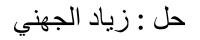
# **PRACTICE QUESTIONS**

## **Chapter 3**

1<sup>st</sup> Semester 1441 / 2019-2020 41 Slides

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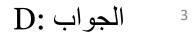


**Prokaryotic cells are characterized by having:** 

- A. No membrane-bound organelles
- B. No nucleus
- C. DNA in an unbound region called the nucleoid
- **D.** All of the above

# Which of the following is not considered part of the endomembrane system?

- A. Nuclear envelope
- B. ER
- C. Golgi apparatus
- D. chloroplast



## Which of the following structures is common to plant *and* animal cells?

•

- A. Chloroplast
- B. Mitochondria
- C. wall made of cellulose
- **D. Central Vacuole**

## Which of the following are not in animal cells?

- A. Chloroplast
- **B.** Central Vacuole
- C. Cell wall
- **D.** All of the above

## Which of the following is present in a prokaryotic cell?

- A. Mitochondrion
- **B.** Nucleic acid
- C. Nuclear envelope
- **D.** Chloroplast

#### B الجواب: B ايضا يوجد Ribosome

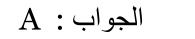
## **Chromatin is:**

## A. DNA+ protein

#### **B. RNA+ protein**

#### C. DNA

#### D. RNA



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Nuclear envelope

- A. surrounds nucleus
- **B.** composes of two layers
- **C.** Has pores for nuclear traffic
- **D.** all of the above

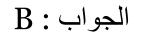
#### Which cellular organelle contains enzymes that are considered digestive?

A. Golgi Apparatus

**B.** Lysosomes

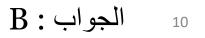
**C.** Nucleus

**D. Ribosomes** 



#### Most of the green colour of plants is due the presence of

- A. a pigment called Carotene
- **B. a pigment called Chlorophyll**
- C. a nucleic acid called DNA
- **D.** a sugar called cellulose



#### The extracellular matrix in animal cell membrane is made of

## A. Cellulose

## **B.** collagen fibers

## C. Chitin

D. all of the above

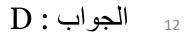
## What controls the entry and exit of molecules in cell?

## A. Nucleus

## **B.** Ribosomes

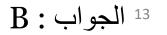
## C. DNA

#### **D.** Plasma membrane



#### Both mitochondria and chloroplasts possess a

- A. single membrane
- **B. double membrane**
- C. three-layered membrane
- **D. four-layered membrane**



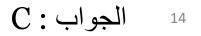
## The nucleolus is the site of synthesis for

## A. Proteins

B. lipids

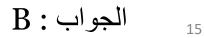
## C. rRNA

D. all of the above



## The powerhouse of a cell is the \_\_\_\_\_

- A. Chloroplasts
- **B.** Mitochondria
- C. Golgi apparatus
- **D.** Lysosomes



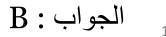
Plant cell wall is mainly made up of \_\_\_\_\_\_.

A. Collagen

**B.** Cellulose

C. Starch

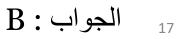
**D. Nuclic acid** 



#### **Organelle called the membrane's factory for the cell?**

## A. Lysosomes

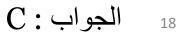
- **B.** Rough ER
- C. Smooth ER
- D. Cell wall



#### is not a component of the endomembrane system?

## A. Plasma membrane

- **B.** Lysosome
- C. Mitochondria
- **D.** Golgi apparatus



## Organelle that accounts for more than half of total cell's membranes is?

A. Endoplasmic reticulum

**B.** Lysosome

C. Plasma membrane

**D. Golgi apparatus** 

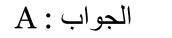
#### **One of Smooth ER functions**

A. Lipids synthesis

**B.** Protein synthesis

**C.** Making membrane

**D.** None of the above



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Which of the following type of microscope is used to study the external structure of the cell?

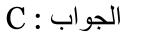
- A. Light Microscope
- **B.** Scanning electron microscope
- **C.** Transmission electron microscopes
- **D.** None of the above

"TEM" refers to a micrograph taken by a \_\_\_\_\_.

