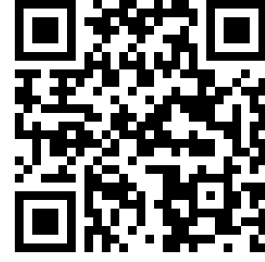


شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



حل المراجعة النهائية وفق الهيكل الوزاري - باللغة الانجليزية

موقع المناهج ⇨ المناهج الإماراتية ⇨ الصف الثاني عشر العام ⇨ علوم ⇨ الفصل الثاني ⇨ الملف

التواصل الاجتماعي بحسب الصف الثاني عشر العام

روابط مواد الصف الثاني عشر العام على تلغرام

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المزيد من الملفات بحسب الصف الثاني عشر العام والمادة علوم في الفصل الثاني

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5

Biology Final Revision

Grad 12 General

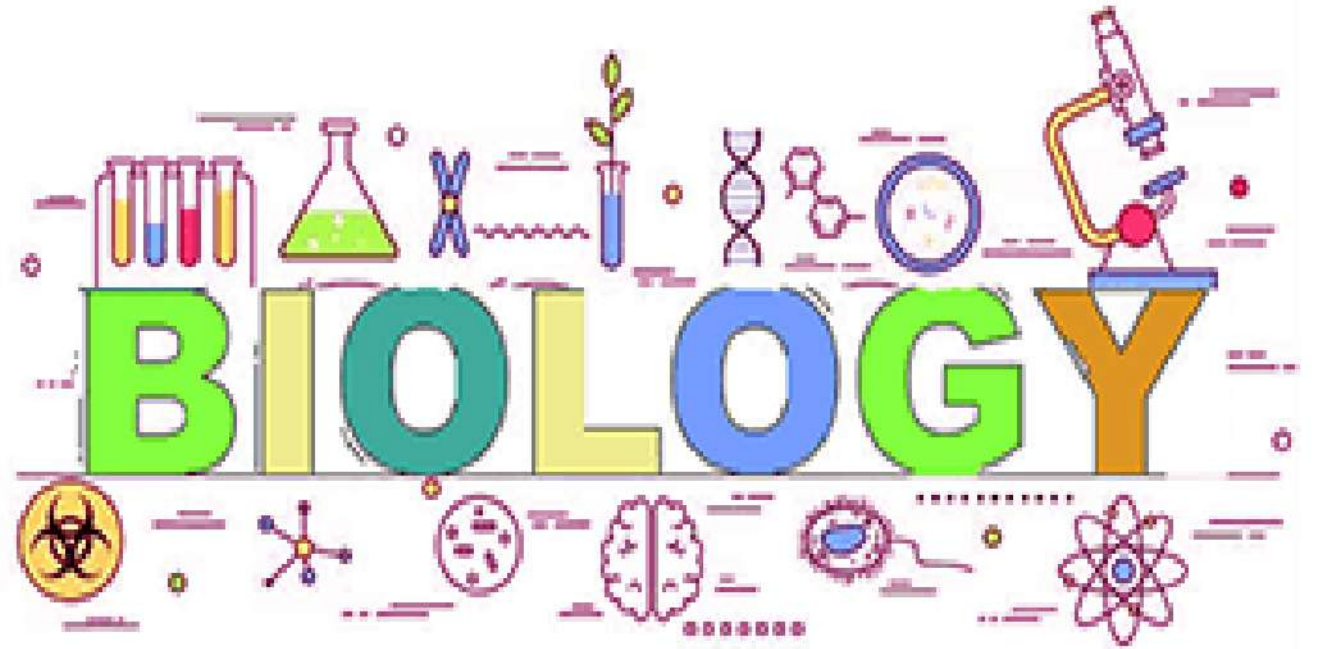
CH4-Integumentary, skeletal, and muscular system

