

Final Exam

A. Put the words below in the right gap. There are two extra words. (10x1=10 points)

membrane atoms cooled steady adequate circulates rotor
astern heated molecules incoming enters

- When the boiler is in operation, the water _____ through the water tubes.
- The rotor of the L.P. turbine has additionally the _____ blades for backing down.
- A turbocharger consists of a single turbine wheel, the _____ of which is mounted on a shaft.
- The compressor compresses the _____ air, which is then _____ and _____ the scavenge air manifold.
- In reverse osmosis salt water is pumped under high pressure through a (n) _____ with openings so small that salt _____ cannot pass.
- Marine boiler plants require _____ control systems to raise steam, secure _____ steaming and detect problems.

B. Complete the sentences with the correct form of the words in parentheses. (15x1=15 points)

- In a sewage _____ (**treat**) plant human body waste is treated _____ (**biology**) before being discharged into the sea.
- Salt water, evaporated into steam and then brought into a condenser produces _____ (**condense**), which is fresh water.
- Fin-stabilizers improve a ship's _____ (**stable**).
- The control systems on a shipboard boiler are designed to detect promptly _____ (**fail**) and malfunctions.
- The 4-stroke D.E. has lower fuel _____ (**consume**) than the 2-stroke one.
- The turbine _____ (**assemble**) has a stator too.
- The _____ (**decrease**) in pressure causes the _____ (**expand**) of the steam.
- A safety valve opens _____ (**automatic**) to prevent the build-up of _____ (**exceed**) pressure.
- We have to correct the _____ (**clear**) between the moving parts.
- The main engines are used for the _____ (**propel**) of the ship.
- When the temperature of the steam falls below _____ (**permit**) limits _____ (**condense**) takes place.

C. Supply a word of your choice that can fill the gap. (16x1.5=24 points)

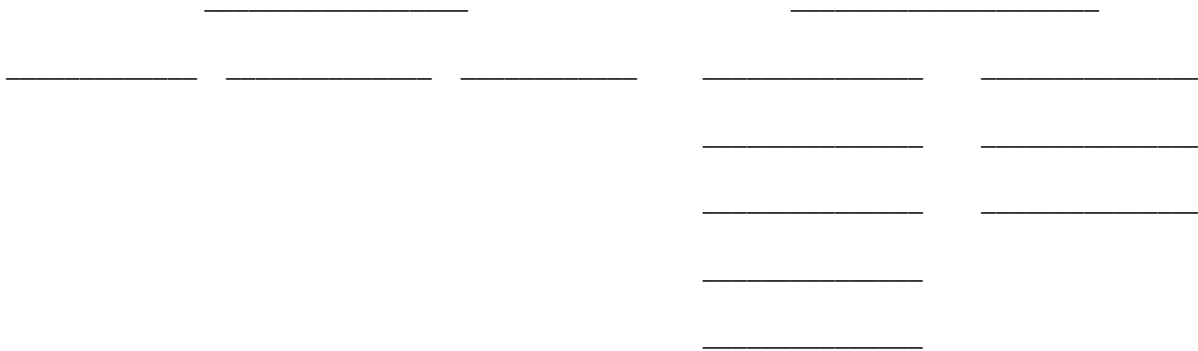
- When the pressure of the steam is decreased its _____ is increased, because the steam expands.
- We can produce steam by heating water to its _____ point.
- There are two basic types of boilers: The _____ boiler and the _____ boiler.
- In the _____ feed tank the condensate gets rid of air.

- The valve seats are housed on the cylinder _____.
- The steam which is collected in the steam drum of the boiler is _____.
- Diesel engines are _____ combustion engines.
- The upper part of a piston is called _____ and the lower part is called _____.
- The three upper rings of the piston are the _____ rings.
- The cylinder block, the frame of the engine and the bedplate are connected together with the _____.
- In an impulse turbine the steam is directed from the _____ against the blades.
- A turbocharger has a (n) _____ to absorb the vibration of the running components.
- In a 2-stroke Diesel Engine the 2 strokes are called _____ and _____.