- A. Light microscope
- **B.** Transmission electron microscope
- C. Scanning electron microscope
- D. Scanning-probe microscope

Which of the following organelles is most easily observed with a light microscope?

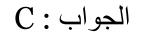
- A. Ribosomes
- **B.** Golgi bodies
- C. Nucleus
- **D.** Lysosomes



### are the site of protein synthesis in the cytoplasm.

## A. Smooth endoplasmic reticulum

- **B.** Golgi apparatus
- C. Ribosomes
- **D.** Lysosomes



\_\_\_\_\_\_ function(s) include the packaging, storage, and distribution of molecules produced by the ER.

- A. Golgi apparatus
- B. Rough endoplasmic reticulum
- C. Smooth endoplasmic reticulum
- D. mitochondria

#### Which statement is INCORRECT about cilia and flagella ?

- A. They are extracellular structures
- **B.** They are made of microtubules
- C. They have a rotational movement
- D. All

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## In an animal cells, DNA may be found in the

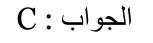
- A. Nucleus only.
- **B.** Nucleus and mitochondria.
- C. Nucleus and chloroplasts.
- D. Nucleus, chloroplasts and mitochondria

Found only in eukaryotic cells.

- A. Flagella
- B. Cilia
- C. A and B
- **D.** None of them

Which part of the endomembrane system packages proteins for secretion from the cell?

- A. Nucleus
- B. Lysosome
- C. Golgi apparatus
- **D. Central vacuole**



#### Additional membrane is synthesized in which part of the cell?

- A. Nucleus
- B. Rough endoplasmic reticulum
- C. Smooth endoplasmic reticulum
- D. Golgi apparatus

#### Which of these organelles contains digestive enzymes?

- A. Golgi apparatus
- **B.** Lysosomes
- C. Nucleus
- **D.** Ribosomes

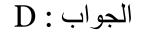
Which organelle helps a cell convert light energy into energy-rich carbohydrates?

- A. Chloroplast
- **B.** Mitochondrion
- C. Peroxisome
- **D.** Golgi apparatus

#### The fundamental units of life are called:

## A. proteins.

- B. genes.
- C. nucleotides.
- D. cells.



Which of these statements about microscopes is correct?

- A. A light microscope can be used to view the inside of prokaryotic cells.
- B. An electron microscope can magnify up to 100,000 times.
- C. A scanning electron microscope is used to study the internal structure of the cell
- D. Electron microscopes can resolve structures as small as 2 mm.
  B: الحواب <sup>34</sup>

#### **Prokaryotic cells:**

#### A. are complex and larger than eukaryotic cells.

B. are members of the domain Eukarya.

C. are simple and usually smaller than eukaryotic cells.

**D. contain organelles.** 

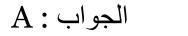
Which of these are not found in prokaryotic cells:

A. Nucleus

**B.** Capsule

C. Nucleoid

D. Cell wall



#### Which of the these statements about eukaryotic cells is correct?

- A. Eukaryotic cells do not contain DNA.
- B. Most of the DNA in a eukaryotic cell is found in the nucleus.
- C. Eukaryotic DNA is found only in mitochondria and chloroplasts.
- D. Most of the DNA in a eukaryotic cell is found in the nucleoid.

#### Which of these is not found in a eukaryotic cell?

- A. Nucleoid
- **B.** Chloroplast
- C. Mitochondria
- **D. Vacuole**

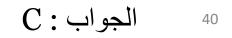
Nucleoid = Capsule A : الجواب 38

#### Which of these is found in all eukaryotic and prokaryotic cells?

- A. Nucleus
- **B.** Nucleoid
- **C.** Chloroplasts
- D. Plasma membrane

Which of these are not examples of eukaryotic cells?

- A. Plants
- B. Fungi
- C. Archaea
- **D.** Animals



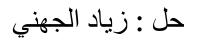
Which of these are components of animal cells?

- A. Cell wall, nucleus, lysosome
- B. Cell wall, plasma membrane, mitochondrion
- C. Plasma membrane, vacuole, chloroplast
- D. Plasma membrane, mitochondrion, lysosome

# **PRACTICE QUESTIONS**

# **Chapter 4**

1<sup>st</sup> Semester 1441 / 2019-2020 50 Slides



The plasma (cell) membrane proteins can function in:

A. cell-cell recognition and communication

**B. transport** 

C. enzyme activity

D. all the above are correct



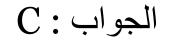
# Which of the following molecules crosses (passes) plasma (cell) membrane easily?

