign bunker samples plug*

Before bunkering

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

During bunkering

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**G. What do the following words mean? Underline the correct choice. (5 p.)**

1. to countersign: to **add/delete/deny** one's signature to a document
2. to crosscheck (of results): to **confirm/cross out/witness** the results by using an alternative way of checking
3. to verify: to prove that smth is **false/true/incomplete**
4. to retain (of pressure): to **maintain/reduce/adjust**
5. to sound (of a tank): to **measure/check/examine** the depth

**H. Insert an appropriate derivative of the words in the parentheses. (12 p.)**

1. High water \_\_\_\_\_ (**contain**) in the fuel causes \_\_\_\_\_ (**error**) combustion and \_\_\_\_\_ (**corrode**) to injectors.
2. Highly \_\_\_\_\_ (**viscosity**) fuels need special \_\_\_\_\_ (**treat**).
3. \_\_\_\_\_ (**distil**) fuels have cleaner \_\_\_\_\_ (**emit**) than \_\_\_\_\_ (**residue**) fuels.
4. The nozzle \_\_\_\_\_ (**assemble**) is screwed at the bottom of the \_\_\_\_\_ (**inject**) \_\_\_\_\_ (**hold**).

