


<b>Merchant Marine Academy of Macedonia- School of Engineers</b>		
<b>Course: Maritime English</b>	<b>Academic year:2024-25</b>	<b>Exam period: February</b>
<b>Semester: D</b>	<b>Date: 04/ 02/ 25</b>	<b>Instructors: A. Birbili, E. Xenitidou, M. Tsompanoglou</b>
<b>Student's name:</b>		
<b>Student's number:</b>		
	<b>Exam paper grade:</b>	<b>Instructor's signature</b>

**Complete the sentences with the correct form of the words in parentheses. (15 p.)**

- This part of the engine is not easily \_\_\_\_\_ (**access**).
- Start an \_\_\_\_\_ (**add**) auxiliary engine.
- \_\_\_\_\_ (**condense**) can occur when warm air hits a cold surface.
- You have to ensure \_\_\_\_\_ (**satisfy**) lubrication from the very beginning.
- Report \_\_\_\_\_ (**ready**) of the engine to the bridge.
- You have to obtain \_\_\_\_\_ (**permit**) from the bridge to test main engine ahead and astern on air.
- There is high \_\_\_\_\_ (**accumulate**) of ash and other contaminants.
- Check the \_\_\_\_\_ (**suitable**) of lube oil in the sump tank.
- Sulphur is very \_\_\_\_\_ (**corrode**), because it turns into sulphuric acid.
- Water has entered the bilge wells due to \_\_\_\_\_ (**leak**) in the pipelines.
- Bilge wells are the most important \_\_\_\_\_ (**residue**) collection tanks of the entire engine room.
- You must make a \_\_\_\_\_ (**compatible**) test to see if you can mix these lube oils.
- Always order fuel oil according to the ISO 8217 \_\_\_\_\_ (**specify**).
- They use \_\_\_\_\_ (**add**) to improve lube oil quality and reduce the possibility of salt water \_\_\_\_\_ (**contaminate**).

**State whether the following sentences are True (T) or False (F). (10 p.)**

- New bunkers should be placed into empty tanks and can be used before analysis results are received.
- The main purpose of the ballast system is to store fresh water for the crew.
- When the "finished with engine" order is given from the bridge, change over from engine room control to bridge control.
- Bilge system valves allow for water flow in only one direction.
- According to MARPOL regulations, the residue of oil in the water that is pumped overboard must not exceed 15 ppm.
- The bilge system is an optional system on ships.
- When the ship is about to arrive in port, you must close the dampers for exhaust gas boiler and open bypass.
- Ballast is taken on board to increase the list of the ship.
- The distribution valve chest is a kind of filter.
- Bilge systems are essential for the ship's engine room to prevent flooding.

**Complete the sentences with an appropriate word. (15 p.)**

- Slop **s** \_\_\_\_\_ is 2 metres.
- An **e** \_\_\_\_\_ creates a vacuum by the speed of water flowing through it.
- While cleaning the fuel oil, ensure that the correct gravity **d** \_\_\_\_\_ is used.
- **D** \_\_\_\_\_ the air receivers.
- Present **o** \_\_\_\_\_ of the main engine is 1.000 kilowatts.
- Present **p** \_\_\_\_\_ of propeller is 90 degrees.
- Ensure the engine room is free of **l** \_\_\_\_\_ objects, oil spills and hazards.
- Engineers should take continuous **d** \_\_\_\_\_ samples at the manifold during bunkering.
- **M** \_\_\_\_\_ clear communication and coordination during engine start-up.
- Ensure firefighting **e** \_\_\_\_\_ and emergency response tools are available.

**Match the words from the list to their synonyms below. (15 p.)**

<b>optional</b>	<b>replenish</b>	<b>versatile</b>	<b>dismantle</b>	<b>fouled</b>
<b>inoperative</b>	<b>comply with</b>	<b>submerge</b>	<b>enhanced</b>	<b>stringent</b>
<b>excess</b>	<b>adhere to</b>	<b>miscellaneous</b>	<b>insufficient</b>	<b>mountings</b>

--dirty:	--fittings:	-- not functioning:
--more than necessary:	--of many uses:	-- strict:
--refill:	--not enough:	-- obey a rule:
--not compulsory:	-- disassemble:	-- improved:
--various:	-- place underwater	-- follow, stick to:

**Fill in the gaps with a word from the list. (15 p.)**

<b>shifting</b>	<b>abrasive</b>	<b>vanadium</b>	<b>grinding</b>	<b>inert</b>
<b>list</b>	<b>fluids</b>	<b>trimmed</b>	<b>mixture</b>	<b>centrifuging</b>
<b>particles</b>	<b>misunderstanding</b>	<b>mud</b>	<b>anti-heeling</b>	<b>lubricants</b>

- The vessel needed to be ballasted in order to be ..... for entering the drydock.
- Bilge water is a ..... of fresh water, sea water, oil, sludge, chemicals and various other .....
- There are many reasons for taking ballast on board or ..... ballast once it is on board.
- A(n) ..... system is used to control the ..... of the vessel during loading and discharging.
- Good communication is required to ensure that there is no ..... between the people involved in serious activities taking place on board.
- Is ..... gas system operational?
- The ..... box is a kind of filter which prevents solid ..... from entering and choking the bilge pumps.
- Fuel pumps, fuel injectors, cylinder liners and piston rings can suffer high ..... wear if cat fines in the fuel are not reduced by ..... and proper filtering.
- Engines operating on high sulphur fuels use special ..... with high TBN to minimise the effects of sulphur.
- ..... deposits can be removed from the turbocharger nozzle ring by using a ..... tool.