A. Amino acid

**B. glucose** 

C. oxygen (O<sub>2</sub>)

**D. cellulose** 



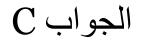
#### In plants water is absorbed by the root hairs by a process called:

A. Respiration

**B.** Photosynthesis

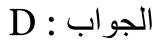
C. Osmosis

**D.** Diffusion



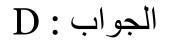
Process of Endocytosis can occur through \_\_\_\_\_\_

- A. Phagocytosis
- **B.** Pinocytosis
- **C.** receptor-mediated endocytosis
- D. all of the above



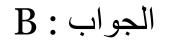
### Exocytosis is a mechanism used by the cell to \_\_\_\_\_

- A. import molecules useful to the cell
- **B.** Generation of ATP
- **C.** Recycle the damaged organelles
- **D.** Export molecules out of the cell



Large solid particles enter the cell by a process called:

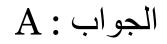
- A. Exocytosis
- **B.** Phagocytosis
- C. Pinocytosis
- **D. Hydrolysis**



### The cell's energy "currency" is:

A. ATP B. ADP C. Kcal

D. GTP



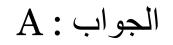
Pinocytosis is a type of \_\_\_\_\_\_

**A.Endocytosis** 

**B. Exocytosis** 

**C. Simple diffusion** 

**D. Facilitated diffusion** 



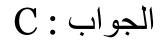
Energy of movement is referred to as \_\_\_\_\_\_ energy.

A. Potential

**B.** heat or thermal

**C. Kinetic** 

**D. electrical** 



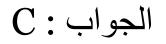
# The study of energy relationships and their exchanges is called \_\_\_\_\_.

**A.Photosynthesis** 

**B.** Metabolism

**C.** Thermodynamics

**D. Oxidation** 



# The \_\_\_\_\_ law of thermodynamics states that energy is constant, can neither be created nor destroyed.

A. First

**B. Second** 

C. Third

**D. Fourth** 

الجواب : A

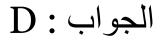
**Adenosine Triphosphate is** 

A. an enzyme

B. a coenzyme

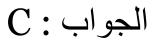
C. a hormone

D. a molecule with high energy for cellular work



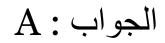
Which one of the following statement is TRUE about diffusion?

- A. It involves only movement of solvent molecules.
- B. It occurs when particles move from a region of lower concentration to a region of higher concentration
- C. It does not require a semi-permeable membrane
- **D.** All of the above



### The Cell membrane phospholipids have a \_\_\_\_\_head and two \_\_\_\_\_tails.

- A. Hydrophilic& hydrophobic
- **B. Hydrophobic& hydrophilic**
- C. Hydrophilic& hydrophilic
- D. Hydrophobic& hydrophobic



#### Most enzymes are:

## A. nucleic acids

# **B. proteins**

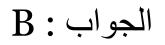
C. lipids

**D. carbohydrates** 

الجواب : B

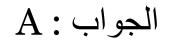
\_\_\_\_\_ is a biological process, which uses ATP to pump molecules AGAINST/UP the concentration gradient.

- A. Passive Transport
- **B. Active Transport**
- C. Osmosis
- **D.** Facilitated diffusion



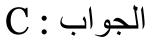
\_\_\_\_\_ is the net movement of molecules from a region of higher concentration to a region of lower concentration.

- A. Passive transport
- **B.** Osmosis
- C. Active transport
- **D.** Pinocytosis



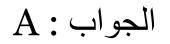
#### Which statement is CORRECT about osmosis?

- A. It occurs only across a semi-permeable membrane
- B. Water travels from a solution of lower solute concentration to a solution of higher solute concentration
- C. A+b
- **D.** None of the above



ATP is composed of adenine (a nitrogenous base), ribose (a five-carbon sugar), and \_\_\_\_\_\_.

