

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

**Course: Maritime English**

**Academic year: 2015 – 2016**

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

**Instructors: A. Birbili, Dr E. Botonaki**

**Name:**

**Student number:**

**Exam period: June 2016**

**Date:**

**Exam paper grade:**

**A. Fill in the gaps using the words below. There are two extra words. (15 p.)**

*illuminated needle notify sulphur calcium SOPEP bunkering*

*clearances carbon incident flammable ash rupture affect*

*plug injector distillation*

- Corrosion is caused by the presence of \_\_\_\_\_ in the fuel.
- \_\_\_\_\_ scuppers when loading or discharging oil.
- The process through which marine fuels are obtained is called fractional \_\_\_\_\_.
- The acronym CCAI stands for Calculated \_\_\_\_\_ Aromaticity Index.
- Do not leave \_\_\_\_\_ material in buckets or open containers; it may cause fires.
- Marine \_\_\_\_\_ is the supply of fuel oil for ships.
- Piston rings should be checked for proper \_\_\_\_\_ in order to avoid wear and breakage.
- \_\_\_\_\_ the Officer of the Watch when a failure of machinery has occurred which may \_\_\_\_\_ navigation.
- Keep the E/R properly \_\_\_\_\_ at all times.
- When an oil pollution \_\_\_\_\_ occurs, the ship follows the \_\_\_\_\_ in accordance with the requirements of MARPOL.
- Do not use untested equipment; it may \_\_\_\_\_ or break.
- The \_\_\_\_\_ stem and its return spring of a fuel \_\_\_\_\_ are fitted in the injector holder.

**B. Write down the appropriate lubricant additives which would help with the problem. (10 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: .....

**C. 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 \_\_\_\_\_.

**D. Match the words to their definitions. (10 p.)**

*stalling (of engine) neutralise scale emission distilled*  
*ullage accumulate purify scuffed sludge*

- pitted, with deep scratches .....
- the distance from the surface of the oil in a tank to the top .....
- discharge of gases, smoke, etc. ....
- reduction of revolutions, eventual stopping .....
- mud, deposits of fuel .....
- build up .....
- deposits of salt .....
- remove impurities, clean .....
- refined .....
- make ineffective, with no result .....

**E. 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

**F. The following list of terms includes the most important parameters of fuel oils for diesel engines. Match the terms with the appropriate explanation. There are two extra terms. (15 p.)**

*ash content*   *specific gravity*   *cetane number*   *hydrogen sulphide*   *viscosity*  
*water and sediment*   *heating value*   *density*   *carbon residue*   *flash point*  
*pour point*   *sulphur*

- Chemical element which can be very injurious to engine parts during combustion because it changes into acid: \_\_\_\_\_
- Unburned carbon during combustion which can deposit on engine parts: \_\_\_\_\_
- Non-combustible solid material in the fuel which scratches the rubbing surfaces it comes in contact with: \_\_\_\_\_
- A measure of the density or weight of the fuel. It also serves as a rough check on viscosity, carbon content and other qualities: \_\_\_\_\_
- Content in water and solid particles. The higher it is, the more possible it is to cause erratic combustion and corrosion: \_\_\_\_\_
- The lowest temperature at which the fuel oil is observed to flow: \_\_\_\_\_
- An indication of the ignition quality of the fuel: \_\_\_\_\_
- The amount of heat given off on complete combustion of one pound of fuel: \_\_\_\_\_
- The temperature at which the fuel vapours ignite when a flame is applied to it: \_\_\_\_\_
- The measure of the resistance of the fuel to movement. The higher it is, the more difficult it is for the fuel to flow: \_\_\_\_\_

**G. Insert an appropriate derivative of the words in parentheses. (15 p.)**

- High water \_\_\_\_\_ (**contain**) in the fuel causes \_\_\_\_\_ (**error**) combustion and \_\_\_\_\_ (**corrode**) to injectors.
- Samples are sealed for later \_\_\_\_\_ (**verify**) of supplied product quality in case a dispute arises.
- Highly \_\_\_\_\_ (**viscosity**) fuels need special \_\_\_\_\_ (**treat**).
- \_\_\_\_\_ (**distil**) fuels have cleaner emissions than \_\_\_\_\_ (**residue**) fuels.
- Chemical \_\_\_\_\_ (**stable**) is an important \_\_\_\_\_ (**specify**) of lubricating oils.
- Two crew members were injured in a \_\_\_\_\_ (**collide**) in the North Sea last week.
- The HFO \_\_\_\_\_ (**purify**) separates water and \_\_\_\_\_ (**impure**) from the fuel.
- Most fuel injectors are operated \_\_\_\_\_ (**hydraulic**).
- On \_\_\_\_\_ (**complete**) of refueling, you should close all filling valves.

**H. Put the verbs into the 'Simple Past' or the 'Present Perfect'. (10 p.)**

- There (be) \_\_\_\_\_ a lot of seagulls in the sky yesterday and one bird (fly) \_\_\_\_\_ into the funnel.
- I was very tired so I (go) \_\_\_\_\_ to bed early.
- I couldn't afford to keep my car, so I (sell) \_\_\_\_\_ it.
- \_\_\_\_\_ (the ratings/practise) the fire drill yet?
- The bed was very uncomfortable. I (not/sleep) \_\_\_\_\_ very well.
- An A/B (fall) \_\_\_\_\_ down the ladder and (break) \_\_\_\_\_ his leg yesterday morning.
- The Chief Officer (forget) \_\_\_\_\_ to send the fax to the company.
- We (not/read) \_\_\_\_\_ the safety manual yet.

**I. Answer one (1) of the following questions. (10 p.)**

1. What are the objectives of lubrication?
2. What does the fuel injector do? Why is it very important?

**GOOD LUCK!!!**