


<b>Merchant Marine Academy of Macedonia- School of Engineers</b>		
<b>Course: Maritime English</b>	<b>Academic year:2022-2023</b>	<b>Exam period: June</b>
<b>Semester: C'</b>	<b>Date: 14/06/23</b>	<b>Instructors: A. Birbili, E. Xenitidou</b>
<b>Student's name:</b>		<b>Student's number:</b>
<b>Exam paper grade:</b>		<b>Instructor's signature</b>
		

**Fill in the gaps with a word from the list. There are two (2) extra words. (15 p.)**

<i>mixing</i>	<i>atomisers</i>	<i>injurious</i>	<i>drillings</i>	<i>fortified</i>	<i>bunkering</i>
<i>obtained</i>	<i>fenders</i>	<i>particles</i>	<i>distilling</i>	<i>treatment</i>	<i>alongside</i>
<i>transition</i>	<i>suspending</i>	<i>combustion</i>	<i>fractional</i>	<i>eliminate</i>	

-- The process through which marine fuels are \_\_\_\_\_ at different points of the \_\_\_\_\_ tower according to their boiling temperatures is called \_\_\_\_\_ distillation.

-- In some cases, a \_\_\_\_\_ tank is used for the gradual \_\_\_\_\_ from HFO to MDO.

-- HFO cannot be pressed through the injectors without \_\_\_\_\_.

--HFO needs purifying to \_\_\_\_\_ water and dirt \_\_\_\_\_

--Lube oils are \_\_\_\_\_ with chemicals.

-- \_\_\_\_\_ in the crankshaft take the oil to the crankpin and bottom end bearings.

--Sulphur can be very \_\_\_\_\_ to engine parts during combustion because it changes into acid.

--Sediment is formed when \_\_\_\_\_ solid particles in the fuel coagulate and sink down.

-- Marine \_\_\_\_\_ is the supply of fuel oil for ships.

-- A barge equipped with \_\_\_\_\_, hoses and pumps, brings the required product \_\_\_\_\_ the ship for off-loading.

**Match the words to their definitions. There is one (1) extra word. (10 p.)**

<i>emission</i>	<i>bunker hose</i>	<i>precise</i>	<i>barge</i>	<i>stalling</i>	<i>sediment</i>
<i>manifold</i>	<i>centrifuge</i>	<i>corrosion</i>	<i>excess</i>	<i>insulate</i>	

-- disperse through outward movement

-- oxidation leading to rust

-- the fuel delivery connection

-- accurate, exact

-- discharge of gases, smoke, etc

-- wrap up, protect against heat or cold

-- a small tanker which delivers marine fuel oil/lube oil to ships, usually in port

-- reduction of revolutions, eventual stopping of the engine

-- flexible tube designed to carry marine fuel

-- residue

**Fill in the gaps with an appropriate word. The first letter is given. (15 p.)**

- Marine fuels come from **c** \_\_\_\_\_ oil.
- Water and thick particles sink down in the **s** \_\_\_\_\_ tank.
- The **p** \_\_\_\_\_ separates water and impurities from the fuel by means of centrifugal force.
- Each service tank has the **c** \_\_\_\_\_ to provide the engine with fuel for 24 hours.
- The procedure of taking sample of the fuel delivered by continuously drawing it throughout the bunkering operation is called **d** \_\_\_\_\_ sampling.
- The viscosity regulator measures the viscosity and adjusts the **t** \_\_\_\_\_ of the fuel in order to provide the correct viscosity for combustion.
- The **b** \_\_\_\_\_ tank is used to collect the recirculated fuel oil.
- The booster pump increases the **p** \_\_\_\_\_ of the fuel just before it is delivered to the engine.
- HFO is much cheaper than diesel, but it produces **s** \_\_\_\_\_ and dirtier **e** \_\_\_\_\_ gases.

**Are the following statements True or False? (10 p.)**

- The used fuel is mixed with a new charge in the settling tank.
- The higher the viscosity of a fuel, the more heating is needed to reduce it.
- Heavy fuel oil is less viscous than diesel oil.
- The higher the CCAI, the earlier the ignition takes place.
- The time of ignition of diesel oil is directly influenced by the cetane number.
- The fuel needs heating when it is close to its pour point.
- Carbon deposits can be formed in every part of the engine.
- Most fuel injectors are operated hydraulically.
- The lowest part of the fuel injector is the needle.
- Marine diesel oil is mainly used for manoeuvring and in ECAs.

**Complete the text using the following words: (15 p.)**

sticking	heat	residues	corrosion	coolant
mineral	inadequate	friction	performance	consult
metals	wear	antifouling	sealing	running

The main task of lubrication is to reduce \_\_\_\_\_ between the moving parts of an engine. In this way we ensure better \_\_\_\_\_ of the engine and reduction of \_\_\_\_\_ due to friction. Lubrication also acts as a/an \_\_\_\_\_, because it absorbs a considerable amount of \_\_\_\_\_ which is released from friction. Furthermore, it assists the piston rings in \_\_\_\_\_ the combustion chamber. Moreover, it protects the surfaces from \_\_\_\_\_, even when the engine is out of \_\_\_\_\_, thanks to the good tenacity lubricants have on \_\_\_\_\_. Finally, it keeps the metal surfaces clean due to the \_\_\_\_\_ property of lubricating oil. Correct lubrication of the engine is of great importance because \_\_\_\_\_ lubrication would lead to the seizing of bearings and \_\_\_\_\_ of the engine. The correct choice of lubricating oil is essential too, and we should always \_\_\_\_\_ the engine constructor's manual as to the recommended type of oil for the particular engine. The types of lubricating oils used in marine diesel engines are generally \_\_\_\_\_ oils, coming from the \_\_\_\_\_ of oil.





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**Choose the correct answer. (15 p.)**

-- The lowest temperature at which the fuel is observed to flow.

- a. flash point                      b. pour point                      c. cloud point

-- The temperature at which the fuel vapours ignite when they are exposed to a flame. It must be known for safe transport and storage.

- a. boiling point                      b. flash point                      c. pour point

-- The word----- shows the quality of fuel and indicates how well a fuel will burn in the cylinders.

- a. grade                                  b. class                                  c. index

-- Petrol, diesel, kerosene are refined petroleum products. How do we call them?

- a. distillate fuels                      b. residual fuels                      c. intermediate fuels

-- Which of the following words is **not** a synonym to the others?

- a. sediment                              b. deposit                              c. froth

-- They allow the lube oil to flow at cold temperatures and to be easily pumped.

- a. pour point dispersants                      b. flash point depressants                      c. pour point depressants

-- It indicates the ignition quality of diesel oil.

- a. CCAI                                      b. cetane number                      c. carbon residue

-- It indicates the tendency of the fuel to form carbon deposits during combustion.

- a. ash content                              b. aluminium and silicon                      c. carbon residue

-- A measure of the density or weight of the fuel.

- a. specific gravity                      b. density                              c. kinematic viscosity

-- The acronym CCAI stands for:

- a. Calculated Carbon Aromaticity Index  
b. Calculated Carbon Aroma Indication  
c. Cracked Carbon Atom Index

-- They prevent the corrosion of metal surfaces by forming a tenacious film on them. They are corrosion .....

- a. improvers                              b. preventers                              c. inhibitors

-- They are used to keep particles of soot and other contaminants suspended in the oil. They are .....

- a. detergents                              b. dispersants                              c. depressants

-- They help to reduce the formation of oil bubbles in the crankcase. They are .....

- a. anti-foamants                              b. antifouling products                      c. anti-oxidants

