PRACTICE QUESTIONS

Chapter 3

1st Semester
1441 / 2019-2020
41 Slides

حل : زياد الجهني

Question 1

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

الجواب : D

Question 2

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

A. Nuclear envelope

B. ER

C. Golgi apparatus

D. chloroplast

الجواب: D

Question 3

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

A. **Chloroplast**

B. **Mitochondria**

C. **wall made of cellulose**

D. **Central Vacuole**

الجواب : B

Question 4

Which of the following are not in animal cells?

A. Chloroplast

B. Central Vacuole

C. Cell wall

D. All of the above

الجواب : D

Question 5

Which of the following is present in a prokaryotic cell?

A. **Mitochondrion**

B. **Nucleic acid**

C. **Nuclear envelope**

D. **Chloroplast**

الجواب : B ايضا يوجد Ribosome

Question 6

Chromatin is:

A. DNA+ protein

B. RNA+ protein

C. DNA

D. RNA

الجواب : A

Question 7

Nuclear envelope

A. surrounds nucleus

B. composes of two layers

C. Has pores for nuclear traffic

D. all of the above

الجواب : D

Question 8

Which cellular organelle contains enzymes that are considered digestive?

A. Golgi Apparatus

B. Lysosomes

C. Nucleus

D. Ribosomes

الجواب : B

Question 9

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

الجواب : B

Question 10

The extracellular matrix in animal cell membrane is made of

A. Cellulose

B. collagen fibers

C. Chitin

D. all of the above

الجواب : B

Question 11

What controls the entry and exit of molecules in cell?

A. Nucleus

B. Ribosomes

C. DNA

D. Plasma membrane

الجواب : D

Question 12

Both mitochondria and chloroplasts possess a

A. single membrane

B. double membrane

C. three-layered membrane

D. four-layered membrane

الجواب : B

Question 13

The nucleolus is the site of synthesis for

A. Proteins

B. lipids

C. rRNA

D. all of the above

الجواب : C

Question 14

The powerhouse of a cell is the _____.

A. Chloroplasts

B. Mitochondria

C. Golgi apparatus

D. Lysosomes

الجواب : B

Question 15

Plant cell wall is mainly made up of _____.

A. Collagen

B. Cellulose

C. Starch

D. Nuclic acid

الجواب : B

Question 16

Organelle called the membrane's factory for the cell?

A. Lysosomes

B. Rough ER

C. Smooth ER

D. Cell wall

الجواب : B

Question 17

_____is not a component of the endomembrane system?

A. Plasma membrane

B. Lysosome

C. Mitochondria

D. Golgi apparatus

الجواب : C

Question 18

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

A. Endoplasmic reticulum

B. Lysosome

C. Plasma membrane

D. Golgi apparatus

الجواب : A

Question 19

One of Smooth ER functions

A. Lipids synthesis

B. Protein synthesis

C. Making membrane

D. None of the above

الجواب : A

Question 20

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**

الجواب : B

Question 21

"TEM" refers to a micrograph taken by a _____.

A. **Light microscope**

B. **Transmission electron microscope**

C. **Scanning electron microscope**

D. **Scanning-probe microscope**

الجواب : B

Question 22

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

A. **Ribosomes**

B. **Golgi bodies**

C. **Nucleus**

D. **Lysosomes**

الجواب : C

Question 23

_____ are the site of protein synthesis in the cytoplasm.

A. **Smooth endoplasmic reticulum**
B. **Golgi apparatus**
C. **Ribosomes**
D. **Lysosomes**

الجواب : C

Question 24

_____ 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

الجواب : A

Question 25

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

الجواب : C

Question 26

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**

الجواب : B

Question 27

Found only in eukaryotic cells.

A. **Flagella**

B. **Cilia**

C. **A and B**

D. **None of them**

الجواب : B

Question 28

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

A. Nucleus

B. Lysosome

C. Golgi apparatus

D. Central vacuole

الجواب : C

Question 29

Additional membrane is synthesized in which part of the cell?

A. Nucleus

B. Rough endoplasmic reticulum

C. Smooth endoplasmic reticulum

D. Golgi apparatus

الجواب : B

Question 30

Which of these organelles contains digestive enzymes?

A. Golgi apparatus

B. Lysosomes

C. Nucleus

D. Ribosomes

الجواب : B

Question 31

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

A. **Chloroplast**

B. **Mitochondrion**

C. **Peroxisome**

D. **Golgi apparatus**

الجواب : A

Question 32

The fundamental units of life are called:

A. **proteins.**

B. **genes.**

C. **nucleotides.**

D. **cells.**

الجواب : D

Question 33

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.

الجواب : B

Question 34

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.

الجواب : C

Question 35

Which of these are not found in prokaryotic cells:

A. Nucleus

B. Capsule

C. Nucleoid

D. Cell wall

الجواب : A

Question 36

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.

الجواب : B

Question 37

Which of these is not found in a eukaryotic cell?

A. **Nucleoid**

B. **Chloroplast**

C. **Mitochondria**

D. **Vacuole**

Nucleoid = Capsule

الجواب : A

Question 38

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

A. **Nucleus**

B. **Nucleoid**

C. **Chloroplasts**

D. **Plasma membrane**

الجواب : D

Question 39

Which of these are not examples of eukaryotic cells?

