

Although this sheet includes many questions, it's not exactly past papers such like these of biology or chemistry. The aim of this sheet is giving you an idea about how the questions of the exam will be.

Note that anything written between brackets in this sheet means that's the pointed structure.

### **Laboratory safety:**

Usually the exam has only one question regarding this topic. For example, in our exam last year they asked us to name a tool and it was a Bunsen burner.

### **The Microscope:**

You will be asked many questions about the microscope. Such as:

1. Determining the type of the microscope whether it's a dissecting microscope, a light microscope or whatever, in our exam they asked us about the dissecting microscope.
2. Naming a pointed structure of a microscope.
3. Defining the function of a pointed structure in the microscope, year ago, they asked us to define the function of the arm.
4. Determining the system that includes a pointed structure of a microscope and this kind of questions could be asked by two different ways; the first is asking you to determine the system, the second is Yes or NO question. For instance, the question could be: Is the pointed structure (the arm) from the illuminating system? The answer would be No.
5. They could also ask you about the total magnification of a pointed lens, here you should remember that the total magnification of a 40x lens is 400, <multiplied by ten>.
6. Finally, the exam may contain a question about the method used for the preparation of a slide. I guess you have not taken any methods of preparation except the wet mount method.

### **The Cell:**

This topic also has more than one type of questions:

1. Naming a pointed structure (cell wall) for example.
2. Determining the type or the shape of the bacteria.
3. finally they may ask to determine from where a pointed cell was taken or what this cell is and here you need to keep in mind that if the cell has a cell wall then it must have been taken from onion but if it has a nucleus with no cell wall then it must have been taken from human cheek cells on the other hand if the cell hasn't cell wall nor nucleus then it must have been taken from skin.

## **The macromolecules:**

Usually there are two types of questions first is yes/no question and the second is choosing a number of a tube for ur answer.

Explaining:

Regarding Benedict's test, they may ask you if the tube has a reducing sugar and you should depend on the color to answer so if it has red-brown color your answer will be yes and the opposite is right. Or they may put three tubes and ask you to choose the one with reducing sugar.

What applies on Benedict's is applied also on Lugol, Ninhydrin, Biuret and Sudan red tests.

Just remember the following:

Lugol's test is used for detecting of starch by changing the color into blueish black.

Biuret reaction is concerned with detecting polypeptides by changing the color of its solution into purple.

ninhydrin test is used to detect free amino acid groups by changing the color of the solution into purple or dark blue.

## **The enzymes:**

First the effect of the temperature:

Imagine we have three tubes full of milk with the enzyme rennin number one is at 0 c number 2 is at 37 c and number 3 is at 100, answer these questions:

At which temp the enzyme is optimum or they may ask in which tube? 37, tube number 2

At which temp the enzyme is denatured? 100, tube number 3

Is there any reaction in the third tube? No

Questions regarding PH will be in the same way.

Btw keep in mind that the catechol oxidase is taken from potato,,,,momken el doctor yemza7 m3kom w yjebelkom eah naksh mo5.

## **Physical properties of the cell:**

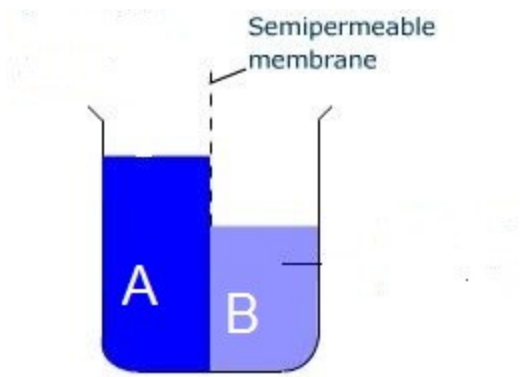
Answer the following questions.

What's the relationship between molecular weight and the rate of diffusion? Inverse

What's the reason of shrinkage of the elodea leaf? Hypertonic solution

What's the reason of swelling of the elodea leaf? Hypotonic solution

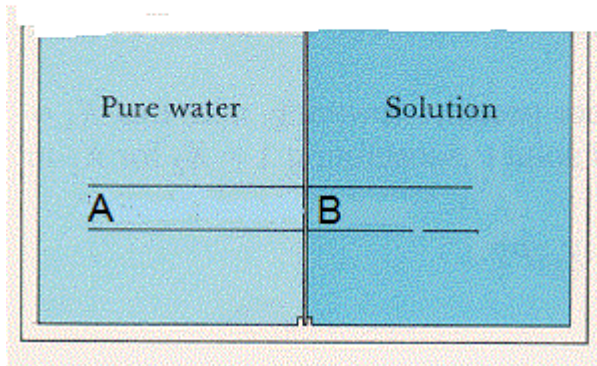
Look at the picture below and answer the following question if the direction of net movement is from B to A.



Which solution has a higher concentration of solute? A

Look at the picture below and answer the following question

what is the direction of the net movement of the water ? from A to B



## Metabolism

The first question I remember is that we saw yeast and the question was what's the biological process? Alcoholic fermentation

The second, you may see an inverted funnel containing elodea and they will ask you to determine the gas which is at the top of the funnel? Sure the answer is oxygen

or you may see a fermentation process and they will ask about the gas? CO<sub>2</sub>

Remember to study the equation page 101 at the top.

**Plant tissues:**

This unit is very important esp. the pictures in the book so it's highly recommended to memorize them.

The question related to this topic is very classical what I mean they will be so clear with no tricks; they will include determining the type of the tissue, defining its function and naming the pointed structures.

For example last year they asked us to define the function of a pointed tissue in two questions (the first was the sclerenchyma and the second is the epidermis), you should also be able to distinguish between monocot or dicot as well as between the phloem and xylem.

Keep in mind that sclerenchyma and xylem are dead tissues if they ask you this question: Does the pointed tissue alive or have a nucleus (sclerenchyma or xylem).

Finally remember that the exam is composed of 25 question, it's a station system meaning that you will have a seat and after 50 seconds or 1 min you will hear a bell ranging so you should move to the next seat and so on. Every seat has only one question.

I tried my best to make this sheet useful for you. however, it was hard to remember sth I study before more than one year.

**Done by:****Ur brother: Ibrahim Al-Akhras**