

**MERCHANT MARINE ACADEMY OF MACEDONIA  
SCHOOL OF ENGINEERS**

**NAME:**

**STUDENT NUMBER:**

**GROUP:**

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**FINAL TEST in English**

**1. Supply the missing words from the ones given in italics (20 points)**

*pistons, load, trim, incidents, accident, efficiency, centrifugal, rotary, draught, exhaust*

A ..... air compressor is also called dynamic compressor.

A ..... air compressor is similar to the positive displacement configuration of a reciprocating compressor. Here, two spinning helical screws or rotors are involved for compressing air.

The speed of the turbocharger is variable depending on the engine .....

In the double stage reciprocating air compressor, there are two ..... for air compression.

The amount of useful energy that an engine can produce is dependent on 2 factors: the amount of fuel that can be burnt per cycle and the ..... of the engine.

About 35% of the total heat energy in the fuel is wasted to the ..... gases.

There were 5 reported ..... of fire in a year but none of them resulted in .....

Ballast water is used to keep the ship's ..... and ..... within safe limits.

**2. Supply the missing past participles from the ones given in italics (15 points)**

*converted, worn, increased, evacuated, assembled, caused, scrutinized, detected, overheated, slowed down*

Fuel consists mainly of carbon and hydrogen. By burning the fuel in oxygen, the energy in the fuel is released and ..... into work and heat.

When there is danger of explosion, the engine room should be .....

Fires in the scavenge spaces of diesel engines can be ..... by worn mechanical components, faulty fuel injection, e.t.c

All external scavenge space surfaces must be carefully .....

The crankshaft journal was badly .....

The crankcase relief valves were incorrectly .....

Once a scavenge space fire is ....., the engine should be ....., the fuel should be shut off from the affected cylinders, and the cylinder lubrication should be .....  
The cause of the explosion was a(n) ..... main bearing.

**3. Find the missing words. The first and last letters are given. (15 points)**

A complete path a current flows around: **c**.....**t**

A **c**.....**r** allows electricity to flow and an **i**.....**r** stops electricity from flowing.

A 10 cylinder engine with a bore of 850mm and a **s**.....**e** of 2.35m must burn 1kg of fuel per **r**.....**n** to deliver 38500 kW when running at 105 RPM.

The **t**.....**r** uses some of the energy of the exhaust gases. Air is drawn in, compressed, and because compression raises the **t**.....**e** of the air, it is cooled down to reduce its **v**.....**e**.

In an air compressor, air is compressed by pulling in atmospheric air, reducing its volume and increasing its **p**.....**e**.

The diesel cycle has the highest thermal efficiency of any regular internal or external **c**.....**n** engine, due to its very high compression ratio.

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

*staff, velocity, accumulation, defective, malfunction, due to, insufficient, function, adjust, occur*

personnel: .....

not enough: .....

build-up: .....

because of : .....

faulty: .....

bad operation: .....

speed: .....

operation: .....

happen: .....

regulate: .....

**5. Complete the sentences with the correct derivative of the words in parentheses. (21 points)**

The 2<sup>nd</sup> engineer reports to the Chief Engineer about the daily ..... of the engine department. (**maintain**)

Water in the lube oil system may lead to ..... (**corrode**)

The Chief Engineer sends information to the company about fuel ..... (**consume**)

All parts of the compressor should be carefully inspected for signs of ....., damage, or maloperation. (**wear**)

This is a highly ..... mixture. (**flame**)

A spanner is a hand tool that tightens and ..... nuts and bolts. (**loose**)

Poor combustion can cause excessive ..... of ..... residues in the scavenging air chambers, which can cause fire. (**accumulate, viscosity**)

We took the ..... for the fuel. (**sound**)

An air ..... is an important ..... device. (**compress, mechanic**)

The tapered disk of the oil ..... had to be replaced, because it was broken. (**separate**)

Scavenge fires can be very ..... (**danger**)

..... are fitted in separate rooms for a reason: fire. (**purify**)

### 6. Transform the following sentences into Passive. (14 points)

Shipbuilders divide a ship into several compartments.

A ship \_\_\_\_\_ into several compartments.

I will clean the valves tomorrow.

The valves \_\_\_\_\_ tomorrow.

We must repair the crankshaft.

The crankshaft \_\_\_\_\_

You should use a scraper to remove scale.

A scraper \_\_\_\_\_ to remove scale.

The second engineer has already replaced the piston rings.

The piston rings \_\_\_\_\_

The piston compresses the air in the cylinder.

The air in the cylinder \_\_\_\_\_

The chief engineer disengaged the turning gear.

The turning gear \_\_\_\_\_