D. Complete the diagram on pumps by filling in the 13 gaps. The words you need are given below. (13 points)

lobe rotary double-acting diffuser centrifugal reciprocating volute
regenerative single-acting gear-wheeled vane-type displacement screw-type

PUMPS



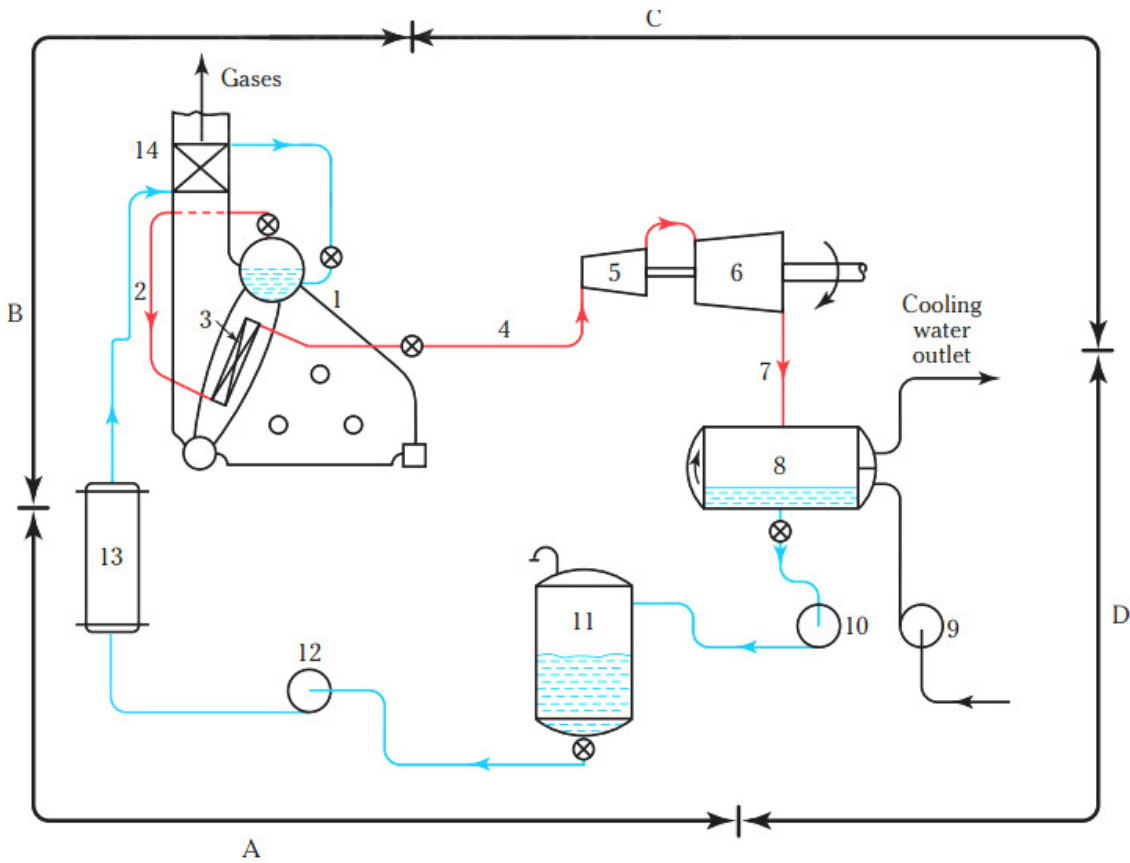
E. Match the following words to their synonym or explanation. There is an extra word/definition. (10 points)

emission malfunction attemperator convert stationary gauge
 efficient inject charge combustion

- change into something else.....
- discharge of gas, heat, radiation.....
- force liquid into.....
- fixed, not in motion.....
- capable of better output.....
- apparatus which increases the temperature of steam.....
- measuring instrument.....
- irregular or abnormal function.....
- burning.....
- apparatus which decreases the temperature of steam.....
- fill up with air.....

F. The terms below are parts of a steam power plant of a reaction turbine. Write what is shown in the diagram. (14x1=14 points)

- | | | |
|----------------------|------------------------------------|------------------------|
| Economiser | Condensate pump | Boiler |
| Preheater | L.P. steam turbine | Superheater |
| DFT | Feed pump | H. P. steam turbine |
| Exhaust Pipe | Condenser | Superheated steam pipe |
| Saturated steam pipe | Sea water cooling circulating pump | |



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

