

شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



المراجعة النهائية للوحدات الخامسة والسادسة والسابعة باللغة
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التواصل الاجتماعي بحسب الصف الحادي عشر المتقدم

روابط مواد الصف الحادي عشر المتقدم على تلغرام

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المزيد من الملفات بحسب الصف الحادي عشر المتقدم والمادة علوم في الفصل الثالث

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5

Biology Final Revision

Grad 11 Advanced

CH5- Cellular energy

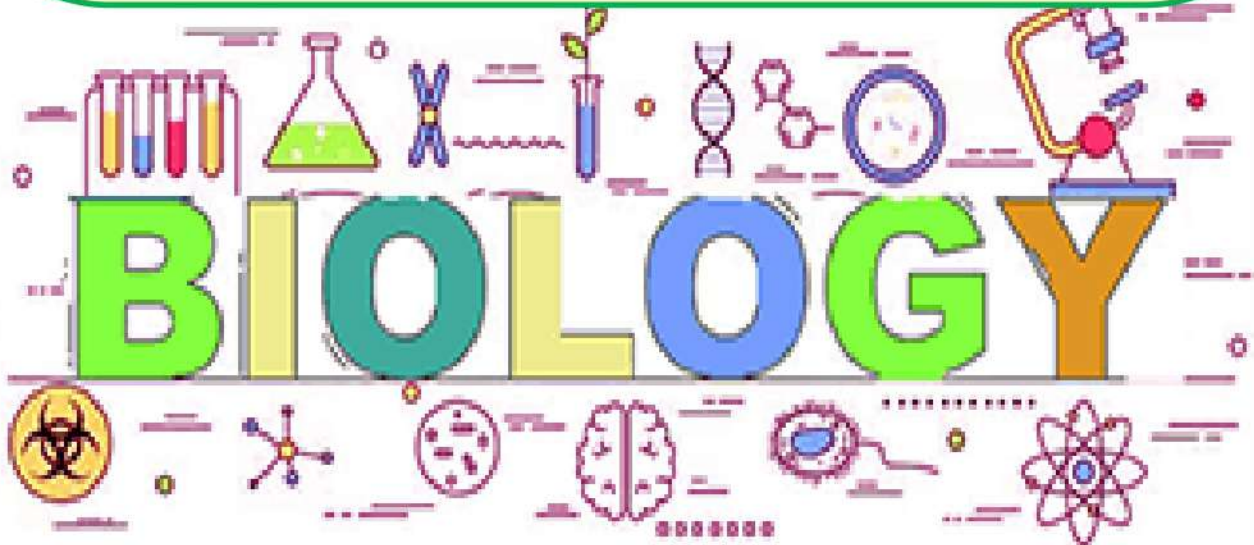
CH6- Immune system

CH7- Population Ecology

Term 3

2022-2023

Teacher: Mohammad Rajab



Name:----- الطالب

CH5- Cellular energy

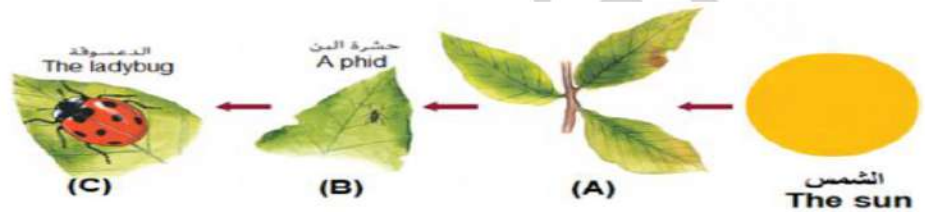
Q 5 Page 183 Figure 2

1- Which is not a characteristic of energy?

- A- Energy cannot be converted nor destroyed.
- B- Is the capacity to do work.
- C- Exists in forms such as chemical, light, and mechanical.
- D- Changes spontaneously from disorder to order

2- Which of the following refers to A heterotrophic organism?

- a- (A and B)
- b- (B and C)
- c- (A and C)
- d- (A,B and C)



3- Which part of this food chain provides energy to just one other part?

- A. the chemoautotroph
- B. the heterotroph
- C. the Sun
- D. the photoautotroph



4- Which the following is an example of the second law of thermodynamics (entropy increases)?

- A- converted energy
- B- food chain
- C- Photosynthesis
- D- homeostasis

5- Which energy transformation can occur only in autotrophs?

- A- chemical energy into mechanical energy
- B- electrical energy into thermal energy
- C- light energy into chemical energy
- D- mechanical energy into thermal energy

6- Which organism depends on an external source of organic compounds?

