

*University of the Aegean  
Dept. of Product and Systems Design Engineering*

**EXAMINATION IN ENGLISH**

**June 2011**

**LEVEL II**

*Name:* \_\_\_\_\_

*A.M. :* \_\_\_\_\_

*Date :* \_\_\_\_\_

*Time : 1.5 hours*

- A. **Read the text below about P. Fernandez, a bike designer, and answer the questions that follow in your own words, as briefly as possible.**

**Pedro Fernandez: Bike Maker**

*When I choose a material for a bike frame, I have to think about the properties of the material. How elastic is it? If you bend or stretch it, will it go back to its original shape? If it does, it has high elasticity. How strong is it? There are two kinds of strength. The first is how much force you need to bend it to a point where it can't go back to its original shape. The second is the amount of force you need to break it.*

*Steel is the least expensive choice. There's a wide range of standard gauge tubes available. It's strong and it has good elasticity but it's heavy.*

*Aluminium is light and strong but it's flexible. The more it bends, the quicker it breaks. So aluminium bike frames use large diameter tubes. That limits the amount of bending.*

*Titanium has a great strength-to-weight ratio. It's got good elasticity so when it bends it tends to return to its original shape. It's corrosion-resistant so you don't need to paint it. But it's expensive - fifteen times the price of steel!*

*The professionals use carbon fibre. It's very light and it's very strong. You can shape it any way you like. But carbon-fibre frames are hand-made so they're very expensive.*

1. Why are large diameter tubes used if a bike is made of aluminium?

2. Is titanium a strong and heavy metal?

[N.B.: Mere copying of part(s) of the text will NOT take ANY credits!! Also, any irrelevant or unnecessary information in your answer will be penalized!]

2 ps.

- B. **Fill in the blanks in the following sentences with a suitable word or phrase from the text above in the right form.**

1. It snowed so heavily last week that several branches had been torn from the trees by the \_\_\_\_\_ of the snow.
2. These trousers are available in a wide \_\_\_\_\_ of colours.
3. The \_\_\_\_\_ of female to male students in our Department is 2:1.

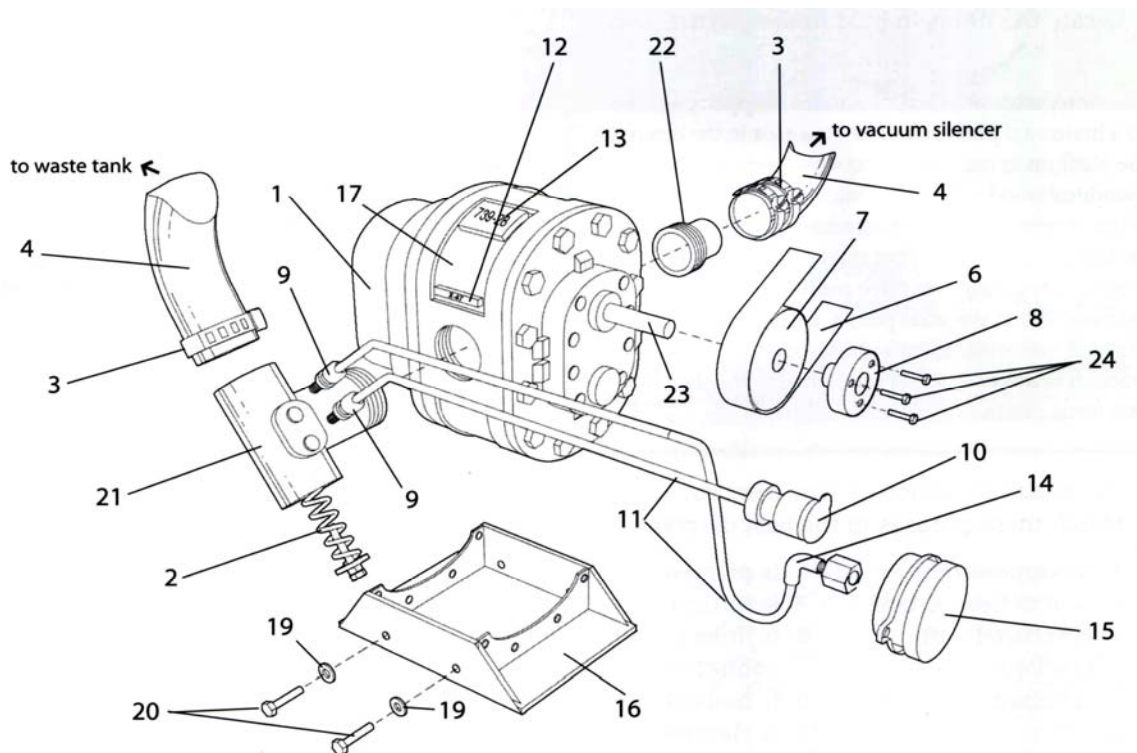
3 ps.

C. Find a suitable word or phrase in the text above for the definitions below.

1. [n.] The gradual destruction of metal by the effect of water, chemicals, etc:  
\_\_\_\_\_
2. [n.] The supporting structure of a piece of furniture , a building, a vehicle, etc. which gives its shape:  
\_\_\_\_\_
3. [n.] A quality, characteristic or power that a substance, material, plant, etc. has:  
\_\_\_\_\_

3 ps.

