



**Answer the following question:-**

**Q1:- Write short notes about: (14 marks)**

- 1- Cell membrane
- 2- Cytoskeleton
- 3- Nucleus
- 4- Mitochondria
- 5- Ribosomes
- 6- Endoplasmic reticulum
- 7- Lysosomes

**Q2:- Complete the following statements: (10 marks)**

- 1- ..... Store food, water and wastes.
- 2- .....stacked flattened membranes, store and package proteins
- 3- .....contains genetic cods.
- 4- .....found in the nucleus.
- 5- .....controls movement of materials in and out of nucleus.
- 6- .....gelatin-like inside cell membrane.
- 7- There are two of ER .....and .....
- 8- .....a group of organs working together.
- 9- .....is the basic unit of life.

With best wishes  
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## Answer

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First Term 2014-15  
Third year  
Chemistry branch  
Cell biology 318H  
Time: 1 hour

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### Answer the following question:-

#### Answer Q1:- Write short notes about: (14 marks)

##### 1-Cell membrane:

Outer covering, protective layer around **ALL** cells

For cells with cell walls, the cell membrane is inside the cell wall Allows food, oxygen, & water into the cell & waste products out of the cell.

##### 2-Cytoskeleton

scaffolding-like structure in cytoplasm

helps the cell maintain or change its shape

made of protein

##### 3-Nucleus

Directs all cell activities

Contains instructions for everything the cell does

These instructions are found on a hereditary material called DNA

Usually the largest organelle

##### 4-Mitochondria

Organelles that release energy from food

This energy is released by breaking down food into carbon dioxide

AKA the powerhouse b/c they release energy from food

Some muscle cells have 20,000 mitochondria

### **5—Ribosomes**

Make proteins

Float freely or attached to the endoplasmic reticulum (ER)

Ribosomes are made in the nucleolus

### **6--Endoplasmic reticulum**

A series of folded membranes that move materials (proteins) around in a cell

like a conveyor belt

**Smooth ER** – ribosomes not attached to ER

**Rough ER** – ribosomes attached to ER

### **7-Lysosomes**

The word "lysosome" is Latin for "kill body."

The purpose of the lysosome is to **digest** things. They might be used to digest food or break down the cell when it dies.

Break down food molecules, cell wastes & worn out cell parts

### **Answer Q2:- Complete the following statements: (10 marks)**

- 1- Vacuoles
- 2- Golgi body
- 3- Chromatin
- 4- Nucleolus
- 5- Nuclear membrane
- 6- Cytoplasm
- 7- Smooth ER and Rough ER
- 8- System
- 9- The cell