- A. autotroph
- B. heterotroph
- C. chemoautotroph
- D. photoautotroph

Q 10 Page 184

7- Which of the following is an incorrect labeling?

- A-Photosynthesis
- B- Cellular respiration
- C- Glucose
- D- Chlorophyll

8- Which the following is an example of Anabolism?

- A- Photosynthesis
- B- cellular respiration
- C-homeostasis
- D- fermentation

10- In which metabolic process are molecules broken down to produce carbon dioxide and water?

- A- Photosynthesis
- B- cellular respiration
- C- homeostasis
- D- fermentation

11- Why is cellular respiration a catabolic pathway?

- A- Energy is used to form glucose and oxygen.
- B- Energy is converted from water to carbon dioxide.
- C- Energy that is lost is converted to thermal energy.
- D- Energy is released by the breakdown of molecules.

Q 11 Page 186-187 Figure 5

12- Where in the plant cell does photosynthesis take place?

- A- Chloroplasts
- B- Golgi apparatus
- C- mitochondria
- D- vacuoles

13- What is the compound the plants use to absorb the energy from light?

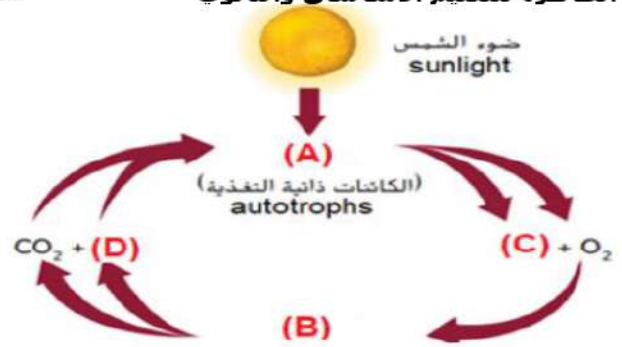
- A- Carbon dioxide
- B- H₂O
- C- Nitrogen
- D- Chlorophyll

14- What color is chlorophyll?

- A- Red
- B- Green
- C- Yellow
- D- Blue

15- Why do we perceive chlorophyll as being green?

- A- Because it is green
- B- Because it absorbs green light.
- C- Because it reflects green light
- D- Because it absorbs yellow light.



16- Look at the following figure. Which part of the chloroplast is a sac-like membrane arranged in stacks?

Mohamad Rajab
A- Grana

B- stroma

C- thylakoids

D- Golgi apparatus

17- Which of the following indicates the location of phase two reaction of photosynthesis?

A- 1

B- 2

C- 3

D- 4

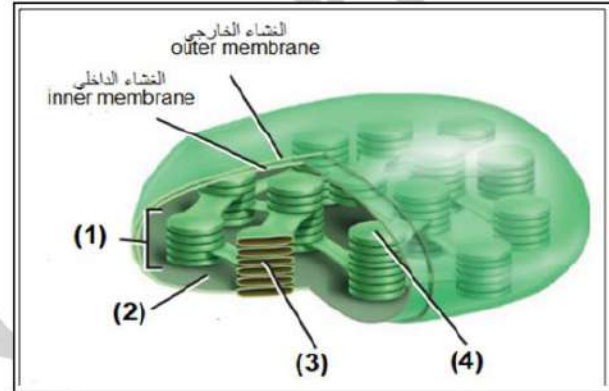
18- Which of the following indicates the location of phase one reaction of photosynthesis