- A. Three phosphate groups
- B. Two phosphate groups
- C. One phosphate groups
- **D.** None of the above



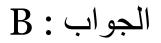
#### What is the energy?

- A. The amount of food eaten
- **B.** The capacity to perform work
- C. Movement
- **D.** The capacity to produce heat

الجواب : B

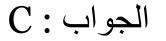
Which of the following describes the fluid-mosaic model of the plasma membrane structure?

- A. Phospholipid monolayer with embedded proteins
- **B.** Phospholipid bilayer with embedded proteins
- C. Phospholipid trilayer with embedded proteins
- **D.** Triglyceride bilayer with embedded proteins



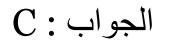
A dye is dissolved in water. The \_\_\_\_\_ is the solute and the solvent is the \_\_\_\_\_ molecules and the process is called\_\_\_\_\_.

- A. Water, dye, diffusion
- B. Dye, water, osmosis
- C. Dye, water, diffusion
- D. Water, Dye, diffusion



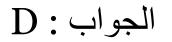
#### Which of the following is not a cofactor

- A. copper
- B. Zink
- C. NAD
- D. Iron



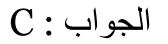
#### Which of the following crosses lipid bilayer the fastest?

- A. Sodium Ion
- **B.** Water
- C. Glucose
- D. Oxygen



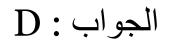
Lipid-soluble molecules and gases enter the cell by \_\_\_\_\_.

- A. Diffusion through the channel proteins
- **B.** Osmosis through the channel proteins
- C. Diffusion through the lipid bilayer
- **D.** Osmosis through the lipid bilayer



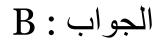
When water moves from an area of lower solute concentration to an area of higher solute concentration- the process is called:

- A. Facilitated diffusion
- **B.** Diffusion
- C. Active transport
- **D.** Osmosis



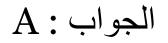
### What allows water to move much faster across membranes?

- A. Osmosis
- **B.** Aquaporins
- **C.** Cholesterol
- **D. Active transport**



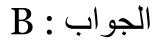
# Which of these molecules can NOT pass through a membrane to enter a cell?

- A. Starch
- **B.** Glucose
- C. Oxygen
- D. Carbon dioxide



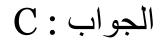
# Which of these molecules CAN NOT pass through a plasma membrane easily?

- A. Water
- B. Glycogen
- C. Oxygen
- D. Triglyceride



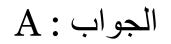
# Which of the following is NOT a type of passive transport?

- **A. Facilitated Diffusion**
- **B.** Osmosis
- C. Endocytosis
- **D.** Diffusion



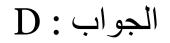
The aroma of a cake baking in the kitchen reaches the living room. The distribution of this odor throughout the house is an example of:

- A. Simple Diffusion
- **B.** Dialysis
- C. Osmosis
- **D. Active Transport**



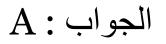
The concentration of water is higher in the soil than in plant root cells. Water moves into root cells of a plant by...

- **A. Facilitated Diffusion**
- **B. Simple Diffusion**
- **C. Active Transport**
- **D.** Osmosis



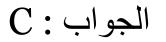
Molecules diffusing with the concentration gradient (from high to low concentration) through a protein channel is...

- A. Facilitated Diffusion
- **B. Simple Diffusion**
- C. Active Transport
- D. Osmosis



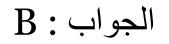
# Which of the following is moved across the plasma membrane by facilitated diffusion?

- **A. CO**<sub>2</sub>
- **B.** Amino acids
- C. Na<sup>+</sup>
- **D. O**<sub>2</sub>



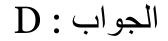
Carbon Dioxide is in high concentration in the body cells and moves with the concentration gradient (from high to low concentration) into the blood stream by this process...

- **A. Facilitated Diffusion**
- **B. Simple Diffusion**
- **C. Active Transport**
- **D.** Osmosis



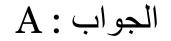
Osmosis is the movement of \_\_\_\_\_\_ across a membrane.

