

FINAL EXAM

A. Put the words below in the right gap. (15 points)

*circulates rotor furnace water tubes cooled spiral steam
incoming burners volute Scotch enters water-tube diffuser*

- 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 the _____ pump the impeller is surrounded by a _____ case.
- The _____ type of pump is used on high pressure (e.g. boiler feed).
- The fuel oil system provides the _____ with fuel.
- The _____ is the space where the air and fuel mix and burn.
- The boiler has three main parts: the _____ drum, the _____ drum and the water _____ that connect them.
- When the boiler is in operation, the water _____ through the water tubes.
- There are two basic types of boilers: The _____ boiler and the _____ boiler.

B. Complete the sentences with the correct form of the words in parentheses. (16 points)

- The L.P. turbine usually consists of a _____ (combine) of impulse and reaction elements.
- The turbine bearings require special _____ (attend).
- _____ (centrifuge) pumps are _____ (suit) for all duties except very small capacities.
- _____ (displace) pumps are not used for high speeds.
- The _____ (regenerate) type of pump is used where high pressure and small capacity are required.
- Salt water, evaporated into steam and then brought into a _____ (condense) produces _____ (condense), which is fresh water.
- The steam drum mainly serves as a _____ (store) space for the steam.
- The furnace has an _____ (insulate) of fireproof bricks.
- The 4-stroke D.E. has lower fuel _____ (consume) than the 2-stroke one.
- In a sewage _____ (treat) plant human body waste is treated _____ (biology) before being discharged into the sea.
- An _____ (incinerate) burns garbage.
- Fin-stabilizers improve a ship's _____ (stable).
- Electric fans provide forced _____ (ventilate) to holds.

C. Put the words below in the right gap. (12x1.5=18 points)

*reaction liquid produce volume throttle boiling
impulse mounted deaerating gas packing gland solid*

- The high pressure steam passes from the H.P. Line into the H.P. Turbine through a _____ valve.
- When the pressure of the steam is decreased its _____ is increased, because the steam expands.
- There are three types of turbines: the _____ turbine, the _____ turbine, and the action-reaction one.
- We can _____ steam by heating water to its _____ point.
- The water can exist in three stages: as _____ it is water, as _____ it is ice, and as _____ it is steam.
- The rotor is _____ on a shaft.
- The piston rod slides into the _____.
- In the _____ feed tank the condensate gets rid of air.

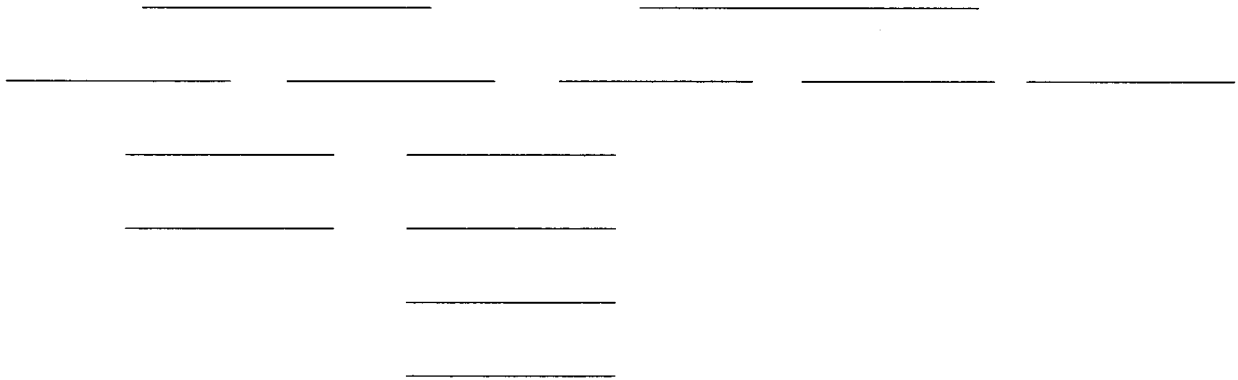
D. Match the words in Column A to their synonym or explanation in Column B. Write the pairs in the empty lines below. (10 points)