A- 1

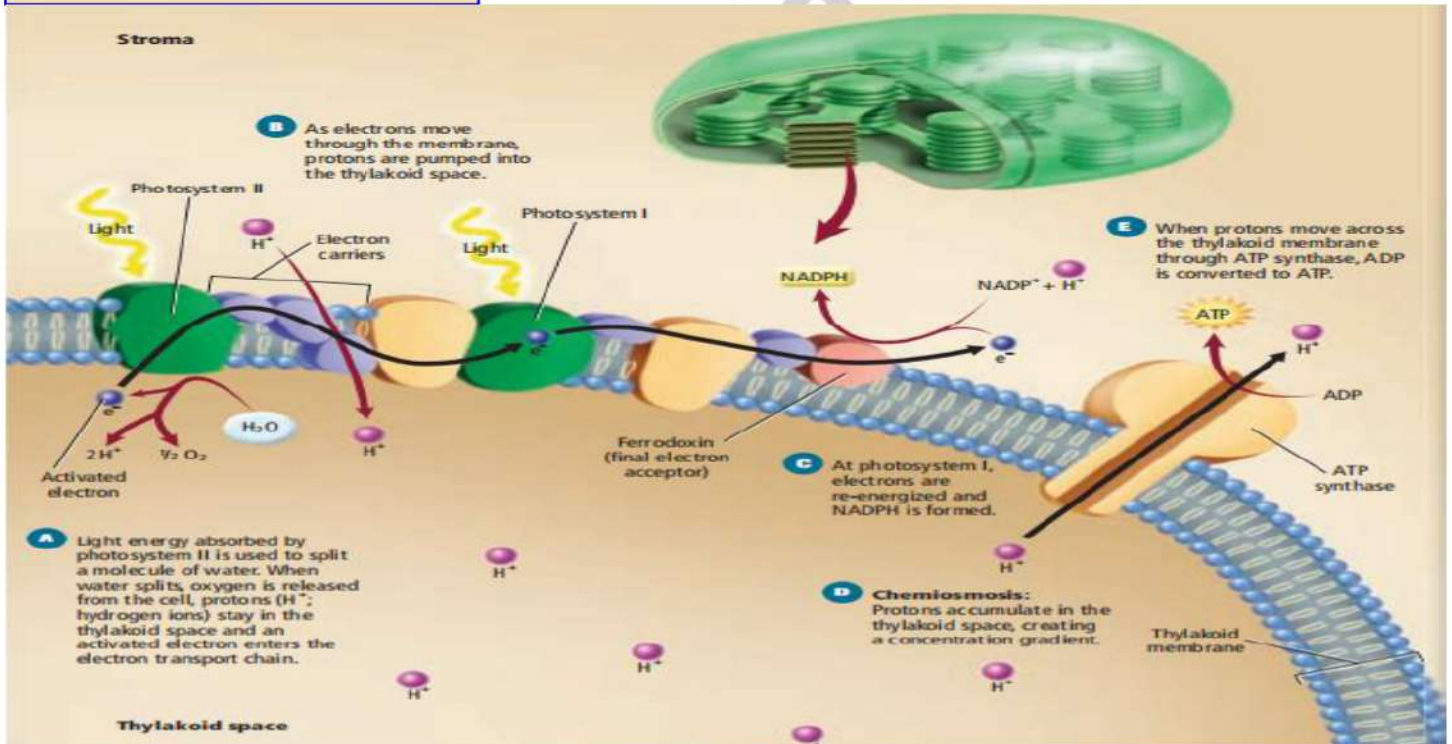
B- 2

C- 3

D- 4



Q 12 Page 189 Figure 8



19- Where do the light-dependent reaction occur?

A- thylakoid membrane

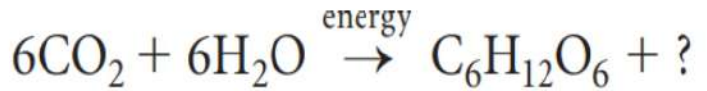
B- Stroma

C- mesophyll

D- mitochondria

20- What waste product of photosynthesis released to the environment?

- A- Carbon dioxide B- Water
C- Oxygen D- ammonia



21- At the beginning of photosynthesis, which molecule is split to produce oxygen (O₂) as a waste product?

- A- CO₂ B- H₂O C- C₆H₁₂O₆ D- 3-PGA

22- What supplies the electron that is lost in PSII?

- A- oxygen B- water C- glucose D- Rubisco

23- After the electron leave PSII, where does it go next?

- A- Electron Transport chain B- NADPH reductase
C- PSI D- Stroma

24- What supplies the electron that is lost in PSI?

- A- Oxygen B- PSII C- NADPH D- Water

25- Which mechanism of photosynthesis uses the movement of hydrogen ions (H⁺) across a concentration gradient to synthesize ATP?

- A- Absorption B- chemiosmosis
C- electron transport D- C₂ pathway

26- What is the name of the chemical where the energy is stored during the first phase of photosynthesis?

- A- ATP and NADPH B- Glucose and ATP
C- Oxygen and Glucose D- Chlorophyll

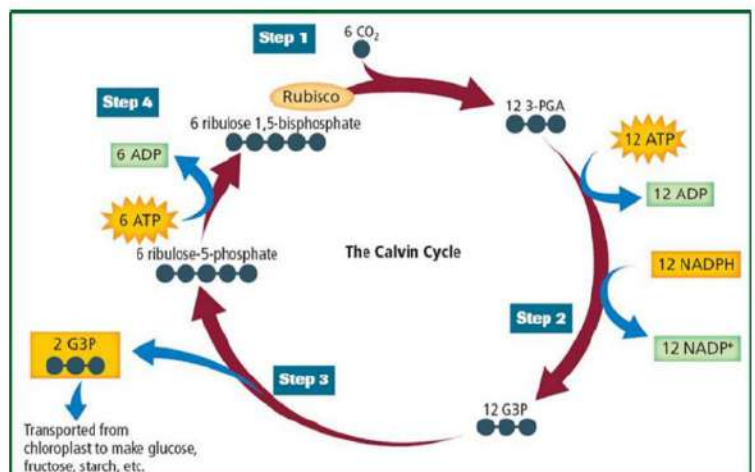
27- What is the main purpose of the light reaction?