- A. Food
- **B.** Energy
- C. Oxygen
- **D. Water**



#### The plasma membrane is ...

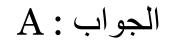
- A. selectively permeable
- **B. very permeable**
- C. not permeable
- **D. rarely permeable**



#### What is embedded in the phospholipids bilayer?

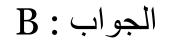
#### A. proteins

- B. salt
- C. Water
- **D.** Nucleic acids



#### What does "bilayer" mean?

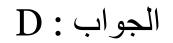
- A. one layer
- **B. two layers**
- C. laminated
- **D. bilatera**



The movement of water across a selectively permeable membrane without the use of any energy is called

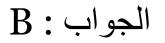
A. Endocytosis

- **B. Exocytosis**
- **C. Active transport**
- **D.** Osmosis



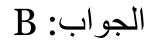
Charged ions are traveling through PROTEIN CHANNELS in the cell membrane with the concentration gradient.

- A. Simple diffusion
- **B.** Facilitated diffusion
- C. Active transport
- D. osmosis



For water to travel across the cell membrane at a significant rate, the water molecules travel through PROTEIN CHANNELS known as aquaporins.

- A. Simple diffusion
- **B.** Facilitated diffusion
- C. Active transport
- **D. Endocytosis**



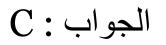
Which of the following transport processes will utilize the Golgi apparatus?

- A. Osmosis
- **B.** Pinocytosis
- C. Phagocytosis
- **D. Exocytosis**



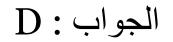
#### oxygen enters the blood in the lungs by the process of \_\_\_\_\_.

- A. active transport
- **B.** Osmosis
- **C.** Simple Diffusion
- **D.** facilitated diffusion



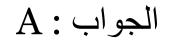
#### which of the following transport processes will form a vesicle?

- A. Facilitated diffusion
- **B.** Osmosis
- C. Active transport
- **D.** Phagocytosis



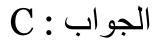
Which of the following is not an active method where molecules pass across the plasma membrane?

- A. Facilitated diffusion
- **B.** Active transport
- C. Endocytosis
- **D. Exocytosis**



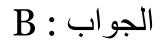
Proteins that speed up reactions by reducing the activation energy without being consumed in the reaction:

- A. Cofactors
- **B.** Receptors
- C. Enzymes
- **D.** Hormones



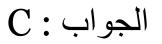
#### Where the substrate binds to the enzyme?

- A. Cofactor
- **B.** Active site
- C. Passive site
- D. Coenzyme



The roots of a plant contain a high concentration of minerals and the soil contains a lower concentration. The roots absorb minerals from the soil. This is an example of:

- A. Facilitated diffusion
- **B.** Osmosis
- C. Active transport
- **D. Simple diffusion**

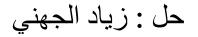


### **PRACTICE QUESTIONS**

### **Chapter 5 – How cells harvest chemical energy**

1<sup>st</sup> Semester 1441 / 2019-2020 46 Slides

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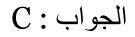


#### Which one of the following is true?

- A. Cellular respiration occurs in mitochondria and in chloroplasts.
- **B.** Cellular respiration occurs in mitochondria
- C. Photosynthesis occurs in mitochondria
- D. Photosynthesis occurs in mitochondria and in chloroplasts

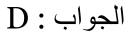
#### Which of these is a product of glycolysis from one glucose molecule?

- A. 1 ATP
- B. 32 ATP
- C. 2 pyruvate
- D. 1 pyruvate



#### The process of cellular respiration involves \_\_\_\_\_\_reactions

- A. Hydrolysis and Oxidation
- **B.** Oxidation and Dehydration
- C. Reduction and Hydrolysis
- **D.** Reduction and Oxidation



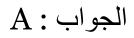
#### **Glycolysis yields how many ATP?**

A. 2

**B.** 4

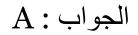
**C. 28** 

D. 32



#### **Glycolysis takes place in the:**

- A. cytoplasm
- **B.** chloroplast
- C. mitochondrion
- D. nucleus.



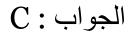
Which of these is the correct sequence of stages in aerobic cellular respiration?