A. Plants

B. Fungi

C. Archaea

D. Animals

الجواب : C

Question 40

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

الجواب : D

PRACTICE QUESTIONS

Chapter 4

1st Semester
1441 / 2019-2020
50 Slides

حل : زياد الجهني

Question 1

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

نعم

الجواب D

Question 2

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

A. Amino acid

B. glucose

C. oxygen (O_2)

D. cellulose

الجواب : C

Question 3

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

A. Respiration

B. Photosynthesis

C. Osmosis

D. Diffusion

الجواب C

Question 4

Process of Endocytosis can occur through _____.

A. Phagocytosis

B. Pinocytosis

C. receptor-mediated endocytosis

D. all of the above

الجواب : D

Question 5

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

الجواب : D

Question 6

Large solid particles enter the cell by a process called:

A. Exocytosis

B. Phagocytosis

C. Pinocytosis

D. Hydrolysis

الجواب : B

Question 7

The cell's energy "currency" is:

A. ATP

B. ADP

C. Kcal

D. GTP

الجواب : A

Question 8

Pinocytosis is a type of _____.

A.Endocytosis

B. Exocytosis

C. Simple diffusion

D. Facilitated diffusion

الجواب : A

Question 9

Energy of movement is referred to as _____ energy.

A. Potential

B. heat or thermal

C. Kinetic

D. electrical

الجواب : C

Question 10

The study of energy relationships and their exchanges is called _____.

A.Photosynthesis

B. Metabolism

C. Thermodynamics

D. Oxidation

الجواب : C

Question 11

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

Question 12

Adenosine Triphosphate is

A. an enzyme

B. a coenzyme

C. a hormone

D. a molecule with high energy for cellular work

الجواب : D

Question 13

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

الجواب : C

Question 14

The Cell membrane phospholipids have a _____head and two ____tails.

A. **Hydrophilic& hydrophobic**

B. **Hydrophobic& hydrophilic**

C. **Hydrophilic& hydrophilic**

D. **Hydrophobic& hydrophobic**

الجواب : A

Question 15

Most enzymes are:

A. nucleic acids

B. proteins

C. lipids

D. carbohydrates

الجواب : B

Question 16

_____ 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

الجواب : B

Question 17

_____ 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**

الجواب : A

Question 18

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

الجواب : C

Question 19

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**

الجواب : A

Question 20

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

Question 21

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**

الجواب : B

Question 22

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

الجواب : C

Question 23

Which of the following is not a cofactor

A. copper

B. Zink

C. NAD

D. Iron

الجواب : C

Question 24

Which of the following crosses lipid bilayer the fastest?

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

الجواب : D

Question 25

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

الجواب : C

Question 26

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**

الجواب : D

Question 27

What allows water to move much faster across membranes?

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

الجواب : B

Question 28

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

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

الجواب : A

Question 29

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

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

الجواب : B

Question 30

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

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

الجواب : C

Question 31

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**

الجواب : A

Question 32

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

الجواب : D

Question 33

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**

الجواب : A

Question 34

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

A. CO_2

B. Amino acids

C. Na^+

D. O_2

الجواب : C

Question 35

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**

الجواب : B

Question 36

Osmosis is the movement of _____ across a membrane.

A. Food

B. Energy

C. Oxygen

D. Water

الجواب : D

Question 37

The plasma membrane is ...

A. selectively permeable

B. very permeable

C. not permeable

D. rarely permeable

الجواب : A

Question 38

What is embedded in the phospholipids bilayer?

A. proteins

B. salt

C. Water

D. Nucleic acids

الجواب : A

Question 39

What does "bilayer" mean?

A. one layer

B. two layers

C. laminated

D. bilateral

الجواب : B

Question 40

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

الجواب : D

Question 41

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

الجواب : B

Question 42

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**

الجواب: B

Question 43

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

A. **Osmosis**

B. **Pinocytosis**

C. **Phagocytosis**

D. **Exocytosis**

الجواب : D

Question 44

oxygen enters the blood in the lungs by the process of _____.

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

الجواب : C

Question 45

which of the following transport processes will form a vesicle?

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

الجواب : D

Question 46

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**

الجواب : A

Question 47

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

A. Cofactors

B. Receptors

C. Enzymes

D. Hormones

الجواب : C

Question 48

Where the substrate binds to the enzyme?

A. Cofactor

B. Active site

C. Passive site

D. Coenzyme

الجواب : B

Question 49

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**

الجواب : C

PRACTICE QUESTIONS

Chapter 5 – How cells harvest chemical energy

1st Semester
1441 / 2019-2020
46 Slides

حل : زياد الجهني

Question 1

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**

الجواب : B

Question 2

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

A. 1 ATP

B. 32 ATP

C. 2 pyruvate

D. 1 pyruvate

الجواب : C

Question 3

The process of cellular respiration involves _____reactions

A. **Hydrolysis and Oxidation**

B. **Oxidation and Dehydration**

C. **Reduction and Hydrolysis**

D. **Reduction and Oxidation**

الجواب : D

Question 4

Glycolysis yields how many ATP?