- A- To provide the energy and electrons for the Calvin cycle.
B- To capture energy and make sugar.
C- To reflect green light.
D- To make sugars.

Q 13 Page 190 Figure 9

28- Where does the Calvin Cycle occur?

- A- thylakoid B- Stroma
C- Lumen D- mitochondria



11- Which represents the general sequence of cellular respiration?

- A- TCA cycle → chemiosmosis → glycolysis
- B- glycolysis → Krebs cycle → electron transport
- C- electron absorption → catalysis → phosphorylation
- D- aerobic pathway → anaerobic pathway → fermentation

12- Which molecules generated by the Krebs cycle are used to convert ADP to ATP during of Electron Transport Chain?

- A- CoA, ADP
- B- CO₂, H₂O
- C- H₂O, pyruvate
- D- NADH, FADH₂

13- Which stage of Cellular respiration produces most ATP?

- A- glycolysis
- B- Krebs cycle
- C- conversion of pyruvate to acetyl CoA
- D- electron transport

Q 15 Page 196 Figure 15

10- What prevents pyruvate from entering the Krebs cycle and instead results in this pathway?

- A- a buildup of CO₂
- B- a lack of oxygen
- C- an excess of glucose
- D- an increased demand for ATP

10- Where does Fermentation take place?

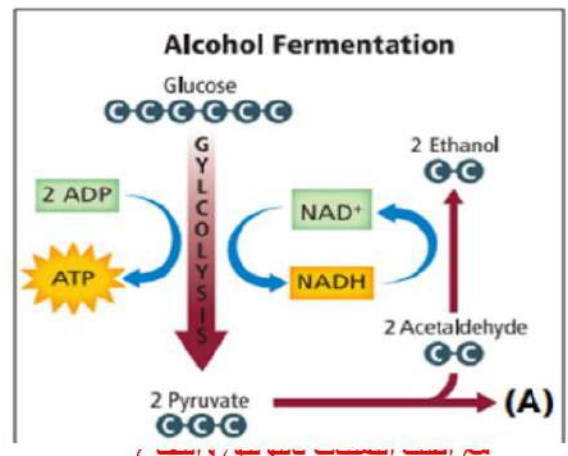
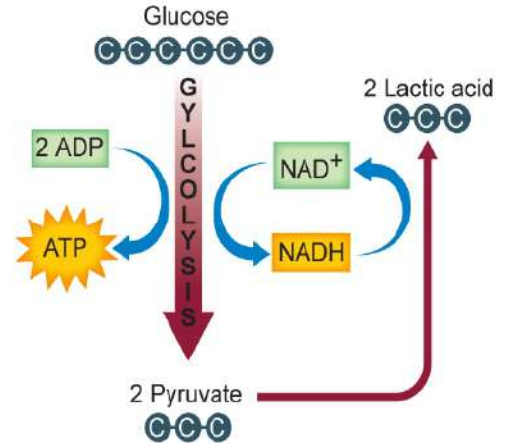
- A- Chloroplasts
- B- mitochondria
- C- Cytoplasm
- D- plasma membrane

11- What is the purpose of fermentation?

- A- supply of NAD⁺
- B- produces ATP
- C- Released O₂
- D- Glucose

11- Which of the following refers to the letter (A) in the illustration below?

- A- One CO₂
- B- Two CO₂
- C- Three CO₂
- D- Four CO₂



12- How are lactic acid and alcoholic fermentation similar?

- A- They have the same products B- They have the same reactants
 C- They both require oxygen D- They occur in the same organisms.

