

Misurat University_College of Engineering

Spring 2014/2015

Department: petroleum engineering

Final Exam: English 3

Time: 2hrs

Date 6\8\2015

Teacher:

Name: Index no

Read the passage carefully then answer the questions below.

Crude oil and natural gas are often found together. They are both made of hydrocarbons, which are molecules that contain only carbon and hydrogen atoms. Hydrocarbons contain a lot of energy. When we burn them, we get this energy. We use hydrocarbons for fuel for heating, cooking, and transportation. There are also many products that we can make from hydrocarbons. We use chemical processes to change the hydrocarbons chains to make nylon, medicine, and lots of different plastic.

Hydrocarbons have different lengths and structures. Some are straight chains, some are branching chains and some are rings. The smallest hydrocarbons are colourless gases under normal temperature and pressure. These are small molecules with one, two, three, or four carbon atoms. The smallest is methane (CH₄). It has one carbon atom surrounded by four hydrogen atoms. Natural gas is a mixture of small hydrocarbons – methane (CH₄), ethane (C₂H₆), propane (C₃H₈), and butane (C₄H₁₀). They are used as fuel.

Hydrocarbons with more than four carbon atoms in each molecules are liquid. Crude oil is liquid under normal temperature and pressure. It is a mixture of more than 100 different hydrocarbon molecules. As hydrocarbon molecules get bigger

they have a higher boiling point, so it is possible to separate the hydrocarbons. This happens at the refinery.

Gasoline is a mixture of hydrocarbons with between five and eleven carbon atoms. It burns easily and is an important fuel. It is colourless but we add colour for safety. Naphthas are hydrocarbons with between seven and thirteen carbon atoms. They are clear liquids. We don't use them directly as fuels, but we can change their molecular structure at the refinery to make different fuels. They are important for paints and product that dry quickly. Kerosene, diesel, and oils are mixtures of lager molecules with higher boiling points. The largest hydrocarbons in crude oil are solid. They have more than 50 carbon atoms in long chains. Bitumen (Am E = asphalt) is an example. We use bitumen for building roads.

Question one: Answer the following.

1- Why do we change the hydrocarbons chain through chemical process?

.....

2- How do we get the energy from hydrocarbons?

.....

3- What are the different hydrocarbons lengths and structures?

.....

4- What is Gasoline?

.....

5- What are the two main uses of Naphthas?

.....

(5 POINTS)

Question two: Write T (true) or F (false). (7 POINTS)

- 1- There are three different atoms in hydrocarbons. ()
- 2- Hydrocarbons are useful because they contain a lot of energy. ()
- 3- Natural gas is a mixture of hydrocarbon gases. ()
- 4- Hydrocarbons with five carbon atoms are gases. ()
- 5- Diesel boils at a higher temperature than gasoline. ()
- 6- Naphthas are good fuels. ()
- 7- Bitumen is solid. ()

Question three: Match 1-7 with a-g.(7 POINTS)

- 1- gas -----
- 2- petrol / gasoline -----
- 3- naphtha -----
- 4- kerosene / jet fuel -----
- 5- diesel -----
- 6- lubricating oil -----
- 7- bitumen / asphalt -----

- a- making machine parts move easily. e- fuel for cars
- b- heating buildings and fuel for aircraft f- fuel for cars, lorries, and trains
- c- cooking and heating g- making other products. d- making roads.

Question four : Give short definition for each.(4 POINTS)

1- atom

2- molecule

3- boiling point.....

4- mixture

Question five: Find or give ten different hydrocarbons mentioned in the text and say what they are used for.

The hydrocarbon	Its use

(10 POINTS)

Question Six: (A) Match the words with the numbers.

- | | |
|--------------------|-------------------------------|
| 1 one billion (bn) | a 1,000 |
| 2 one million (m) | b 1,000,000 |
| 3 one trillion | c 1,000,000,000 |
| 4 one thousand | d 1,000,000,000,000(4 POINTS) |

(B) Complete the following.

Number	We say
1,640
.....	three million, four hundred and forty thousand
2.5 billion
.....	five point three billion dollars (4 POINTS)

Question seven: complete these sentences with the correct form of the verbs in brackets.

- 1- Most of the time he _____(sit) behind a desk but this week he _____(get) some practical experience offshore.
- 2- A lot of different nationalities _____(work) in the refinery, so sometimes people _____(have) problems communicating.
- 3- I _____(not understand) how this instrument _____(work).
Can you it to me.