A. 2

B. 4

C. 28

D. 32

الجواب : A

Question 5

Glycolysis takes place in the:

A. cytoplasm

B. chloroplast

C. mitochondrion

D. nucleus.

الجواب : A

Question 6

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.

الجواب : C

Question 8

Which of the following is a product of oxidative phosphorylation?

A. **Pyruvate**

B. **Water**

C. **Oxygen**

D. **Carbon dioxide**

الجواب : B

Question 9

What is another name for the citric acid cycle?

A. The Krebs cycle

B. Anaerobic respiration

C. Mitochondrial matrix

D. The Calvin cycle

الجواب : A

Question 10

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

الجواب B

Question 11

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.**

الجواب : C

Aerobic means:

A. “without light ”

B. “without oxygen”

C. “with light”

D. “with oxygen”

الجواب : D

Question 14

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

الجواب : C

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

الجواب : C

Question 16

In glycolysis, the break down of glucose results in:

A. **NADPH**

B. **2 ATP**

C. **CO_2**

D. **O_2**

الجواب : B

Question 17

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, $FADH_2$, and ATP

الجواب : C

Question 18

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**

الجواب : C

Question 19

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

A. **Yeasts.**

B. **Molds**

C. **Bacteria**

D. **Protists**

الجواب : A

Question 20

Which stage of aerobic respiration produces ATP and NADH and releases CO_2?

A. glycolysis

B. Krebs cycle

C. Fermentation

D. None of the above

الجواب : B

Question 21

In aerobic respiration carbohydrates are ultimately broken down into:

A. acetyl-CoA

B. CO_2

C. H_2O

D. Pyruvate

الجواب : B

Question 22

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

A. glycolysis

B. Calvin cycle

C. the Krebs cycle

D. Oxidative phosphorylation

الجواب : D

Question 23

Which stage of aerobic respiration requires CO_2?

A. **Glycolysis**

B. **Krebs cycle**

C. **Fermentation**

D. **None of the above**

الجواب : D

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

Question 25

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

A. NADPH

B. $FADH_2$

C. ATP

D. CO_2

الجواب : A

Question 26

Cramps during exercise might be caused by:

A. **Alcohol fermentation**

B. **Lactic acid fermentation**

C. **Glucose**

D. **Glycolysis**

الجواب : B

Question 27

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

A. **Carbohydrates**

B. **Fats**

C. **Proteins**

D. **Minerals**

الجواب : D

Question 28

Which of the following is the unit of energy?

A. **ATP**

B. **ADP**

C. **Kcal**

D. **NADH**

الجواب : C

Question 29

_____generates the most of ATP.

A. **Glycolysis**

B. **Krebs cycle**

C. **Alcohol fermentation**

D. **Oxidative phosphorylation**

الجواب : D

Question 30

Fats make excellent cellular fuel because they contain _____atoms.

A. **Oxygen**

B. **Nitrogen**

C. **Hydrogen**

D. **Phophorus**

الجواب : C

PRACTICE QUESTIONS : Photosynthesis

Question 1

Which of the following is not required during photosynthesis?

A. Water

B. Carbon dioxide

C. Oxygen.

D. Light

الجواب : C

Question 2

The first stage of photosynthesis takes place in the_____.

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

الجواب : A

During what stage of photosynthesis is O_2 produced?

A. **Carbon fixation**

B. **Light – dependent reactions.**

C. **Light – independent reactions**

D. **Calvin cycle**

الجواب : B

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**

الجواب : B

Question 5

_____absorb excessive light that would damage chlorophyll

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

الجواب : B

Question 6

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

Question 7

The Calvin cycle occurs in the _____of the chloroplast.

A. Stroma.

B. Stoma

C. Thylakoid

D. The inner mitochondrial membrane

الجواب : A

Question 8

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

A. AMP

B. ADP

C. NADPH.

D. NADH

الجواب : C

Question 9

Photosynthesis is a _____Process.

A. **Reduction-dehydration**

B. **Redox**

C. **Oxidation-reduction**

D. **B+C**

الجواب : D

Question 10

In the leaf, the CO_2 enters and the oxygen is released through_____.

A. Stroma

B. Stoma

C. Granum

D. Epidermis

الجواب : B

Question 11

Which of the following is a coenzyme specific to photosynthesis?

A. AMP

B. ADP

C. NADPH.

D. NADH

الجواب : C

Question 12

During light reactions, $NADP^+$ is _____to NADPH and H^+

A. **Oxidised**

B. **Phosphorylated**

C. **Reduced**

D. **Hydrolysed**

الجواب : C

Question 13

The Calvin cycle begins with _____, incorporating CO_2 into organic molecules Sugar.

A. **Glucose oxidation**

B. **Water reduction**

C. **Water oxidation**

D. **Carbon fixation**

الجواب : D

Question 14

Both carotenoids and chlorophyll are _____.

A. **Coenzymes**

B. **Organelles**

C. **Pigments**

D. **Cofactors**

الجواب : C