CH6- Immune system

Q 1 Page 152 Figure 1

Table 1		Human Infectious Diseases	
Disease	Cause	Affected Organ System	How Disease is Spread
Tetanus	Bacterium	Nervous system	Soil in deep puncture wound
Strep throat	Bacterium	Respiratory system	Droplets/direct contact
Tuberculosis	Bacterium	Respiratory system	Droplets
Lyme disease	Bacterium	Skeletal and nervous system	Vector (tick)
Chicken pox	Virus	Skin	Droplets/direct contact
Rabies	Virus	Nervous system	Animal bite
Common cold	Virus	Respiratory system	Droplets/direct contact
Influenza	Virus	Respiratory system	Droplets/direct contact
Hepatitis B	Virus	Liver	Direct contact with exchange of body fluids
West Nile	Virus	Nervous system	Vector (mosquito)
Giardia	Protozoan	Digestive tract	Contaminated water
Malaria	Protozoan	Blood and liver	Vector (mosquito)
Athlete's foot	Fungus	Skin	Direct contact or contaminated objects

1- Which of the following human body systems and organs does the Rabies virus affect?

- a- Respiratory system b- The skin
 c- Blood and liver d- Nervous system

2- Which of the following human body systems and organs does the Chickenpox virus affect?

- a- Respiratory system b- The skin
 c- Blood and liver d- Nervous system

3- Which of the following human body systems and organs does the Tuberculosis affect?

- a- Respiratory system b- The skin
 c- Blood and liver d- Nervous system

4- Which of the following human body systems and organs does the Malaria affect?

- a- Respiratory system
- b- The skin
- c- Blood and liver
- d- Nervous system

5- What is the micro-organism that cause Tetanus?

- a- Bacteria
- b- Protozoa
- c- Fungus
- d- Virus

6-What is the micro-organism that cause Chickenpox?

- a- Virus
- b- Parasites
- c- Bacteria
- d- Protozoa

7- Which of the following letters indicates the transmission of diseases through direct contact?

- A
- B
- C
- D



(A)



(B)



(C)



(D)

8- Which of the following letters indicates the transmission of diseases through indirect by object?

- A
- B
- C
- D



(A)



(B)



(C)



(D)

(B- vector transmission - C- Air transmission)

9- What are the most common vectors that transmit diseases?

- a- Arthropods
- b- mammals
- c- chemical toxins
- d- tiny mucus droplets

10- which is the most common way humans acquire an infectious disease?

- a- Contaminated water
- b- mosquito bites
- c- Sick animals
- d- infected humans

11- White blood cells, especially neutrophils and macrophages are fighting pathogens through a process called.....

- a- Exocytosis
b- Phagocytosis
c- Lysis
d- Both A and B

12-The phagocytes release digestive enzymes and other harmful chemicals from their.....

- a- Nucleus
b- Mitochondria
c- Endoplasmic Reticulum
d- Lysosome

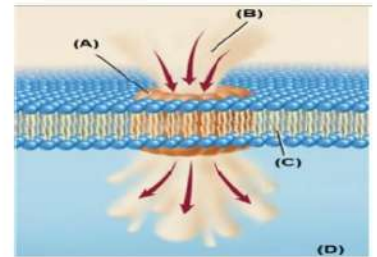
13- A series of 20 proteins that are found in the blood plasma and are involved in phagocytosis are called.....

- a- Component proteins
b- Guiding proteins
c- Complement proteins
d- Digestion proteins

14-What is the role of complement proteins, found in the plasma, in the immune response?

- a- Enhance phagocytosis
b- activate phagocytes.
c- Enhance destruction of a pathogen.
d- all the above

15- Which letter of the following indicates fluid rushing into the cell causes it to burst? A B C D



16- How do neutrophils and macrophages defend the body?

- a- they ingest bacteria.
b- they produce antibodies.
c- they recruit lymphocytes.
d- they secrete cytotoxins.

17- When a virus enters the body, another cellular defense helps prevent the virus from spreading. Virus-infected cells secrete a protein called.....

- a- Histamine
b- Cytokine
c- Interferon
d- None of the above

18- In the site of inflammation, edema, redness, and heat are the result of

- a- Inflammatory Response
b- Leukocyte's extravasation
c- Histamine release
d- phagocytosis

19- Which term best describes the function of interferon?

- a- Anticenter
b- messenger
c- Supporter
d- virus-killer

Q 4 Page 160 Figure 10

20- Which of the following is Not a component of the lymphatic system?

- a- The liver
- b- The spleen
- c- The tonsils
- d- The thymus gland

21- Lymphatic system includes organs and cells that helps to ...

- a- absorb fats.
- b- filter lymph.
- c- destroy foreign microorganisms.
- d- All the above

22- The lymphatic organ that forms a protective ring of lymphatic tissue between the nasal and oral cavities and helps protect against bacteria and other harmful materials in the nose and mouth are ..

- a- The spleen
- b- the tonsils
- c- The bone marrow
- d- the lymphatic nodules

23- The lymphatic organ that stores blood and destroys damaged red blood cells is.....