**Match the definitions that follow: Aluminium and silicon, Sediment, Water, Ash, Lub Oil Blending on Board, Density, Sulphur, Acid number, Flash point, Pour point, Viscosity, Elements: There are two extra words (10 p.)**

--It is expressed in kilograms per cubic metre and it mainly affects the fuel separation.

--It consists of hydrocarbon sludge and is contained in all fuels. It is a parameter that is used to indicate and assess the stability and cleanliness of a fuel. ....

--A new concept makes it possible to add additives to the engine system oil and then utilise it as cylinder lube oil. ....

--Its limit has been introduced to limit the content of catalytic fines, mainly  $Al_2O_3$  and  $SiO_2$ , in the oil. Their content should be reduced as much as possible by centrifuging the fuel oil before it reaches the engine. ....

-- It cannot be considered a quality criterion and is stated only for handling reasons. ....

--It detects all acids present; if it is elevated it may be an indicator of other harmful components. ....

-- It is expressed as per cent by volume; it may cause corrosion in the fuel system .....

-- Metals, like vanadium nickel, iron, sodium which may increase the particulate emission and the risk of exhaust gasway fouling. ....

-- It is a limit that is set as a safeguard against fire only. ....

--It represents the incombustible components of fuel oil. ....

**Choose the correct answer. (10 p.)**

-- Rotate the ... by means of the turning gear and ensure that all components are thoroughly lubricated.

a) camshaft                      b) tailshaft                      c) crankshaft

-- Pump up the ... air bottles to their maximum pressure and drain them of water.

a) service                  b) scavenge                  c) starting

-- When you turn the engine with the turning gear, the ... cocks must be open.

a) drain                  b) indicator                  c) valve

-- Governments and classification ... have made up rules which have to comply with international SOLAS rules.

a) societies                      b) groups                      c) organisations

-- One hour before arriving in port, you must shut and lock ... direct overboard discharge.

a) sludge                      b) garbage                      c) sewage

-- Depending on ... and trim we choose which bilge well the water is collected in.

a) ballast                                      b) speed                                      c) list

-- ... is the residue of the ship's cargo of fuel oil together with the water used to clean the tanks.

a) Sludge                      b) Slop                      c) Waste

-- Depending on the type of vessel, the double bottom tanks, wing tanks, fore and aft ... tanks are usually used for ballast water.

a) peak                      b) floor                      c) hull

-- In the bilge system, all suction lines are fitted with ... valves which do not allow the liquid to flow back to the bilge well.

a) non-return                  b) two-way                  c) throttle


- A ... is a space in the lowest part of the ship where unwanted water is collected.  
 a) sump                                      b) bilge                                      c) chain locker
- ... are indicators of used lubricating oils in the fuel.  
 a) Nickel and iron                              b) Vanadium and silicon                              c) Calcium, zinc and phosphorus
- ... is a measure of the fluidity of a fuel at a certain temperature.  
 a) Viscosity                                      b) Pour point                                      c) Density
- ... indicates the coke-forming tendencies of a fuel.  
 a) Sodium                                      b) Carbon residue                                      c) Sediment
- ... . Chemical element which contributes to air pollution. Its compounds can corrode cylinder liners and piston rings.  
 a) sulphur                                      b) sodium                                      c) vanadium
- ... It is expressed in degrees centigrade; is max 30°C; the lowest temperature at which the fuel will flow; wax will form at lower temperatures; wax may block filters or deposit on heat exchangers.  
 a) Flash point                                      b) Pour point                                      c) Boiling point
- ... indicate the presence of tiny particles of aluminium and silicon used in the refining process and carried over into the residual fuels.  
 a) Acids                                      b) Cat fines                                      c) Elements
- The Captain had to ... the passengers that everything was OK.  
 a) assure                                      b) reassure                                      c) ensure
- All steering gear tests and checks ... must be recorded.  
 a) carried on                                      b) carried out                                      c) carried in
- Consider using multiple centrifuges in parallel for ... purification.  
 a) provided                                      b) utilised                                      c) enhanced
- There are some guidelines one can follow when problems ....  
 a) arise                                      b) give rise                                      c) deteriorate

**Read parts of the check list and fill in the gaps with the following words: commencement/ applicable/ disengaged/ Log/ winches / steering/ synchronized/ levels/ sufficiently/ parallel (10 p.)**

#### **ENGINE ROOM PREPARATION FOR DEPARTURE CHECKLIST**

- Is main engine warmed up through ..... ?
- Has turning gear been ..... ?
- Are minimum of two alternators running and in .....?
- Are all main engine coolant and lube-oil sump ..... correct?
- Have ..... gear tests been carried out in all modes and two motors left in use?
- Has engine room clock been ..... with bridge?
- Are air start compressors running and set on auto start (where .....?)
- Is power source available for mooring ..... (steam, hydraulic or electrical)?
- Are both Bell and ..... books available?
- This checklist must be filled in prior to ..... of stand-by.



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