

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

Course: Maritime English

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Instructors: Dr E. Botonaki, A. Birbili

Student's name:

Student number:

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FINAL EXAM

A. Supply the missing word from the ones given below. (15 p.)

*rotary volute displacement vanes reciprocating
centrifugal casing screws multi-stage impeller*

There are two main groups of pumps: the _____ pumps and the _____ pumps. The 1st group is subdivided into _____ pumps in which a piston moves up and down, and _____ pumps in which the moving part rotates. The rotating part can be gears, _____, _____, etc. The centrifugal pump on the other hand consists of a(n) _____ which rotates at high speed inside the pump _____. The most common type of centrifugal pump is the _____ which has taken its name after the spiral case which surrounds the impeller. If the centrifugal pump has two or more impellers, it is _____.

B. Match the terms to their explanation underneath. (10 p.)

gudgeon pin main bearings safety valve soot blower connecting rod

feed check valve main stop valve salinometer water jacket crosshead

- maintains the desired temperature of the cylinder _____
- a valve to control the entry of water to the boiler _____
- connects the piston rod to the connecting rod of a diesel engine _____
- a gauge to check the salinity of water _____
- connects the piston to the connecting rod _____
- a valve which controls the passage of steam to the engine _____
- a valve which releases the excess of steam _____
- they support the crankshaft within the engine bedplate _____
- it removes the black carbon particles from the tubes of the boiler _____
- a rod which connects the piston or crosshead to the crankshaft _____

C. Write the names of the four strokes of a 4-stroke diesel engine and describe the compression stroke. (20 p.)

Names of the four strokes: 1. _____ 2. _____
3. _____ 4. _____

D. Fill in the gaps with the following words. There are two extra words. (10 p.)

scavenge crankpin B.D.C. T.D.C. exhaust rotor

compression crown combustion skirt crosshead impeller

- The three upper rings of the piston are _____ rings.
- The _____ connects the piston rod to the connecting rod.
- The connecting rod is connected to the crankshaft with the _____.
- At the end of the 1st stroke of a 4-stroke D.E. the piston is at the _____.
- In a 2-stroke D.E. two phases, _____ and _____, happen at the same time.
- The upper part of the piston is called _____ and the lower _____.
- The two main parts of a turbocharger are the turbine _____ and the compressor _____.

E. How do you report the following types of distress according to the SMCP? Add an appropriate sentence next to each distress case. (7.5 p.)

1. Collision:
2. Piracy:
3. Grounding:
4. Flooding:
5. List-capsizing:

F. Insert the correct preposition in the gaps. (10 p.)

- They forgot to switch _____ the hold ventilator and the perishable cargo was destroyed.
- Will you please turn the heat a little _____? I'm cold.
- Fill _____ the tank with petrol and get ready to start _____ the engine.
- The fire is toxic, don't attempt to put it _____.
- What repairs have been carried _____ so far?

- Remember to turn _____ the gas before you leave.
- The chief mate took _____ the command of the search and rescue operation.
- Do not alter course. You must stand _____.
- Despite the bad weather conditions last night they tried to pick _____ the survivors of the shipwreck.

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

- | | |
|--------------------|---|
| 1. simultaneously | a. width of the hull |
| 2. freeboard | b. throw away as garbage |
| 3. beam | c. vertical distance between water line and the highest point of a vessel |
| 4. draught | d. a layer of oil on the sea surface |
| 5. oil slick | e. at the same time |
| 6. dump | f. keep within limits, restrain |
| 7. skimmers | g. the part of the hull of the ship above the water line |
| 8. air draught | h. system used for clearing the water of any floating matter |
| 9. contain | i. the distance over the extremities, from stem to stern |
| 10. length overall | j. the maximum depth underwater |

H. Underline the correct choice. (7.5 p.)

- In a **compressor / condenser** steam changes into water.
- In a **deaerating / balancing** tank water gets rid of air and other gases.
- An emergency reversal operation of the main engine(s) to avoid collision is called a **crash-stop / collision-stop**.
- In a(n) **impulse / reaction** turbine the steam is directed from the nozzles against the stationary blades and turns the rotor.
- When the temperature of the steam falls below permissible limits, **evaporation / condensation** takes place.
- The reaction turbine is **more / less** efficient than the impulse turbine.
- The main part of a steam turbine is the **piston / rotor**.
- In a steam plant of a reaction turbine, the **superheated / saturated** steam is fed into a **L.P. / H.P.** turbine first, where some of its **heat / mechanical** energy is converted into useful work.

I. Which of the auxiliary machinery is used for... (10 p.)

- reducing rolling of the ship? _____
- supplying the ship with electrical power and lighting? _____
- handling the cargo? _____
- transferring liquids from one place to another? _____
- burning the garbage? _____

GOOD LUCK!!!