- a- The spleen
- b- the tonsils
- c- The bone marrow
- d- the lymphatic nodules

24- T cells are produced in the bone marrow, but they mature in the.....

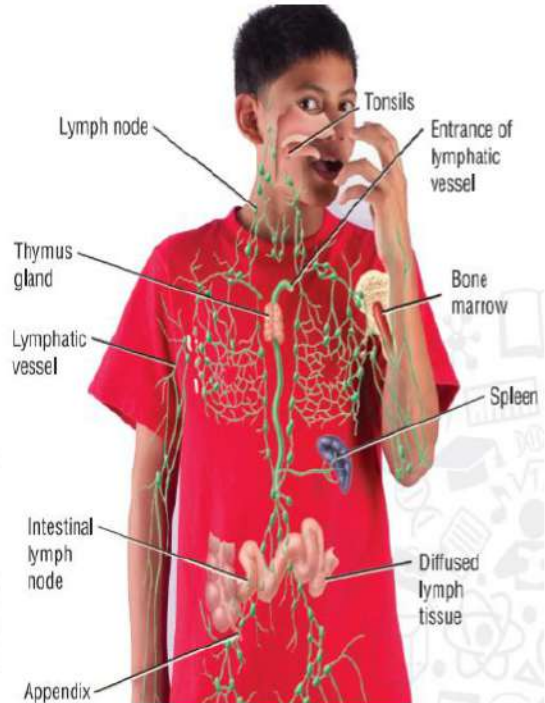
- a- The spleen
- b- the tonsils
- c- The bone marrow
- d- the thymus gland

25- Which of the following is NOT a component of the lymphatic system?

- a- The heart
- b- The spleen
- c- The tonsils
- d- The thymus gland

26- Where are lymphocytes produced?

- a- Bone marrow
- b- spleen
- c- Thymus gland
- d- lymph nodes



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27- T cells are activated by the presentation of an antigen by.....

- a- Plasma cells b- B cells
c- Macrophages d- Neutrophils

28- The letter A indicates to

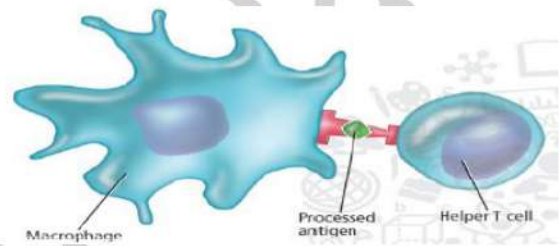
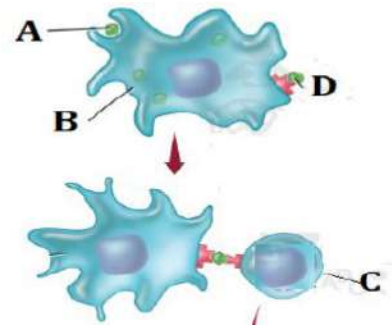
- a- Antigen b- Macrophage c- helper T cell d- B cell

29- What kind of immune response is demonstrated in the figure below?

- a- Genetic b- nonspecific
c- specific d- hormonal

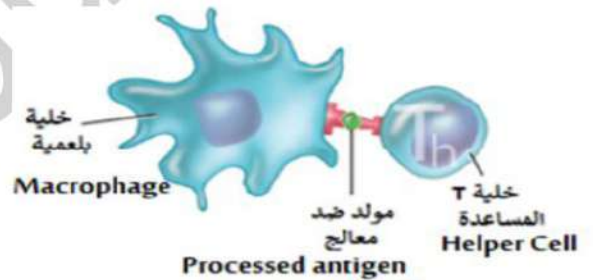
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30- In the figure below, the macrophage presents the antigen to the helper T cell by binding to a receptor on the helper T cell. What is the importance of this binding?

- a- Helps the helper T cell to divide.
b- Helps the macrophage cell to divide.
c- Converts antigen into processed antigen.
d- Produces direct antibodies.



31- The cells that connect the antigen presenting cells to B cell response and cytotoxic response are.....

- a- Plasma cells b- B cells
c- Helper T cells d- Macrophages

32- To which does the activated helper T cell present its antigen to?

