

MERCHANT MARINE ACADEMY OF MACEDONIA

SCHOOL OF ENGINEERS

Academic year: 2012-2013

Semester: D

Instructors' names: Papadopoulou A- Ploumistou A

STUDENT'S FULL NAME:

Exam period: February

Duration: 2 hrs

A.Γ.Μ:

A. Fill in the gaps with the words from the boxes. There are some extra words you don't need use. (10 points)

Over	forms	which	keyed	reciprocates	governor	into	starts	annular
single	spill	top	meshes					

The plunger has a helix machined _____(1) it which also _____ (2) a vertical groove and an _____(3) groove at the base of the helix. The plunger _____(4) in a barrel, located in the pump body which has _____(5) ports, connected to the suction side of the pump, drilled so that they are above the _____(6) of the plunger when the cam is on the base circle. The plunger is _____(7) to a sleeve which has a pinion machined into it. The pinion _____(8) with a rack _____(9) can rotate the plunger relative to the barrel. The rack is connected to the engine _____(10) .

B. Choose the correct (10 points)

- The overlayer consists of a _____ metal galvanic alloy
 - Hard
 - Soft
 - Hot
- Fuels come from crude oil
 - Distillation
 - Evaporation
 - Condensation
- The lowest temperature at which the oil will flow is
 - heating value
 - Pour point
 - specific gravity
- Chemical element which can be very injurious to the engine parts because it changes into acid
 - sulphur
 - Carbon
 - hydrogen
- The measure of the resistance of the fuel to movement
 - specific gravity
 - Pour point
 - viscosity
- Heavy fuel oil is _____ and _____ than marine diesel oil
 - cheaper
 - More expensive
 - cleaner
 - Dirtier

7. The high pressure fuel opens the fuel valve (injector) and is sprayed into the cylinder in tiny droplets known as

- a. distillation b. evaporation c. atomization

8. The timing of injection of the fuel into the engine is

- a. crucial b. not important c. indifferent

9. A plunger with two helices is _____ to/than one with a single helix.

- a. more balanced b. less balanced c. similar

C. Match the words to their explanation (10 points)

1. corrosion	a. precise
2. contamination	b. a mixture of metals
3. wear	c. destruction
4. alloy	d. cause
5. overlayer	e. type of filter
6. excessive	f. gradual destruction of material by chemical reaction
7. exact	g. at the right time
8. timely	h. top surface
9. reason	i. infection or pollution
10. strainer	j. extreme

D. Provide derivatives for the words in parentheses (5 points)

1. During normal _____ (operate) on heavy oil at sea, the oil is taken from the HO tanks, where it is stored.

2. First, the oil is fed through a _____ (heat) and next through a centrifuge for _____ (purify).

3. A viscosity _____ (regulate) is fitted, through which the oil will pass.

4. Marine diesel oil does not need special _____ (treat).

E. Describe the parts and operation of the fuel system (15 points)

F. Turn into passive voice (10 points)

1. The second engineer has already replaced the piston rings
2. The piston compresses the air in the cylinder
3. The chief engineer disengaged the turning gear.
4. You must regrind the fuel valve because it is worn
5. If you read the manual, you will minimize breakdowns

G. Put the words in the right order to make questions in the past simple passive (5 points)

1. fire / this/ were/ extinguishers/ the/ morning / checked/ ?
2. 1965/ who/ sold/ in/ to/ was/ the/ vessel/ ?
3. funnels/ why/ shortened/ were/ ship's/ the/ ?
4. by/ interior/ was/ who/ designed/ the/ ?
5. the/ registered/ under/ was/ flag/ the/ tanker/ Liberian/ ?

H. Answer the questions (15 points)

1. Which fuels are mainly used on ships?
2. What is the heating value of the fuel?
3. What is the flash point of the fuel?

- I. **Write a report to the Superintendent of your company explaining and describing an incident concerning an unpredictable damage that occurred and the repairs you had to make to take control of the situation or an accident that happened to a crew member and the action taken. (100-150 words).(20 points)**