MERCHANT MARINE ACADEMY OF MACEDONIA SCHOOL OF ENGINEERS

Academic year: 2012 - 2013 Semester: C Instructors: K. Grigoroglou, Dr. E. Botonaki, A.	Exam period: September Birbili, A. Papadopoulou
Student's full name: A.Γ.M.: Date:	
FINAL EXAM IN MARITIM	IE ENGLISH
A. Insert an appropriate word in the gaps.	(15 p.)
There are two main groups of pumps: the	pumps and the
pumps. The 1 st group is subdivide	led 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	s of an which
rotates at high speed inside the pump	The most common type of
centrifugal pump is the which ha	as taken its name after the spiral
case which surrounds the impeller. If the centrifuga	l pump has two or more impellers,
it is	
B. Fill in the blanks with the following word:	<u>s.</u> (10 p.)
high grooves film lubricators	return rings
neutralises fuel wear storag	ge
The lubrication of the cylinder is very important, fir	est because it forms an oil
between piston rings and cylinde	er liner, thus reducing friction, and
secondly because it the acid produced because it	ducts of combustion and reduces
cylinder considerably. The cylin	
viscosity and a high TBN value. It is drawn from th	
tank to a small service tank by separate pumps. From	m there, the oil is supplied to
by gravity and is led through dri	
distribute it circumferentially are	ound the liner and the niston

spread it up and down the surface of the liner. There is not

of the used oil because it is finally burnt with the				
·				
	ng parameters of fuels affect combustion or the engine			
<u>parts?</u> (10 p.)				
1. Ash content:				
2. Carbon:				
3. Sulphur:				
4. Water and sediment:				
5. CCAI:				
D. Match the words to	their explanation. (5 p.)			
1. insulate	a. balancing/mixing tank			
2. buffer tank	b. go down, sink			
3. pressure retaining valve	c. increase, enhance			
4. sludge5. settle down	d. disperse through outward movement			
6. centrifuge	e. excess f. protect against heat dispersal			
7. boost	g. control, adjust			
8. regulate	h. pressure reducing valve			
9. purify	i. remove impurities, clean			
10. surplus	j. mud, deposits of fuel			
E. Write down the lub	oricant additive(s) which would help with the problem			
(5 p.)				
1. Major accumulation of de	eposits on piston crown and cylinder liner:			
2. Difficulty in pumping the	lube oil at low temperatures:			
3. Scored, scratched cylinde	r liner surface:			
4. Fouled surfaces:				
5 Signs of corresion on met	eal curfaces			

<u>F.</u> V	F. Write five important procedures before bunkering and five during						
<u>bunkeri</u>	ng. Include th	e following	terms in y	our senten	<u>ices.</u> (10	p.)	
<u>barge</u>	<u>bunker hose</u>	<u>fenders</u>	<u>sampler</u>	scuppers	<u>drip t</u>	<u>rays</u> <u>valv</u>	<u>'es</u>
<u>ullages</u>	<u>manifold</u>	loading rate	<u>counte</u>	<u>rsign</u> bi	unker sam	<u>ples</u> <u>plug</u>	2
Before b	unkering						
1							
2							
3							
4							
5							
During b	unkering						
1							
2							
3							
4							
5							
G. V	Vhat do the fo	ollowing wo	rds mean?	<u>Underline</u>	e the corr	ect choice.	(5 p.)
1. to cou	ntersign: to ac	ld/delete/de	ny one's sig	gnature to a	a docume	nt	
2. to cros	sscheck (of res	sults): to con	firm/cross	out/witne	ss the resu	ılts by using	g an
alternativ	ve way of chec	cking					
3. to veri	fy: to prove th	nat smth is fa	llse/true/in	complete			
4. to reta	in (of pressure	e): to maint a	in/reduce/a	adjust			
5. to sou	nd (of a tank):	to measure	/check/exai	mine the d	epth		
H. I	nsert an appr	opriate der	ivative of tl	ne words i	n the par	entheses.	(12 p.)
1. High v	water	(contain) in	the fuel ca	uses		
(error)	combustion an	d	(co	orrode) to	injectors.		
2. Highly	У	(visco	sity) fuels	need speci	al		(treat).
3	(distil) fuels	have cleane	r		(emit) that	n
	(re						
	ozzle			s screwed a	at the bott	om of the	
	(in	ject)		(hold).			

5. Chemical	(stable) is an important	(specify)
of lubricating oils.		
6. The HFO	(purify) separates water and	
(impure) from the fuel.		

I. Underline the correct alternative. (8 p.)

- 1. The VI of a lubricant shows how **stable/variable** it is to variations of temperature.
- 2. In a **displacement/centrifugal** pump, the increase of the volume of the pump chamber causes the **discharge/suction** of the liquid.
- 3. The time of ignition of the fuel is directly influenced by the **cetane number/water content**.
- 4. Verification and countersigning of bunker receipt is a(n):
- a. pre-bunkering procedure
- b. after bunkering procedure
- 5. The **lower/lowest** the pour point of a fuel, the **less/more** viscous it is.
- 6. The acronym CCAI stands for: a. calculated carbon aromaticity index
 b. cracked carbon aromaticity indication
- 7. The transfer pumps are **high/low** pressure pumps while the fuel pumps are **high/low** pressure pumps.
- 8. The element which causes oxidation to the engine is **silicon/sulphur**.
- 9. In the **storage/settling** tanks the fuel is constantly heated to **lower/raise** the viscosity-grade and thus quicken the separation of fuel from water and impurities.
- 10. A screw pump is a **centrifugal/rotary** pump which is used to pump mostly **viscous/thin** fluids.
- 11. The crosshead and the guides are lubricated by **cylinder/circulating** lube oil.

J. Answer one (1) of the following questions. (20 p.)

- 1. What are the objectives of lubrication?
- 2. What does the fuel injector do? Why is it very important?

GOOD LUCK!!!