- A. The Calvin Cycle, The Citric Acid Cycle, Glycolysis
- B. Glycolysis, The Citric Acid Cycle, Oxidative Phosphorylation
- C. Krebs Cycle, Glycolysis, Oxidative Phosphorylation
- D. Glycolysis, The Calvin Cycle, Oxidative Phosphorylation

الجواب : B

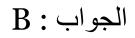
#### **Citric Acid Cycle takes place in the:**

- A. cytoplasm
- **B.** chloroplast
- C. mitochondrion
- D. nucleus.



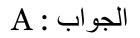
#### Which of the following is a product of oxidative phosphorylation?

- A. Pyruvate
- **B.** Water
- C. Oxygen
- D. Carbon dioxide



#### What is another name for the citric acid cycle?

- A. The Krebs cycle
- **B.** Anaerobic respiration
- **C.** Mitochondrial matrix
- D. The Calvin cycle



## After the citric acid cycle, how many ATP has the cell gained from metabolism of one glucose?

#### A. 32

**B.** 4

**C. 28** 

**D.** 2

Which of these does the citric acid cycle provide for the final stage of aerobic cellular respiration?

A. oxygen

**B.** Neutrons

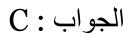
C. Carbon dioxide

**D. Electrons** 

الجواب : D

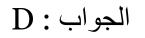
#### **Oxidative phosphorylation takes place in the:**

- A. nucleus
- **B.** mitochondrial matrix
- C. inner mitochondrial membrane
- D. cytoplasm.



#### **Aerobic means:**

- A. "without light "
- B. "without oxygen"
- C. "with light"
- D. "with oxygen"

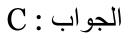


#### Which of the following statements is FALSE?

- A. Krebs cycle is also called citric acid cycle
- **B.** Krebs cycle produces 2 ATP
- C. Krebs cycle occurs in the cytoplasm
- D. Krebs cycle supplies the third of cellular respiration with electrons

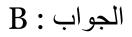
#### What is the role of oxygen in cellular respiration?

- A. It is reduced in glycolysis
- B. It combines with  $CO_2$
- C. It is the final acceptor of electrons
- D. It is required for the production of heat and light



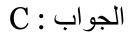
#### In glycolysis, the break down of glucose results in:

- A. NADPH
- **B. 2 ATP**
- C. CO<sub>2</sub>
- **D. O**<sub>2</sub>



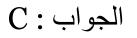
# The net result of the breakdown of glucose in glycolysis and fermentation is the production of:

- A. 32 ATP
- **B. 4 ATP**
- C. 2 ATP
- D. NADH, FADH<sub>2</sub>, and ATP



In the presence of oxygen, all cells synthesize ATP via the process of glycolysis. Many cells also can metabolize pyruvate if oxygen is not present, via the process of:

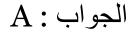
- A. Oxidative phosphorylation
- **B.** Electron transport chain
- C. Fermentation
- **D.** Photophosphorylation



Single-celled eukaryotic microorganisms that are able to ferment under anaerobic conditions are called :

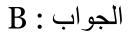
A. Yeasts.

- B. Molds
- C. Bacteria
- **D.** Protists



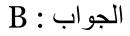
# Which stage of aerobic respiration produces ATP and NADH and releases CO<sub>2</sub>?

- A. glycolysis
- **B.** Krebs cycle
- **C.** Fermentation
- **D.** None of the above



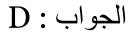
### In aerobic respiration carbohydrates are ultimately broken down into:

- A. acetyl-CoA
- **B. CO**<sub>2</sub>
- C.  $H_2O$
- **D.** Pyruvate



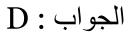
### Most ATP produced in aerobic respiration occurs in the process of:

- A. glycolysis
- B. Calvin cycle
- C. the Krebs cycle
- **D.** Oxidative phosphorylation



## Which stage of aerobic respiration requires CO<sub>2</sub>?

- A. Glycolysis
- **B.** Krebs cycle
- **C.** Fermentation
- **D.** None of the above



### Which of these are produced using the lactate fermentation?

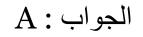
- A. Cheese and yogurt
- B. Meat and fish
- C. Bread and bakery products
- **D. Fruit and vegetables**

