Merchant Marine Academy of Macedonia **NAME:**
School of Engineers
English Language **September 2012**
Semester: E
Instructors: A. Birbili, Dr E. Botonaki

Final Exam

A. Choose the correct answer. (13 points)

1. Explosion relief valves serve to relieve excessive _____ pressures.
   a. engine room b. cylinder c. crankcase
2. Sudden cooling can _____ the cylinders or cylinder heads.
   a. freeze b. crack c. spoil
3. Oil is distributed on the liner surface by the _____ movement of the piston.
   a. rotating b. reciprocating c. oscillating
4. The lube oil _____ should keep working after the diesel has been shut, to allow the lube oil to further cool down the engine.
   a. sump tank b. service tank c. pump
5. _____ can occur as a result of pressure variations on the back of a propeller blade.
   a. Distortion b. Cracks c. Cavitation
6. The oil film between the moving parts of an engine reduces _____ and wear.
   a. friction b. corrosion c. vibration
7. The temperature of the air in the cylinders should be high enough to _____ the injected diesel fuel.
   a. ignite b. burn c. compress
8. _____ bearings support the tailshaft and the propeller.
   a. Main b. Sterntube c. Intermediate
9. The cylinder oil _____ is relevant to the oil film thickness.
   a. viscosity b. oiliness c. grease
10. The cylinder relief valve is designed to relieve _____ more than 10% to 20% above normal.
    a. speed b. temperatures c. pressures
11. As the engine speed increases, the action of _____ force throws the flyweights of the governor outwards.
    a. centripetal b. gravitational c. centrifugal
12. All shafting is made from solid _____.
    a. steel b. copper c. silver
13. The operator must inspect the engine for a sufficient supply of fuel oil, lube oil and _____ water before the engine is started.
    a. fresh b. salt c. cooling

B. Fill in the gaps with a suitable form of the words in parentheses (16 points)

1. _____ (explode) relief valves prevent fires.
2. The _____ (transmit) system transmits power from the engine to the propeller.
3. Cavitation may cause the _____ (erode) of the blade surface.
4. The electric governor uses a _____ (combine) of electrical and mechanical components.

5. The oil is drawn from the drain tank through a _____ (strain).
6. The lubricating oil is also used as a _____ (clean) or a _____ (cool).
7. Clean oil can be provided from a _____ (store) tank.

C. Fill in the gaps using the words below. (15 points)

dry dock boss pitch erosion tailshaft
welding loads clockwise thrust propulsion

1. One of the consequences of propeller cavitation is _____ of the blade surface.
2. The _____ from the propeller is transferred to the ship through the transmission system.
3. Propeller _____ is the distance advanced by one complete rotation of the propeller if there is no slip.
4. The construction of the thrust block must be strong enough to withstand normal and shock _____.
5. Suitable electrodes should be used for _____ up cracks on a propeller blade.
6. The thrust block may be an integral part of the main _____ engine.
7. A propeller which turns _____ when viewed from aft is considered right-handed.
8. The transmission system includes the thrust shaft, one or more intermediate shafts and the _____.
9. The propeller consists of a _____ with several blades of helicoidal form attached to it.
10. The propeller should be examined thoroughly when the ship is in _____.

D. Fill in the gaps with one of the words below. (20 points)

lubrication centrifuge film flyweight governor
outlet viscosity friction crack distilled

1. The cylinder oil _____ is relevant to the oil film thickness.
2. When topping off batteries, use _____ water.
3. The escaping gases are directed to a safe _____.
4. Sudden cooling can _____ the cylinders.
5. The _____ system provides oil to the various moving parts of the engine. Its main function is to help the formation of a _____ of oil between the moving parts. This reduces _____ and wear.
6. A _____ cleans the lubricating oil in the system.
7. The principal control device of any engine is the _____.
8. A _____ assembly is used to detect engine speed.

E. Match the words in column A to their synonyms in column B (6 points)

A	**B**
basic	examination
operation	decrease
supply	function
inspection	lead
reduce	provide
direct	main

F. Choose *either* a *or* b (30 points)

a. Answer briefly the following questions.

1. What is the use of a crankcase oil mist detector?

2. What is propeller slip?

3. What is the function of governors? What types of governors are there?

4. Before a diesel engine is started, what should the engineer inspect in order to ensure the engine is ready for operation?

5. The lubricating oil may have additional functions. What are these?

b. During your voyage you noticed excessive fuel consumption. Write a formal letter to the Superintendent Engineer of the shipping company to inform him about the measures you took to find the cause of this problem and solve it.
(Approximate length: 100 words)