CH5-Immune system

Term 2

2022-2023

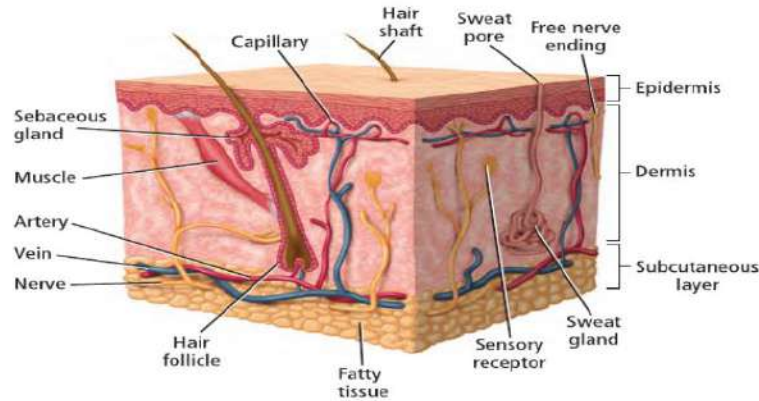
Teacher: **Mohammad Rajab**



CH4-Integumentary, skeletal, and muscular system

Q 7 Page 96

| Types of tissues in skin | function |
|--------------------------|--|
| Epithelial tissue | Covers body surfaces |
| Connective tissue | Provides support and protection |
| Muscle tissue | Involved in body movement |
| Nerve tissue | Forms the body's communication network |



| Layers of skin | Place | Thickness | Contents |
|------------------|--|------------------------------|--|
| Epidermis | Outer superficial layer | 10-30cells thick | Keratin- melanin |
| Dermis | beneath the epidermis Second layer of skin | 15-40times than epidermis | Hair follicle- Sebaceous glands Sweat gland-Sensory receptor Muscle fibers- nerve cells |

1- Type of tissues provides support and protection?

- a- Epithelial tissue b- **Connective tissue**
c- Muscle tissue d- Nerve tissue

2- Type of tissues forms the body's communication network?

- a- Epithelial tissue b- Connective tissue
c- Muscle tissue d- **Nerve tissue**

3- What protective protein is contained in the outer layers of epidermal cells?

- a- Collagen b- **keratin**
c- fibrinogen d- melanin

Q 1-2 Page 97

4- How do cells in the skin protect the skin from ultraviolet radiation?

- a- It is secreted oils. b- It is store cutin.
c- It is absorbed calcium. d- **It is produced melanin.**

5- Which element in the skin protects against ultraviolet rays?

- a- Keratin
b- Cutin
c- **Melanin**
d- Vitamin D

6- Where are sebaceous glands located?

- a- **Epidermis**
b- Hair follicles
c- Sweat pores
d- Subcutaneous tissue

7- What might result from a blocked sebaceous gland?

- a- Sweat
b- **Acne**
c- baldness
d- ingrown hair

8- What protein do hair and nails contain?

- a- Chitin
b- cutin
c- **keratin**
d- myosin

9- When are blackhead formed?

- a- **When sebaceous glands become clogged**
b- When grooves in the epidermis gather dirt
c- When hair follicles grow inward rather than outward
d- When there is an excess of keratin produced

10- Which are not found in dermis?

- a- Muscles
b- sweat and oil glands
c- **fat cells**
d- nerve cells

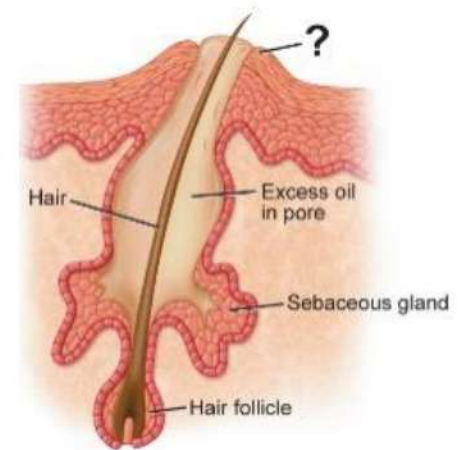
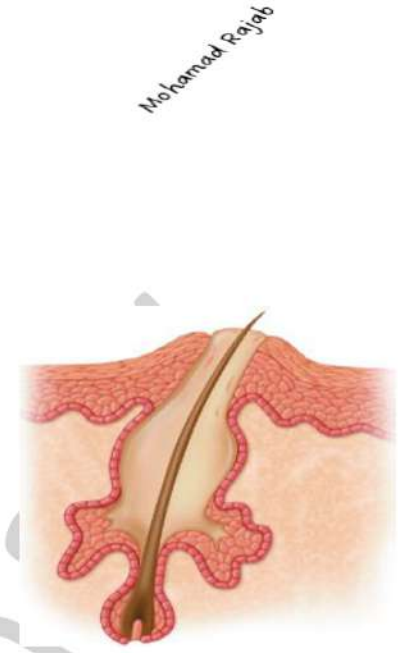
11- What could be inferred from suntans?

