

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

Course: Maritime English

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Name:

Student number:

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FINAL EXAM

1. Fill in the gaps using the words below. (15 p.)

*sprayed operation combustion strokes rise burning
heat compressed cylinder sequence*

The diesel engine is a type of internal (1) _____ engine, which means that the (2) _____ of the fuel takes place inside the (3) _____. The principle of (4) _____ of a diesel engine is based on the fact that when the air in the cylinder is (5) _____, its pressure and temperature (6) _____. Therefore, when the fuel is (7) _____ into the cylinder, it is self-ignited because of the compression (8) _____. The diesel engine operates with a fixed (9) _____ of events which are done either in four (10) _____ of the piston or two.

2. Fill in the gaps using the words below. (15 p.)

*condenser blades steam impulse rotor boiler
rotate feed rim airtight*

The steam turbine consists of a (1) _____ mounted on a shaft that is free to (2) _____. The outer (3) _____ of the rotor has a set of curved (4) _____ and the whole system is enclosed in a(n) (5) _____ case. Several nozzles direct the (6) _____ against the blades and turn the rotor. We have two types of steam turbines: the (7) _____ turbine and the reaction turbine. The steam passes from the turbine exhaust to the (8) _____ where it is changed into water and it is used again as (9) _____ water in the (10) _____.

3. Underline the best choice. (10 p.)

1. The steam can **drive/operate** both main engines and auxiliary **engines/machinery**.
2. The feed water system **supplies/charges** the boiler with the **required/inquired** feed water.
3. The furnace of a boiler has a thick **isolation/insulation** of fireproof bricks.
4. The water circulates through the water **drums/tubes** when the boiler is in operation.
5. The Scotch boiler is not **sufficient/efficient** enough to drive a steam turbine.
6. The **thermometer/salinometer** measures the salinity of water.
7. The **economiser/superheater** heats the saturated steam before it goes into the main engine.
8. The **steam/water** drum holds mainly steam.

4. Match the words to their explanation. (10 p.)

- | | |
|-----------------|--------------------------------------|
| 1. inoperative | a. go aboard a vessel |
| 2. briefing | b. estimated time of arrival |
| 3. embark | c. the opposite of evaporation |
| 4. ETA | d. not functioning |
| 5. capsize | e. a certain type of screwdriver |
| 6. phillips | f. concise information to crew |
| 7. condensation | g. the place where the fuel is burnt |
| 8. bilges | h. the opening of a hold or tank |
| 9. furnace | i. keep the ship dry |
| 10. hatch | j. turn over |

5. Match the parts of a diesel engine to their function. (10 p.)

- | | |
|-------------------|---|
| 1. camshaft | a. reduces friction |
| 2. piston | b. joins the piston to the connecting rod |
| 3. cylinder liner | c. slides back and forth on the guides |
| 4. connecting rod | d. actuates the valves |
| 5. gudgeon pin | e. cools the cylinder |
| 6. crankshaft | f. joins the piston to the crankshaft |
| 7. crankpin | g. supports the engine |
| 8. water jacket | h. compresses the air |
| 9. crosshead | i. changes reciprocation into rotation |
| 10. bedplate | j. joins the connecting rod to the crankshaft |

6. Choose the correct item. (10 p.)

- _____ tonnage is the amount of water displaced when the ship is loaded to her load line.

a. underdeck	b. displacement	c. dead-weight
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- COW is _____:

a. crude oil washing	b. cold oil washing	c. chemical oil washing
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- A material which offers low resistance to an electric current is a(n) _____.

a. breaker	b. conductor	c. insulator
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- The _____ serves to heat feed water before it goes into the boiler.

a. economizer	b. superheater	c. atomizer
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- The unit of electric resistance is the _____.

a. volt	b. ampere	c. ohm
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- The inlet, exhaust and fuel injection valves are all housed in the _____.

a. piston crown	b. cylinder head	c. cylinder liner
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- The piston _____ inside the cylinder.

a. rotates	b. oscillates	c. reciprocates
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- A ship is said to be _____ when the port and starboard sides rise and fall with waves coming from abeam.

a. rolling	b. surging	c. yawing
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- The lubricating grease is a mixture of petroleum oil and _____.

a. paraffin	b. water	c. soap
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- The L.P. (low pressure) turbine is larger due to the _____ of the steam.

a. extension	b. expansion	c. exhaust
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7. Fill in the gaps with a suitable form of the words in parentheses. (20 p.)

1. With _____ (**reduce**) gears we can decrease the speed of a diesel engine.
2. Lubricating grease is a _____ (**mix**) of petroleum oil and soap.
3. The _____ (**contaminate**) of the lube oil may cause serious damage to the bearings of the engine.
4. There is a great _____ (**vary**) of lubricants in the market.
5. The _____ (**classify**) of oils has been done by the Society of Automotive Engineers.
6. During _____ (**evaporate**) the water changes into steam and during _____ (**condense**), the steam changes into water.
7. The Chief Engineer is responsible for the safe, efficient and _____ (**satisfy**) operation and _____ (**maintain**) of all machinery.
8. If the lube oil is very _____ (**viscosity**), it can become thinner through heating.

8. Match the words to make compound ones. (10 p.)

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|------------|-------------|
| 1. air | a. proof |
| 2. fire | b. heater |
| 3. fire | c. drum |
| 4. exhaust | d. tight |
| 5. push | e. thruster |
| 6. super | f. gas |
| 7. bow | g. head |
| 8. steam | h. box |
| 9. cross | i. rods |
| 10. tie | j. rod |

GOOD LUCK!!!