

Merchant Marine Academy of Macedonia
School of Engineers
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NAME:
A.Γ.Μ:
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Final Exam

(Για μεταφορείς που παρακολούθησαν το μάθημα μέχρι και το ακαδ. έτος 2012-2013)

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

tailshaft welding boss pitch propulsion
erosion thrust loads clockwise dry dock

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

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

crack distilled lubrication flyweight friction
outlet viscosity film centrifuge governor

- The escaping gases are directed to a safe _____.
- The principal control device of any engine is the _____.
- The cylinder oil _____ is relevant to the oil film thickness.
- A _____ assembly is used to detect engine speed.
- Sudden cooling can _____ the cylinders.
- When topping off batteries, use _____ water.
- 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.
- A _____ cleans the lubricating oil in the system.

C. Choose the correct answer. (15 points)

1. 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
2. The cylinder oil _____ is relevant to the oil film thickness.
 - a. viscosity
 - b. oiliness
 - c. grease
3. All shafting is made from solid _____.
 - a. steel
 - b. copper
 - c. silver
4. Sudden cooling can _____ the cylinders or cylinder heads.
 - a. freeze
 - b. crack
 - c. spoil
5. All electrical wiring, _____ and security of connections should be inspected.
 - a. isolation
 - b. insulation
 - c. instruction
6. 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
7. The oil film between the moving parts of an engine reduces _____ and wear.
 - a. friction
 - b. corrosion
 - c. vibration
8. As the oil cooler is _____ by sea water, any leakage in it will mean loss of oil and contamination of the oil by sea water.
 - a. working
 - b. circulating
 - c. circulated
9. _____ bearings support the tailshaft and the propeller.
 - a. Main
 - b. Sterntube
 - c. Intermediate
10. The cylinder relief valve is designed to relieve _____ more than 10% to 20% above normal.
 - a. speed
 - b. temperatures
 - c. pressures
11. Explosion relief valves serve to relieve excessive _____ pressures.
 - a. engine room
 - b. cylinder
 - c. crankcase
12. _____ can occur as a result of pressure variations on the back of a propeller blade.
 - a. Distortion
 - b. Cracks
 - c. Cavitation
13. Oil is distributed on the liner surface by the _____ movement of the piston.
 - a. rotating
 - b. reciprocating
 - c. oscillating
14. The temperature of the air in the cylinders should be high enough to _____ the injected diesel fuel.
 - a. ignite
 - b. burn
 - c. compress
15. As the engine speed increases, the action of _____ force throws the flyweights of the governor outwards.
 - a. centripetal
 - b. gravitational
 - c. centrifugal

D. Fill in the gaps with a suitable form of the words in parentheses (15 points)

- Cavitation may cause the _____ (erode) of the blade surface.
- The lubricating oil is also used as a _____ (clean) or a _____ (cool).
- The general _____ (require) for cylinder oil viscosity is SAE 50.
- The electric governor uses a _____ (combine) of electrical and mechanical components.
- Clean oil can be provided from a _____ (store) tank.
- _____ (explode) relief valves prevent fires.
- The oil is drawn from the drain tank through a _____ (strain).
- The _____ (transmit) system transmits power from the engine to the propeller.
- Holes can be repaired with a _____ (suit) resin filler.

E. Match the words in column A to their synonyms in column B (10 points)

A	B
supply	dirty
inspection	enough
basic	provision
sufficient	demand
lead to	main
foul	function
amount	deformation
require	quantity
operation	examination
distortion	cause

F. Choose one of the two topics and write a paragraph of about 100 words. (25 points)

- A. Discuss possible causes of excessive lube oil consumption
- B. What checks do you perform before starting an engine?