
 University of Sadat City	Academic Year:	2017-2018	Course Code:	A - 27	Percentage	60%	 GEBRI
			Academic Program:	Master	N. of Exam Papers	2	
	Level:	2 nd term	Department:	Molecular biology	Date:	Saturday 19/ 5/ 2018	
	Course Name:	Cellular Biochemistry	Total score:	60 degrees	Time allowed:	3h	

Instructions of Exam:

Answer the obligatory questions.

1. Use the blue pen and pencil in answer sheet
2. Allow one sheet answer for every student
3. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator ...etc)
4. Is not allowed to use the cell phone or any of its application during the time of exam

The questions are in Two pages

Directions: All Questions are to be answered

I. A. Fill the gap with a suitable words

Total score (10 Marks; 2 Marks for each)



1. Two sugars found in nucleic acids are and
2. A sodium – potassium membrane pump pumpsout of the cell and pumps into the cell.
3. Interphase consists of what part of the cell cycle, and
4. During which phase of the cell cycle does cell division occur
5. When a cell bursts due to osmosis, it is in a solution that is

I. B. For each question, choose the ONE BEST answer

Total score (10 Marks; 2 Marks for each)

1. If a cell has a solute concentration of 0.07% which of the following solutions would be hypotonic to the cell
 - A. 0.01% solute.
 - B. 0.1% solute.
 - C. 1% solute.
 - D. 10% solute.
2. How do fat – soluble molecules normally get into a cell?
 - A. They dissolve in the fat layers of the membrane and enter the cell by diffusion.
 - B. They pass through protein pores in the cell membrane.
 - C. They are absorbed by phagocytosis.
 - D. They never get into a cell.
3. This type of solution makes a cell to shrink and go smaller.
 - A. Hypertonic solution.
 - B. Hypotonic solution.
 - C. Isotonic solution.
4. Diffusion of water across cell membrane is called.
 - A. Osmosis.
 - B. Diffusion.
 - C. Active transport.
5. Movement across the membrane of a cell that requires energy is called
 - A. Active transport.
 - B. Passive transport.
 - C. Facilitated transport.

Professor of Course	<i>Pro. Dr./ Khaled Bassiony</i>	Course coordinator	<i>Pro. Dr./ Khaled Bassiony</i>
Staff Course	<i>Dr./ Mohamed Younis</i>	Department Head	<i>Pro. Dr./ Samir El-Masry</i>

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II. Give full details about the following questions

Total score (20 Marks; 10 Marks for each)

1. Eukaryotic cell mitosis. (illustrate with drawing)
2. Define the types of cellular membrane transport and explain how do diffusion through ion channels and endocytosis take place? (illustrate with drawing)

III. Write short notes about

Total score (20 Marks; 4 Marks for each)

1. Biological significance of carbohydrates and lipids.
2. Chemical composition of the cell membranes.
3. The fluid mosaic model of the cell membrane. (illustrate with drawing)
4. DNA replication fork of *Escherichia coli*. (illustrate with drawing)
5. Lipid asymmetry in leaflets of the cell membrane. (illustrate with drawing)

Good Luck & Best wishes.....

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