

Final Exams

A. Give the names of the four strokes of a 4-stroke diesel engine and describe the third and the fourth stroke. (10 p.)

Names of the four strokes: _____

B. Write 5 sentences comparing a 4-stroke D.E. with a 2-stroke D.E. (consider the adjectives: small, fast, powerful, expensive, heavy) (5 p.)

1.
.....
2.
.....
3.
.....
4.
.....
5.
.....

C. Fill in the gaps with the following words. There are two extra words. (11 p.)

*scavenge crankpin B.D.C. T.D.C. exhaust rotor diffuser
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 _____.
- On the compressor's side of a turbocharger there is a _____ which contributes to further rising of the pressure of the compressed air.

D. Supply the term that matches the meaning of the following. (15 p.)

- The place in the boiler where the fuel is burnt: _____
- A valve for adding chemicals directly to the boiler: _____
- A great number of small tubes which super heat the wet steam: _____
- They supply the fuel and air to the furnace: _____
- The upper drum of a water-tube boiler where the separation of water and steam occurs:

- A device by means of which a liquid is reduced to very fine spray: _____
- A heat exchanger that transfers heat from the gases of combustion to the boiler feedwater:

- It shows the level of water in the boiler: _____
- It removes the black carbon particles from the tubes of the boiler: _____
- A valve which controls the passage of the steam to the engine: _____
- A delay between two events: _____
- A device which cools exhaust steam back into water: _____
- Irregular or abnormal function: _____
- A device for removing all or part of the superheat from steam by spraying water into it or by use of a heat exchanger: _____
- A tank in which water gets rid of air and other gases: _____

E. Put the words below in the right gap. (15 p.)

*diffuser enters vanes incoming exhaust vibration rotor impeller
spiral cooled components consists contribute assembly silencer*

--A turbocharger _____ of a single turbine wheel, the _____ of which is mounted on the same shaft as with the _____ of a centrifugal compressor. The compressor compresses the _____ air which is then _____ and _____ the scavenge air manifold. Besides the rotor, the turbine _____ has a stator too, that is, stationary _____ which direct the _____ gases to the rotor. On the compressor's side there is a _____ and a _____ casing, both of which _____ to the further rising of the pressure of the compressed air. There is also a _____ to absorb the noise of the _____ of the running _____.

F. Supply the correct form of the word in parenthesis. (5 p.)

- I require medical _____ (assist).
- We have to take _____ measures (prevent).
- You must follow the international _____ (regulate).
- Don't be afraid of the dog; it is _____ (harm).
- Sometimes in case of oil spills you use _____ (disperse).
- The _____ (neglect) or _____ (accident) dumping of oil into the sea is a serious offence.
- You must test the atmosphere for toxic and _____ (flame) gas _____ (concentrate).
- You must post _____ lookouts (add).

G. Match the dimensions to their definitions (6 p.)

1. beam
2. depth
3. draught
4. length overall
5. air-draught
6. freeboard

- a. height from baseline to uppermost continuous deck
- b. the distance between the water line and the top of the deck at the side.
- c. the vertical distance between the water line and the highest point of the ship
- d. the maximum depth underwater
- e. the horizontal distance over the extremities, from stem to stern
- f. width (breadth) of the hull

H. Insert the correct preposition in the gaps. (5 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.

I. Fill in the gaps with the correct word from the list below (15 p.)

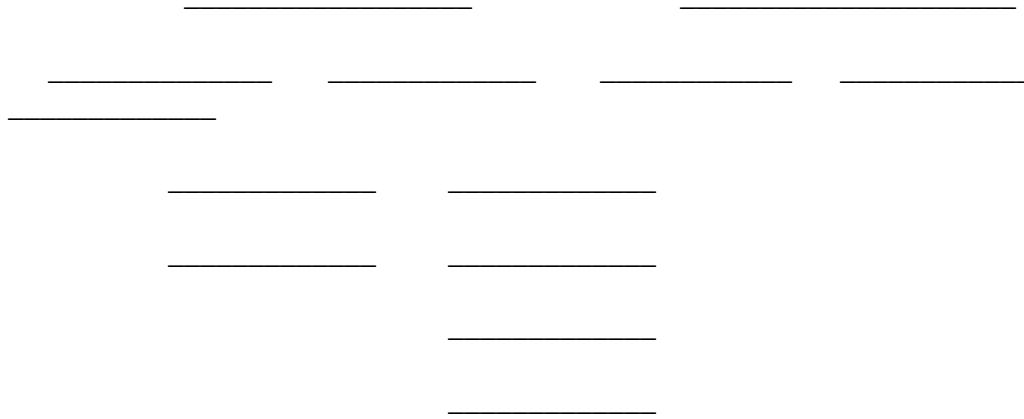
*stationary gas packing gland blades rotating solid mounted
deaerating throttle boiling astern liquid produce rim volume*

- 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.
- On the _____ of the rotor there are curved _____.
- The rotor is _____ on a shaft.
- In the reaction turbine the blades can be both _____ and _____.
- The piston rod slides into the _____.
- In the _____ feed tank the condensate gets rid of air.
- The high pressure steam passes from the H.P. Line into the H.P. Turbine through a
_____ valve.
- The rotor of the L.P. turbine has additionally the _____ blades for backing down.
- When the pressure of the steam is decreased its _____ is increased, because the
steam expands.

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

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

PUMPS



GOOD LUCK!