D. Look at the diagram of a vacuum pump and give the appropriate terms for part numbers: 7, 11, 17 with the help of the definitions below.



1. [no.7] A wheel or set of wheels over which sth. like a rope, chain or other is pulled in order to lift or lower heavy objects:  
\_\_\_\_\_
2. [no.11] A long hollow pipe made of metal, plastic, liquids or gases to go through:  
\_\_\_\_\_
3. [no.17] A flat piece of metal with numbers or words on it, for example on a door or a car:  
\_\_\_\_\_

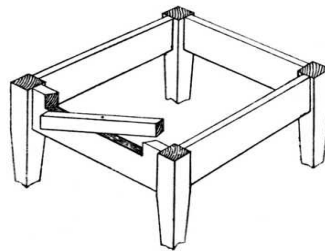
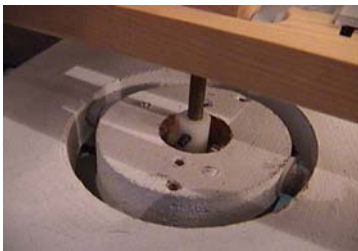
3 ps.

- E. a) Select the appropriate expression from the list below to match with the following pictures and/or diagrams which indicate ways of objects or parts being attached or connected to one another.  
 b) Where necessary, add the missing preposition.

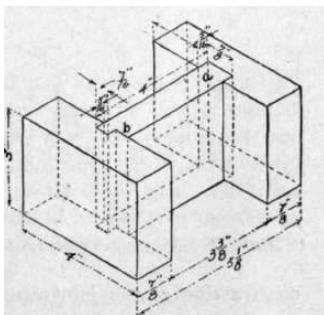
*is suspended*  
*is supported \_\_\_\_\_ sth.*  
*is carved*  
*is pivoted*  
*is bolted \_\_\_\_\_ a surface*

*is secured \_\_\_\_\_ brackets*  
*is stacked*  
*is housed*  
*is attached \_\_\_\_\_ sth./is stuck*  
*is hinged*

*is clamped*  
*is hammered*  
*is tied \_\_\_\_\_ sth.*  
*is chained*  
*is hooked*



1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_



4. \_\_\_\_\_

4 ps.

**F. Give the *appropriate term* for each of the following definitions. They are all related to colors, their properties, etc. [The first letter is given.]**

1. [n.] A small amount of a particular colour (e.g.: *The evening sky was deep pink, with ~s of purple and red in it*) :  
T \_\_\_\_\_
2. [n.] A variety or degree of colour; a particular type (of colour):  
S \_\_\_\_\_
3. [n.] A natural substance that makes skin, hair, plants, etc. a particular colour (e.g.: *Melanin is the dark brown ~ of the hair, skin and eyes*):  
P \_\_\_\_\_

3 ps.

**G. Express the following numbers in words, according to what is indicated in brackets.**

**N.B.:** a) if any of the numbers is expressed differently in *British and American English*, either would be acceptable provided you indicate which language you are using!  
b) for the *Time*, give the conventional, analog way of telling it.

1. [cardinal no.]            13.340.554    :    \_\_\_\_\_
2. [ordinal no.]            212<sup>th</sup>            :    \_\_\_\_\_
3. [bank acc. no.]        826-110097    :    \_\_\_\_\_

3 ps.

## GRAMMAR

A. Below is a list of some adjectives which are commonly used to describe *materials*.

a) Select from the same list the adjective which best conveys the opposite meaning, where this is required.

b) Give the noun form used to describe each property, where this is required.

<u>ADJECTIVE</u>	<u>ADJ./OPPOSITE</u>	<u>NOUN/Property</u>
corrosion-resistant	-	-
comfortable	-	-
<b>flexible</b>	1. _____	2. _____
hard	-	-
plastic	-	-
strong	-	-
rigid	-	-
aerodynamic	-	-
<b>brittle</b>	3. _____	4. _____
tough	-	-
<b>elastic</b>	-	5. _____
malleable	-	-
ductile	-	-
processed	-	-
soft	-	-
cast	-	-
raw	-	-
adhesive	-	-
<b>wear-resistant</b>	-	6. _____
rough	-	-

6 ps.

B. Read the information below about the skateboard and make questions to which the following are the answers.

### *The Skateboard*

*The body of a skateboard is called a “deck”. Plywood is the most common deck material used because it’s light but strong. The front of the board is called the nose and the back is called the tail. The nose and tail are tilted up at a twenty degree angle. These help the skateboarder perform tricks.*

*Fixed to the deck are two metal alloy trucks which connect to the wheels. Some truck alloys contain titanium for strength. The top part of the truck is called the base plate. It's screwed to the deck. The bottom part is called the hanger. It's fixed to the wheels, which are made of polyurethane. The hardness of the wheels varies. Very hard wheels are good for performance but not for rough surfaces. Between the base plate and the hanger are bushings which provide the spring mechanism for turning the board.*

1. \_\_\_\_\_ ?  
A “deck”.
2. \_\_\_\_\_ ?  
For strength.
3. \_\_\_\_\_ ?  
The hardness of the wheels.

3 ps.

*GOOD LUCK!!!*