

Course: Maritime English
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FINAL EXAM (Retakes)

1. Complete the following text on ballast system with appropriate words. The first letter is given. (15 p.)

The ballast system is used to **p**_____ seawater in or out of the ballast **t**_____. The basic reason for taking ballast on board or shifting **b**_____ once it is on board, is to improve the **s**_____ of the ship, especially when the ship does not carry **c**_____. An anti-heeling system is used to minimize the list in port that can occur during cargo handling. Pumps with large **c**_____ (1000 cubic metres/hour) are installed between two tanks (one on the port side and another one on the **s**_____ side). These pumps can transfer **w**_____ from one tank to the other at great **s**_____. In contrast to the valves of the bilge system, which are non- **r**_____ valves, the ones of the ballast system are two- **w**_____ valves, as the tanks must be able to be filled and emptied.

2. Fill in the gaps with a word from the list. (14 p.)

**submerged/ perforated/ overboard/ suction/ separator/ capacity/ bilge
 drydocking/ discharge/ flooded/ priming/ sludge/ bilge/ stringent**

- During a ballast operation at night, while at a shipyard in order to trim the vessel for _____, it was discovered that the engine room was _____.
- Damage to _____ electrical equipment occurred.
- We will _____ double bottom tank.
- A strum box is a kind of filter on the suction line head, which is a _____ basket, easily accessible and detachable, necessary to prevent ashes and other particles from entering the pumps and choking them.
- A bilge pump is a self-_____ pump, because it doesn't need another pump to supply it with water for starting.
- The cargo holds are provided with four _____ wells.
- The rules for the ballast system are less _____ than the rules for _____ systems.
- There are three systems of bilge pumps. First, a small pump that pumps the dirty water into a bilge holding tank. From the tank, the water is pumped by another small pump through an oil water _____ overboard, only when it is sufficiently clean. If not, it goes to another storage tank, the _____ tank. A second bigger pump can pump the bilge water from the engine room straight _____, but this is only allowed in emergencies. A third possibility is to use the direct _____ of the main cooling water pumps, which has huge _____ for big leaks in emergencies.

3. Fill in the gaps with a suitable word. The first letter is given. (15 p.)

- Present **p**_____ of propeller is 90 degrees.
- **C**_____ over to high sea suction from low sea suction.
- **E**_____ turning gear and turn engine for 10 minutes.
- Slop **s**_____ is 2 metres.

- Are air start **c** _____ running and set on auto start (where applicable)?
- Make an examination inside the **c** _____ to make sure than no tools, cleaning rags or bars have been left inside.
- Do not exceed a **p** _____ of 4 bars.
- Present **r** _____ of the main engine are 100 per minute.
- Present **o** _____ of the main engine is 1,000 KW.
- **W** _____ up the engine gradually using the circulating pumps to circulate the system.

4. Match the words from the list to their synonyms/definitions below. (10 p.)

condensation/ contaminate/ accumulate/ heeling/ saline/

sounding/ because of/ alter/ recommend/ dismantle

- gradually increase in quantity over a period of time:
- the process for calculating the total quantity of fluid in a tank:
- suggest:
- list:
- pollute:
- due to:
- with salt :
- the process of steam turning into liquid:
- take apart, disassemble:
- change:

5. Complete the sentences with the correct form of the words in parentheses. (12 p.)

- The use of homogenisers is a good way to deal with _____ (**incompatible**) problems.
- Report _____ (**ready**) of the engine to the bridge.
- The versatile _____ (**apply**) of marine water ejectors makes them an important part of a ship's engine _____ (**equip**).
- Check the _____ (**suitable**) of lub-oil in the sump tank.
- Water in the lube oil system can cause _____ (**corrode**).
- High _____ (**dense**) fuels have a high carbon residue _____ (**contain**).
- The _____ (**corrode**) effect of _____ (**sulphur**) acid is counteracted by adequate _____ (**lubricate**).
- Cat fines are highly _____ (**abrasion**).

6. Complete the sentences with an appropriate preposition. You can choose from the following: (14 p.)

below/ above/ to/ by/ before/ after/ from

- Keep the fuel temperature _____ the minimum storage temperature, and the temperature after the final heater 5-10 C _____ the recommended fuel injection temperature.
- The temperature is too high, 20 degrees _____ normal.
- The preparation for departure checklist must be filled up _____ commencement of stand - _____
- Have all the preparations been done prior _____ arrival in port?
- Temperatures _____ pour point can result in wax formation.
- Water in the fuel should be removed _____ use.
- Solid ash should be removed to the widest possible extent by centrifuging, and cleaning can be improved by installing a fine filter _____ the centrifuge.

- The level of cat fines should not exceed 15 ppm _____ the centrifuge.
- Homogenisers installed _____ the fuel centrifuge can reduce the efficiency of the centrifuge.
- There was a blackout at 1300 due _____ the fact that the auxiliary generators stopped.
- We transferred ballast _____ tank number 2 _____ tank number 4.

7. Circle the correct alternative. (10 p.)

- **Density / total sediment potential** is used to indicate and assess the stability and cleanliness of a fuel.
- The Calculated **Carbon / Calcium** Aromaticity Index is used as an indication of the ignition quality of a fuel.
- **Ash / aluminium and silicon** are small particles of the catalyst used in the refining process.
- **Sodium / vanadium** is normally present in the fuel as salt water contamination and can be removed by centrifuging.
- When you turn the engine with the **steering gear / turning gear**, the indicator cocks must be **open / closed**.
- The engine must be warmed up **quickly / gradually** by means of the **circulating / fuel** pumps.
- The bilge-line arrangement is a safety **optional / compulsory** system since it is required by law.
- **Water / carbon residue** may cause corrosion in the fuel system.

8. Match the questions to the answers. There is an extra question. (10 p.)

- | | |
|---|---|
| 1. Which fuel can cause combustion deposits, especially when the engines run at low load? | -- Viscosity. |
| 2. What causes fouling of the gasways? | -- Special lubricants with high TBN. |
| 3. Which solid particles are particularly responsible for abrasive wear? | -- Ash. |
| 4. Which parameter is not actually a measurement of HFO quality? | -- Fuel oil with high carbon residue. |
| 5. What do engines designed for operation on high sulphur fuels use to minimise the effects of sulphur? | -- By centrifuging and a fine filter. |
| 6. Which areas will suffer high wear if cat fines rates are not reduced? | -- Carbon residue. |
| 7. How can you remove cat fines? | -- Fuel pumps and injectors, the liners and piston rings. |
| 8. What can replace the traditional cylinder oil? | -- The pour point. |
| 9. How can you remove vanadium deposits from turbocharger nozzle ring? | -- Cat fines. |
| 10. Which fuel property determines the requirements for tank heating and transferring? | -- Blended lube oil. |
| 11. Which parameter represents the incombustible components of fuel oil? | |