واذا كتب alcohol بدل lactate بيكون الجواب C

الجواب: A

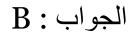
### The final output of the Krebs cycle includes all of the following except:

- A. NADPH
- B. FADH<sub>2</sub>
- C. ATP
- D. CO<sub>2</sub>



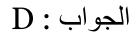
### **Cramps during exercise might be caused by:**

- A. Alcohol fermentation
- **B.** Lactic acid fermentation
- C. Glucose
- **D.** Glycolysis



### Which one of the following is not a source of energy for the cell?

- A. Carbohydrates
- B. Fats
- C. Proteins
- **D.** Minerals

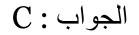


### Which of the following is the unit of energy?

### A. ATP

- B. ADP
- C. Kcal

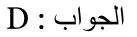
### D. NADH



Question 29

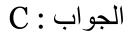
### generates the most of ATP.

- A. Glycolysis
- **B.** Krebs cycle
- C. Alcohol fermentation
- **D.** Oxidative phosphorylation



### Fats make excellent cellular fuel because they contain \_\_\_\_\_atoms.

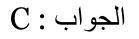
- A. Oxygen
- B. Nitrogen
- C. Hydrogen
- **D.** Phophorus



# **PRACTICE QUESTIONS : Photosynthesis**

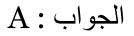
# Which of the following is not required during photosynthesis?

- A. Water
- **B.** Carbon dioxide
- C. Oxygen.
- D. Light



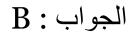
## The first stage of photosynthesis takes place in the\_\_\_\_\_

- A. Thylakoids.
- B. Grana
- C. Stomata
- **D. Stroma**



# During what stage of photosynthesis is O<sub>2</sub> produced?

- A. Carbon fixation
- **B.** Light dependent reactions.
- C. Light independent reactions
- D. Calvin cycle

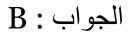


### In the process photosynthesis

- A. Carbon dioxide and water are oxidised
- **B.** Carbon dioxide is reduced and water is oxidized.
- C. Carbon dioxide and water are reduced
- **D.** Carbon dioxide is oxidized and water is reduced

\_absorb excessive light that would damage chlorophyll

- A. Hemoglobin
- **B.** Carotenoids
- C. Melanine
- D. Bilirubin



# ATP is \_\_\_\_\_

- A. required for the Calvin cycle.
- B. a product of the Calvin cycle
- **C.** required for the light reactions
- D. not required during photosynthesis

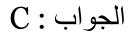
#### الجواب : A

# The Calvin cycle occurs in the \_\_\_\_\_of the chloroplast.

- A. Stroma.
- B. Stoma
- C. Thylakoid
- D. The inner mitochondrial membrane

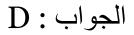
In the light reactions, solar energy is converted to chemical energy stored in both ATP and \_\_\_\_\_.

- A. AMP
- B. ADP
- C. NADPH.
- D. NADH



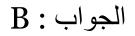
### Photosynthesis is a \_\_\_\_\_Process.

- A. Reduction-dehydration
- **B.** Redox
- C. Oxidation-reduction
- D. B+C



In the leaf, the CO<sub>2</sub> enters and the oxygen is released through\_\_\_\_\_

- A. Stroma
- B. Stoma
- C. Granum
- **D.** Epidermis



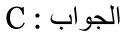
# Which of the following is a coenzyme specific to photosynthesis?

- A. AMP
- **B.** ADP
- C. NADPH.
- D. NADH

الجواب : C

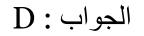
# During light reactions, NADP<sup>+</sup> is \_\_\_\_\_to NADPH and H<sup>+</sup>

- A. Oxidised
- **B.** Phosphorylated
- C. Reduced
- D. Hydrolysed



The Calvin cycle begins with \_\_\_\_\_ incorporating CO<sub>2</sub> into organic molecules Sugar.

- A. Glucose oxidation
- **B.** Water reduction
- C. Water oxidation
- **D.** Carbon fixation



### Both carotenoids and chlorophyll are \_\_\_\_\_

- A. Coenzymes
- **B.** Organelles
- C. Pigments
- **D.** Cofactors

الجواب : C