

Merchant Marine Academy of Macedonia- School of Engineers		
Course: Maritime English	Academic year:2021-2022	Exam period: February
Semester: C'	Date:08/02/22	Instructors: E. Xenitidou, M. Tsompanoglou
Student's name:		
Student's number:		
Exam paper grade:		Instructor's signature



Fill in the gaps with the following words- 15 points

Drip	Detergents	Barge	Anti-oxidants	Sounding
VI improvers	Secure alongside	Corrosion inhibitors	Fenders	Dispute
Anti-foamants	Pour point depressants	Dispersants	Wear preventers	Manifold

- They allow the lube oil to flow at cold temperatures and to be easily pumped
- They prevent the deterioration of oil due to high operating temperatures, and also due to the presence of water, metal particles and other impurities.....
- They reduce internal rust and corrosion by neutralising the acids formed during combustion
- They partially prevent the lube oil from becoming less viscous as the temperature increases. They are also responsible for better oil flow at low temperatures
- They are used to protect engine parts from friction and loss of metal material during boundary lubrication conditions
- They help to keep metal components clean
- They are used to keep particles of soot and other contaminants suspended in the oil.....
- They help to reduce the formation of oil bubbles in the crankcase
- They are like bumpers or tyres and are placed between two vessels or a vessel and the dock to prevent damage during the mooring process
- The process of measuring the depth of a fluid from the surface of the fluid to the bottom of the tank
- The fuel delivery connection
- Moor next to.....
- The procedure of taking sample of the fuel delivered by continuously drawing it throughout the bunkering operation is calledsampling
- An argument or disagreement, especially an official one
- A bunker is a small tanker which delivers marine fuel to ships, usually in port.

Match the terms to the appropriate explanation. There are two extra terms. -10 points

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

- A measure of the density or weight of the fuel. It also serves as a rough check on viscosity, carbon content and other qualities:
- 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:
- The temperature at which the fuel vapours ignite when they are exposed to a flame:
- The lowest temperature at which the fuel oil is observed to flow:
- An indication of the ignition quality of diesel oil:
- The amount of heat given off on complete combustion of one pound of fuel:
- Non-combustible solid material in the fuel which scratches the rubbing surfaces it comes in contact with:
- The measure of the resistance of the fuel to movement. The higher it is, the more difficult it is for the fuel to flow:
- Content in water and solid particles. The higher it is, the more possible it is to cause erratic combustion and corrosion:

Match the following terms to their synonyms. 10 points

precise	adjust	building up, gathering	improve	delay
corrosion	scored	sediment	strainer	insulate

- with deep scratches:
- enhance:.....
- mechanical wear due to rust:.....
- accurate:.....
- a fine filter:
- accumulation:.....
- lag:.....
- regulate:.....
- deposit:.....
- wrap up or protect against heat or cold

The **transfer/ booster/ feed** pump increases the pressure of the fuel just before it is delivered to the engine.

Marine fuel oils come from **refined/ distilled/ crude** oil.

The word **class/ grade/ index** shows the quality of fuel which indicates how well a fuel will burn in the cylinders.

The pistons are lubricated by **cylinder oil/ circulating lube oil/ turbine oil**.

The bearings are lubricated by **cylinder oil/ circulating lube oil/ turbine oil**.

Any fuel whose grade lies between HFO and MDO is **medium/ intermediate/ residual** fuel oil.

IFO/ HFO/ MDO is mainly used in manoeuvring and in ECAs.

The buffer tank is also called **mixing/ double bottom/ storage** tank.

The daily tank is also called **storage/ service/ settling** tank.

The heating value of a fuel is commonly expressed in **r.p.m./ b.t.u./p.p.m.**

The acronym CCAI stands for **Calculated Carbon Aroma Indication/ Cracked Carbon Atom Index/ Calculated Carbon Aromaticity Index**.


Lube oils with a viscosity around SAE 15 are **suitable/ unsuitable/proper** for diesel engines.

The **acid/ base** neutralising capacity of oil is represented by its TBN value, which indicates the oil's **residual/ acid / alkaline** reserve.

Complete the text using the following words: mineral, friction, metals, wear, heat, consult, distillation, performance, running, antifouling, sealing, coolant, corrosion, sticking, inadequate. 15 points

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 _____, 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 residues of crude oil after its _____.