- a- A pathogen b- B cell
c- bone marrow d- the thymus gland

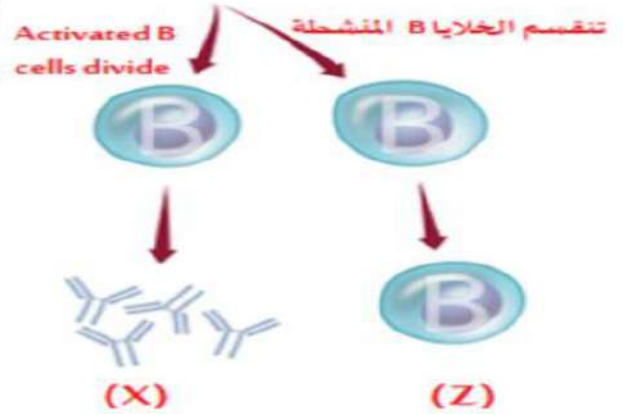
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33- An antigen is a substance foreign to the body that causes an immune response; it can bind to...

- a- T cells b- Antibodies
c- B cells d- A and B

34- Which white blood cells are the antibody factories?

- a- Cytotoxic T cells b- B cells c- Helper T cells d- Macrophages



35- What do the letters (X) and (Z) represent?

- a- (X): Antigens and (Z): Memory cells
- b- (X): Processed antigen and (Z): Cytotoxic B cell
- c- (X): Antibodies and (Z): Helper B cell
- d- (X): Antibodies and (Z): Memory cells

36- helper T cells can bind to and activate

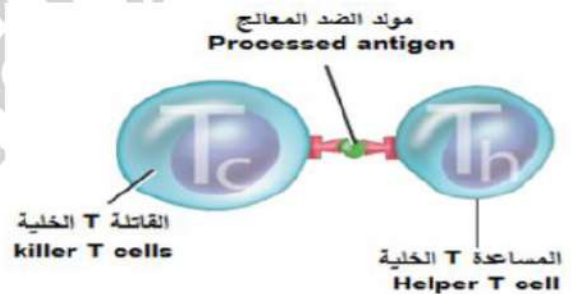
- a- Plasma cells
- b- B cells
- c- Cytotoxic T cells
- d- B cells and Cytotoxic T cells

37- The link between the cellular and humoral response are the

- a- Plasma cells
- b- Helper T cells
- c- Cytotoxic T cells
- d- B cells

38- In the figure below, the activated helper T cell present a processed antigen to the Cytotoxic T cell activating it to divide and secrete.....

- a- Histamine
- b- Interferon
- c- Acetylcholine
- d- Cytokines



Allergen	Example	Description
Dust mite	Color-Enhanced SEM Magnification: 170x	Dust mites are found in mattresses, pillows, and carpets. Mites and mite feces are allergens.
Plant pollen	Color-Enhanced SEM Magnification: 2300x	Different parts of the country have very different pollen seasons; people can react to one or more pollens, and a person's pollen allergy season might be from early spring to late fall.
Animal dander	Color-Enhanced SEM Magnification: 1175x	Dander is skin flakes; cat allergies are one of the most common, but people also are allergic to pets such as birds, hamsters, rabbits, mice, and gerbils.
Peanut	Color-Enhanced SEM Magnification: 1175x	Allergic reaction to peanuts can result in anaphylaxis. Peanut allergy is responsible for more fatalities than any other type of allergy.
Latex	Color-Enhanced SEM Magnification: 1175x	Latex comes from the milky sap of the rubber tree, found in Africa and Southeast Asia; the exact cause of latex allergy is unknown.

39- Which of the antigens initiates allergic reaction upon exposure to some kind of pets?

- A
- B
- C
- D



(D)



(C)



(B)



(A)

40- Common allergens that cause severe allergic reactions are

- a- Bee sting
- b- Peanuts
- c- Latex
- d- all the above

41- Which of the following substances is released in the body to cause most of the symptoms of allergies?

- a- Insulin
- b- histamine
- c- allergens
- d- acetylcholine

42- Individuals can have a dangerous response to allergens, such as latex, and go to anaphylactic shock. What will be the result?

- a- Breathing problems
- b- atherosclerosis
- c- Epileptic seizures
- d- arthritis

43- What is an abnormal inflammatory response to an environmental antigen that is *not* pathogenic?

- a- an allergy
- b- an autoimmunity
- c- an anaphylactic reaction
- d- a metabolic response

44- When a person has a localized inflammatory response with swollen itchy eyes, stuffy nose, sneezing, and sometimes a skin rash, which disease would you expect this person to have?

- a- Rheumatic fever
- b- Lupus
- c- Allergy
- d- Angina pectoris

Q 3 Page 169 Figure 17

45- A form of arthritis in which antibodies attack the joints is called.....

- a- Osteoarthritis
- b- Rheumatoid arthritis
- c- Lymphoma
- d- Osteosarcoma

46- The above photo demonstrates which disease?