A	B
1. Irregular or abnormal function	a. Feed check valve
2. Fittings (gauges and valves)	b. Main stop valve
3. A valve to control the entry of water to the boiler	c. Malfunction
4. A valve to remove water from the system	d. Drain valve
5. Gauge	e. A gauge to check the salinity of water
6. A valve which controls the passage of steam to the engine	f. Chemical dosing valve
7. A valve which releases the excess of steam	g. Meter, indicator
8. Salinometer	h. Mountings
9. A valve for adding chemicals directly to the boiler	i. Safety valve
10. It removes the black carbon particles from the tubes of the boiler	j. Soot blower

E. 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-wheel vane-type displacement screw-type*

PUMPS



F. Describe the first and second stroke of a four-stroke diesel engine. (15 points)

G. Study the diagram of a steam power plant and fill in the list that follows with one of the terms below. (13 points)

- Boiler Condenser Condensate pump Steam pipe Reciprocating engine Preheater
 Exhaust pipe Deaerating Feed Tank-DF Service pump Sea-water pump

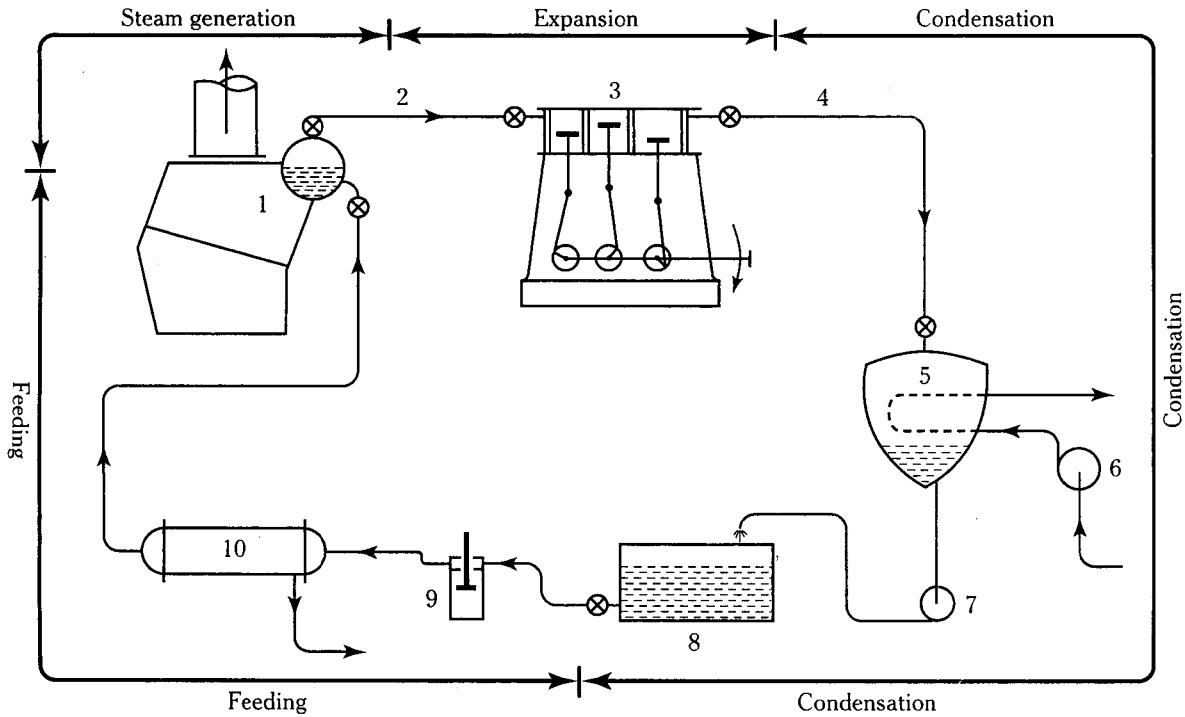


Diagram of steam power plant with triple cylinder reciprocating engine

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

GOOD LUCK!