Merchant Marine Academy of Macedonia- School of Engineers		
Course: Maritime English	Academic year:2019-2020	Exam period: June
Semester: C'	Date:14/07/20	Instructors: A. Birbili, E. Xenitidou, M. Tsompanoglou
Student's name:		
Student's number:		
Exam paper grade:		Instructor's signature
		

Fill in the gaps with the following words- 15 points

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VI improvers	Secure alongside	Corrosion inhibitors	Fenders	Dispute
Anti-foamants	Pour point depressants	Dispersants	Wear preventers	Manifold

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- They are used to protect engine parts from friction and loss of metal material during boundary lubrication conditions
- They allow the lube oil to flow at cold temperatures and to be easily pumped
- They prevent the deterioration of oil due to high operating temperatures, and also due to the presence of water, metal particles and other impurities.....
- They reduce internal rust and corrosion by neutralising the acids formed during combustion
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- An argument or disagreement, especially an official one
- A bunker is a small tanker which delivers marine fuel to ships, usually in port.
- The fuel delivery connection
- They are like bumpers or tyres and are placed between two vessels or a vessel and the dock to prevent damage during the mooring process
- The process of measuring the depth of a fluid from the surface of the fluid to the bottom of the tank
- Moor next to.....
- The procedure of taking sample of the fuel delivered by continuously drawing it throughout the bunkering operation is calledsampling

Match the terms to the appropriate explanation. There are two extra terms. -10 points

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

- Unburned carbon during combustion which can deposit on engine parts:
- The temperature at which the fuel vapours ignite when they are exposed to a flame:
- A measure of the density or weight of the fuel. It also serves as a rough check on viscosity, carbon content and other qualities:
- An indication of the ignition quality of diesel oil:
- The measure of the resistance of the fuel to movement. The higher it is, the more difficult it is for the fuel to flow:
- 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:
- The lowest temperature at which the fuel oil is observed to flow:
- The amount of heat given off on complete combustion of one pound of fuel:
- Non-combustible solid material in the fuel which scratches the rubbing surfaces it comes in contact with:

Match the following terms to their synonyms. There are 2 extra words- 12 points

precise	adjust	define	improve	surplus
corrosion	scored	sediment	strainer	insulate
building up, gathering	inadequate	delay	contain	

- accumulation:.....
- lag:.....
- with deep scratches:
- enhance:.....
- deposit:.....
- wrap up or protect against heat or cold
- excess:.....
- mechanical wear due to rust:.....
- accurate:.....
- a fine filter:
- not enough:.....
- regulate:.....

Match the following words to form the correct collocations (phrases)- 15 points:

Level	Viscosity	Pressure	Nozzle	Needle
Inlet	Pumping	Emergency	Bunker	Double
Retaining	Gravity	Fractional	Tapered	Booster

.....chamber regulator tank
hose stop hulled
rate distillation pump
assembly tip seat
 Fuelpipe pressurevalve indicator

Complete the following text with the words given. -15 points

injectors	piloting	hydraulically	fitted	function
injection	lack	efficient	disperse	combustion
insufficient	stalling	faulty	timely	distinguished

The last stage of the fueloil system is the of the fuel in the combustion chamber. This is done by the fuel injectors, which are on the cylinder head. Their main is to inject and in a form of spray a certain amount of fuel in thechamber.

The normal burning of the fuel and the running of the engine depend on the precise and operation of the fuel Incorrect injection timing can cause the engine not to start or to be hard to start. It can also cause of power or cause the engine to produce white smoke, as there is temperature to properly burn the fuel. A injection pump can be the reason behind a engine or a rough running engine. Fuel injectors are into single atomizer and multi-atomizer injectors.

Most injectors are operated

In 4-stroke diesel engines, besides the main fuel injector, there may be a injector as well, fitted at the side of the cylinder cover.

Underline the correct alternative.- 20 points

A **pressure regulating/ 3-way/ relief** valve ensures a constant-pressure supply to the engine-driven fuel pumps.

The **sump/ storage/ mixing** tank is used to collect the recirculated fuel oil.

Water and thick particles sink down in the **storage tank/ settling tank/ service tank**.

The **3-way/ non-return/ safety valve** allows us to change from HFO to MDO.

The **temperature indicator/ density controller/ viscosity regulator** adjusts the fuel oil temperature in order to provide the correct viscosity for combustion.

The **purifier/strainer/ settling** tank separates water and impurities from the fuel by means of centrifugal force.

The **transfer/ booster/ feed** pump increases the pressure of the fuel just before it is delivered to the engine.

Marine fuel oils come from **refined/ distilled/ crude** oil.

The word **class/ grade/ index** shows the quality of fuel which indicates how well a fuel will burn in the cylinders.

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IFO/ HFO/ MDO is mainly used in manoeuvring and in ECAs.

The heating value of a fuel is commonly expressed in **r.p.m./ b.t.u./p.p.m.**

Fill in the gaps of the following passage about lubrication with the following words- 13 points

quills	rings	lubricators	fortified	circumferentially
distillation	performance	friction	residues	burnt
antifouling	additives	cooling		
		means		

With lubrication we ensure better of the engine and reduction of wear due to It also acts as a of the metal surfaces because it absorbs a considerable amount of heat. It keeps the metal surfaces clean due to the property of lubricating oil. The types of lubricating oils used in marine diesel engines are generally mineral oils, coming from the of crude oil after its These mineral oils are with chemicals (.....) which improve their functional properties.

The cylinder oil is supplied to by gravity and is led through lubricating onto the liner surface where grooves distribute it around the liner, and the piston spread it up and down the surface of the liner. The used cylinder oil cannot be recirculated because it is with the fuel.

