

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

Course: Maritime English

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FINAL EXAM

1. Fill in the gaps with an appropriate word from the list. (45 p.)

A.

larger reduction slower cheaper propeller slow tankers cylinders

efficient medium-speed directly weight low operate slow-speed

Large diesel engines which have _____ nearly 3ft in diameter turn at the relatively _____ speed of about 108 r.p.m. They are known as _____ diesel engines and are used mainly in _____ and bulk carriers. They can be connected _____ to the propeller without _____ gears and they have _____ fuel consumption.

More and more, however, of the _____ merchant vessels are being powered by _____ diesel engines. These _____ between 150 and 450 r.p.m. Therefore, they are connected to the _____ by gearing, since a propeller is more _____ the larger it is and the _____ it turns. These engines are _____ than slow-speed diesel engines and their smaller size and _____ can result in a smaller, cheaper ship.

B.

displacement gear-wheel device suction piston raise gas non-return

impeller reciprocating interlocking rotary volume pumping centrifugal

A pump is a _____ which is used to _____ liquids from a low point to a high point.

A _____ system aboard ship consists of a _____ branch, a pump and a discharge branch.

In the _____ pump, the increase or decrease of the _____ of the pump chamber causes the suction or discharge of the liquid or _____.

A simple kind of _____ pump is the single-acting ram pump which consists of a _____ moving up and down inside a chamber fitted with _____ suction and delivery valves.

The _____ pump is an example of _____ displacement pump. It consists of _____ gear wheels which rotate.

In the _____ pump there is a(n) _____ rotating at high speed inside the pump casing.

2. Match the words to their synonym or explanation. (10 p.)

- | | |
|---------------|---|
| 1. stroke | a. burning |
| 2. port | b. raise |
| 3. combustion | c. grow larger |
| 4. discharge | d. travel of the piston between T.D.C. and B.D.C. |
| 5. impeller | e. fill up |
| 6. increase | f. draw in |
| 7. suck | g. rotor |
| 8. capacity | h. hole |
| 9. expand | i. cubic content |
| 10. charge | j. delivery |

3. Fill in the blanks with the correct form of the words in the parentheses. (15 p.)

1. The _____ (**remove**) of air from the cylinders is done with the help of air cocks.
2. We have to check that the mechanical _____ (**lubricate**) are full and that they work properly.
3. Before closing the crankcase doors, we should make an _____ (**examine**) inside the crankcase to make sure everything is correct.
4. We should pump up the starting air _____ (**reserve**) to the maximum pressure.
5. The cooling water system must be kept in _____ (**operate**) and the inlet temperature of the cooling water should _____ (**variety**) between 110 degrees to 150 degrees F.
6. You should always consult the manufacturers' _____ (**recommend**).
7. The crankshaft should be checked for _____ (**deflect**).
8. The engine _____ (**indicate**) cards show if the fuel pumps need _____ (**adjust**).

4. Circle the correct choice. (10 p.)

1. In a 4-stroke diesel engine the stroke which provides power for the propulsion of the ship is:
 - a. the compression
 - b. the combustion
 - c. the suction
2. During the compression stroke:
 - a. the exhaust valve is open
 - b. the inlet valve is open
 - c. the inlet and exhaust valves are closed

3. In a 2-stroke diesel engine _____ may happen at the same time.
- charging of fresh air and exhaust
 - compression and combustion
 - combustion and exhaust
4. A propeller is more efficient:
- the smaller it is and the faster it turns
 - the larger it is and the faster it turns
 - the larger it is and the slower it turns
5. A medium-speed diesel engine is _____ than a slow-speed diesel engine.
- bigger and cheaper
 - smaller and more expensive
 - smaller and cheaper
6. The vane type of pump is a:
- rotary pump
 - centrifugal pump
 - reciprocating pump
7. A gear-wheel pump is used to pump mostly:
- water
 - lub oil
 - all kinds of liquids
8. A double-acting ram pump has:
- double pistons
 - double suctions and one discharge
 - double suctions and double discharges
9. In reciprocating displacement pumps there is always a _____ which moves up and down in the pump chamber.
- gear
 - piston
 - impeller
10. The diffuser type of pump is a:
- rotary pump
 - centrifugal pump
 - reciprocating pump

5. Underline the correct choice. (10 p.)

- For proper maintenance we should always read the (**instructor's / constructor's**) instructions. In this way we will (**assure / ensure**) (**sufficient / efficient**) working of the machinery and we will minimise breakdowns.
- Pistons should be examined for (**cracks / scratches**).

3. (**Carbon / Scale**) deposits can appear in scavenge ports and exhaust manifold.
4. (**Scale / Sediment**) can be removed by flushing with water.
5. When we replace piston rings we should leave (**sufficient / efficient**) clearance for the (**contraction / expansion**) of the rings.
6. In a 2-stroke diesel engine instead of inlet valve there are (**ports / parts**) which are covered and uncovered by the movement of the (**camshaft / piston**).

6. The following sentences are the steps in preparing the engine for running, but they are not in the right order. Number them in the correct order. (10 p.)

- Fill up the fuel oil tanks and lub oil tanks.
- Turn the engine with the help of turning gear and check for water leakages.
- Start up the crankcase lub oil pump and check the flow of oil from the bearings and guides.
- Start up the circulating pumps to warm up the engine.
- Prime the fuel oil system and check for leakages.
- Check the reversing and control gear.
- Pass the steam through the heating coils in the drain tanks.
- Put in the turning gear and check that everything is correct in the crankcase.
- Disengage the turning gear.
- Circulate cooling water through the valves.

GOOD LUCK!!!