NAME: **Student Number:** 

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#### **Final Exam**

### A. Fill in the gaps using the words below. There are two extra words. (15x1=15)

efficient rupture viscosity illuminated caution thinner ducts affect needle accordance inspection notify lubricators nozzle incident timely storage

--\_\_\_\_\_ 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 SOPEP in \_\_\_\_\_\_ with the requirements of MARPOL.

--Do not use untested equipment; it may \_\_\_\_\_\_ or break.

--The \_\_\_\_\_\_\_ stem and its return spring of a fuel injector are fitted in the \_\_\_\_\_\_ assembly.

--Make sure there are no leakages in exhaust manifolds and through the entire casing.

When bunkering, top-off tanks with extreme

--The normal burning of the fuel and the \_\_\_\_\_\_ running of the engine depend on the precise and \_\_\_\_\_\_ operation of the fuel injectors.

--When the \_\_\_\_\_\_ is too high, the fuel will have to be heated, so that it will become \_\_\_\_\_ and thus suitable to be injected into the engine.

--Make frequent \_\_\_\_\_\_ rounds in the E/R to prevent accidents.

### B. Fill in the gaps with a word of your own choice. In some cases the first and/or final letters are given. (15x1.5=22.5)

Marine is the supply of fuel oil for ships.

The last stage of the fuel system is the \_\_\_\_\_\_ of the fuel in the combustion chamber. The vessel was able to stop the leaking by \_\_\_\_\_\_ the fuel into an undamaged tank.

scuppers when bunkering, loading or discharging oil.

The main \_\_\_\_\_\_ of lubrication is to reduce \_\_\_\_\_\_ between two metals. Corrosion is caused by the presence of \_\_\_\_\_\_ in the fuel.

In cases of spills, oil \_\_\_\_\_\_ are rigged around the vessel by port authorities to restrict the extent of pollution.

Do not leave f\_\_\_\_\_ material in buckets or open containers; it may cause fires.

<u>C</u>\_\_\_\_\_leakages of fuel and lube oil as soon as possible.

В the ends of hoses and ship connections.

The process through which marine fuels are obtained is called fractional

The acronym CCAI stands for Calculated \_\_\_\_\_\_ Aromaticity Index.

In the HFO system, the fuel from the heater is led through a \_\_\_\_\_\_ to be cleaned. Piston rings should be checked for proper c s in order to avoid wear and breakage.

# C. Match the words from list A to their synonym or definition from list B (15x1=15)

## A

an opening, a tear	_
the distance from the surface of the oil in a tank to the top	
discharge of gases, smoke, etc.	
reduction of revolutions, eventual stopping	
disperse through outward movement	
absorb	
strengthen	
suitable	
inhibit	
accumulate	
defective	
scale	
lap	
grind	
scuffed	

# B

appropriate deposits of salts stalling (of engine) rub and smoothen a surface hold back, prevent reinforce cover with, put on top of a surface damaged pitted, with deep scratches breach centrifuge take in, suck up ullage build up emission

# D. Provide the right form of the word in the parenthesis. (15x0.5=7,5)

Clean spills with	material.	(absorb)			
There was major	(abrade)	wear and	(deform).		
This oil is too	; we should	; we should make it thinner by heating. (viscosity)			
The fog was too	; we could	; we couldn't see anything. (density)			
We should make	to the engine. ( <b>adjust</b> )				
High water	(contain) in	(contain) in the fuel causes		(error) combustion	
and	(corrode).				
(distill) fuels have cleaner emissions than (residue) fuels.					
Samples are sealed	for later	(verify) of sup	plied product qu	ality in case a dispute	
arises.					
Most fuel injectors are operated (hydraulic).					
On (complete) of refueling, you should close all filling valves.					
Two crew members were injured in a (collide) in the North Sea last month.					

## E. Insert an appropriate word in the gaps. (10x1=10)

From the storage tank, the HFO is pumped into the	e tank where water and heavy			
dirt sink sown. Then it is fed through a heater and	next through a where the oil is			
cleaned. Water and dirt go to the	tank. Then the clean oil is pumped into the HFO			
tanks which are in duplicate, as	one is in use, while the other is being filled. From			
there the oil, after passing through the	tank, is pumped by high pressure pumps			
into a and right after into a	(two words), which automatically			
adjusts the temperature of the oil. Finally, the oil is discharged through a fine to				
the main engine fuel suctions.	A (compound noun) valve			
allows us to operate the engine on diesel oil.				

### F. Put the verbs into the 'Simple Past' or the 'Present Perfect' (10x1.5=15)

The bed was very uncomfort	able. 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.				
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?					

-- We (not/read) \_\_\_\_\_\_ the safety manual yet.

### G. Supply the term that matches the meaning of the following definitions. (10x1=10)

-- 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: \_\_\_\_\_\_

-- 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: \_(2 words)

-- 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: \_\_\_\_\_\_

-- The lowest temperature at which the fuel oil is observed to flow: \_\_\_\_\_

-- An indication of the quality of the ignition of the fuel:

## H. Suggest the right additive for the following problems (5x1=5)

Difficulty in flowing at lower temperatures \_\_\_\_\_

Fouled surfaces

Scratched cylinder liner surface

Major accumulation of deposits on piston crown and cylinder liner

Signs of corrosion on metal surfaces