

**MERCHANT MARINE ACADEMY OF MACEDONIA
SCHOOL OF ENGINEERS**

Academic year: **2012-2013**

Exam period: **June**

Semester: **D**

Instructor's names: **Ploumistou A. – Papadopoulou A.**

STUDENT'S FULL NAME : _____

Duration : 2 hrs

A.F.M.: _____

A. Fill in the gaps with the words from the boxes.. (10 points)

injectors function amount timing injection precise efficient disperse hard stage

The last _____ (1) of the fuel oil system is the _____ (2) of the fuel in the combustion chamber. This is done by the fuel _____ (3) which are fitted on the cylinder head. Their main _____ (4) is to inject and _____ (5) in the form of spray a certain _____ (6) of fuel in the combustion chamber.

The normal burning of the fuel and the _____ (7) running of the engine depend on the _____ (8) and timely operation of the fuel injectors.

Incorrect injection _____ (9) can cause the engine not to start or to be _____ (10) to start.

B. Match the following words to their definition.(10 points)

- | | |
|----------------|---|
| 1. Sludge | a. Marine fuel comes from |
| 2. Distillates | b. Too much dirt |
| 3. Viscosity | c. refined petroleum products |
| 4. Inadequate | d. property of liquid showing how easily it flows |
| 5. HFO | e. the quality of fuel |
| 6. Grade | f. fuel of low grade-high viscosity |
| 7. Crude oil | g. fuel of high grade-low viscosity |
| 8. MDO | h. deposit of particles |
| 9. Sediment | i. insufficient |
| 10. Excessive | j. more than normal |

C. Match the synonyms (5 points)

- | | |
|----------------|--------------|
| 1. Purpose | a. operation |
| 2. Condition | b. check |
| 3. Eventually | c. state |
| 4. Consequence | d. gather |
| 5. Contaminate | e. finally |
| 6. Accumulate | f. pollute |
| 7. Calibrate | g. result |
| 8. Examine | h. measure |
| 9. Remove | i. intention |
| 10. function | j. withdraw |

D. Explain in your own words the following parameters of fuel oils for diesel engines. (10 points)

a) flash point

b) specific gravity

c) pour point

d) cetane number

e) heating value

E. Fill in the gaps (5 points)

1. The principal cause for the f _____ of Diesel Engines is blow by of combustion products.

2. If combustion is poor there will be an a _____ of viscous residues mixed with cylinder.

3. Heavy load f _____ change the sealing effect of the piston rings.

4. Residues consist of s _____ and burnt cylinder oil.

5. The over layer is always b _____ to the bearing metal by a very thin interlayer of nickel and silver.

F. Fill in the missing derivatives and choose five (5) to make sentences of your own(10 points)

VERB

NOUN

Accumulate

Corrosion

Abrasion

Align

Combustion

Resistance

Replace

Adjust

Ignition

Vibrate

Consume

Treat

1.....

.....

2.....

.....

3.....

.....

4.....

5.....

G. Are the following statements True or False: (5 points)

1. The higher the viscosity of a fuel oil, the more heating it needs to reduce it.
2. Sulphur is extremely harmful to metal surfaces when it turns into sulphuric acid.
3. High water content in the fuel does not affect combustion whatsoever.
4. Around the pour point the fuel can hardly be pumped and needs heating.
5. High specific gravity does not necessarily imply highly viscous fuel.

H. Name some of the properties and characteristics of MDO and HFO. Use the hints below: (5 points)

Treatment	sludge	exhaust gases	expensive
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HFO:.....
.....
.....

MDO:.....
.....
.....

I. Complete the sentences with a word or phrase from the box and your own ideas (8 points)

Which, which, which, who, Who, to whom, whose, where

1. I like meeting people
2. I enjoy parties
3. I avoid going to restaurants
4. I never wear clothes
5. Most of my friends are people
6. My favorite films are those
7. I feel sorry for children
8. My best friend is someone

J. Turn the following sentences into Passive Voice (7 points)

1. These men play cricket on the village green
2. Not many tourists take the train to Turkey
3. In two weeks they will have sold all the tickets
4. They accused me of trying to hijack the plane

5. They are now demonstrating a new technique
6. The teams didn't know that the BBC was filming their game.
7. The new Government has raised the value of dollar.

K. Name the parts of the fuel oil system and describe its operation (10 points)

LETTER TO THE COMPANY

Write a letter to the company describing either an accident on board or damage/repair work (120-150 words) (15 points)