- a-Tetanus
- b- rheumatoid arthritis
- c- Sickle-cell disease
- d- allergy



CH7- Population Ecology

Q 19 Page 127 Figure 2

1- What is the dispersion pattern of herding animals, birds that flock together, and fish that form schools?

- A- Clumped B- Uniform
C- random D- Unpredictable

2- The population density of the cattle egrets is greater near the cape buffalo. What the type of dispersion you would expect these birds to have?

- A- Clumped B- Uniform
C- random D- Unpredictable



3- American bison are found in groups called herds, What the type of dispersion of bison?

- A- Clumped B- Uniform
C- random D- Unpredictable



Q 6 Page 130

4- Which of the following example of a density-dependent factors :

- A- disease B- pollution
C- drought D- flooding

5- which of the following is a density-dependent factors?

- A- The competition B- The drought
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C- The flooding D- The hurricane

6- Brine shrimp can survive only in certain lakes that have a very high salt concentration. Which is the correct population characteristic of brine shrimp?

- A. logistic It is density dependent.
B. It is limited by abiotic factors.
C. It has a limited spatial distribution.
D. It is randomly dispersed in the environment.

7- What was the approximate ratio of moose to wolves in 1975? -

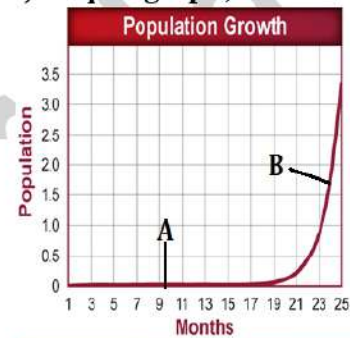
- A- 35:1 approx. B- 50:1 approx
 C- 20:1 approx D- 15:1 approx

Q 17 Page 131 Figure 18



8- When a population growth is represented on a grid and results in a (J) shaped graph, it exhibits

- A- Logistic
 B- exponential
 C- Carrying capacity.
 D- Lag phase.

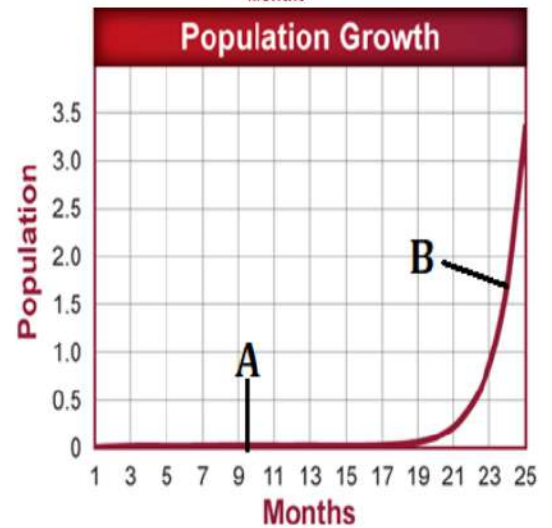


9- What does the letter (A) represent?

- A. exponential growth
 B. lag phase
 C. logistic growth
 D. straight-line growth

10- What does the letter (B) represent?

- A- exponential growth B- lag phase
 C- logistic growth D- straight-line growth



Q 18-20 Page 132-133

11- If angelfish produce hundreds of young several times a year, which statement below is true?

- A. angelfish have a k-strategy reproductive pattern.
 B. angelfish have an r-strategy reproductive pattern.
 C. angelfish probably have a low mortality rate.
 D. angelfish provide a lot of care for their young.



12- Which of the following organisms follows a r-strategy for reproduction?



(A)



(B)



(C)



(D)

13- One of the characteristics of organisms that adopt the rate strategy, or r-strategy:

A. Short life span

B. larger organism

C. Produces few offspring

D. Parental care.

14- Which strategy is considered an adaptation for living in an environment where fluctuation in biotic or abiotic factors occurs?

A- k-strategy reproductive pattern.

B- r-strategy reproductive pattern.

C- a low mortality rate

D- high mortality rate

15- One of the characteristics of organisms that adopt the K-strategy:

A. Short life span

B. small organism

C. Produces few offspring

D. Less Parental care.

16- Which of the following organisms follows a K-strategy for reproduction?



a fruit fly ذبابة الماكهة

(A)



Locusts الجراد

(B)



Mouses الفئران

(C)



Elephant الفيلة

(D)

17- Which of the following organisms is an example of a carrying-capacity strategy, or k-strategy?

A. the elephant

B. Locusts

C. Fruit fly

D. Mouse