- a- **Sunning for the purpose of tanning produces healthier skin.**
b- A tan might indicate sun damage to the skin.
c- Tanning strengthens the elastic in the skin making the skin feel tight.
d- Tanning promotes skin that has more youthful appearance.

Q 3 Page 101 Figure 6

12- Which is not part of the axial skeleton?

- a- Skull
b- ribs
c- **hip bone**
d- vertebral column



13- Which is part of the appendicular skeleton?

- A B
C D



Q 8-9 Page 104 table 2

14- Which pair of terms is mismatched?

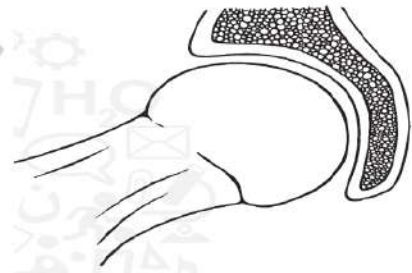
- a- Cranium, sutures
b- **Wrist, pivot joint**
c- **Shoulder, ball-and-socket joint**
d- Knee, hinge joint

15- Which pair of terms is mismatched?

- a- The skull, sutures
b- **sholser, ball-and-socket**
c- Knee, hinge joint
d- **Ankles, pivot joint**

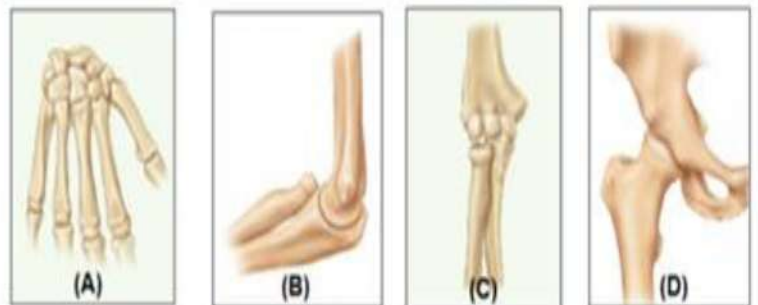
16- Where is the type of joint shown in the figure found?

- a- elbow and knees
b- fingers and toes
c- **hips and shoulders**
d- wrists and ankles



17- Which letter or the following represent the type of joint found in human knee?

- A B
C D



18- Which letter or the following represent a gliding joint?

- A B
C D

19- An example of a gliding joint is the

- Mohamad Rajab
a- Skull
b- Elbow
c- knee
d- **wrist**

20- Where would you find type of joint shown above?

- a- Hip
b- vertebrae
c- **elbow**
d- skull



21- An example of a fixed joint(sutures) is the

- a- **Skull**
- b- Arm
- c- knee
- d- wrist

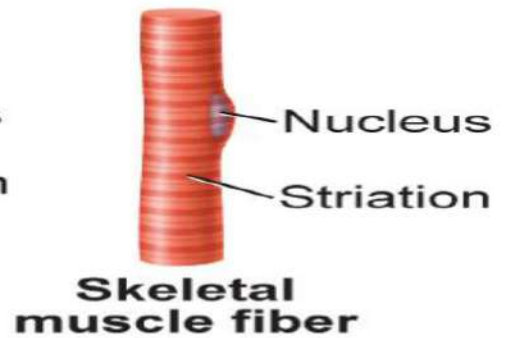
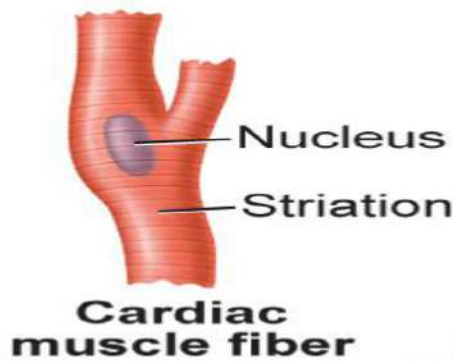
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22- Which type of joint allows a piano player's fingers to play music?

- a- hinge
- b- pivot
- c- suture
- d- **gliding**

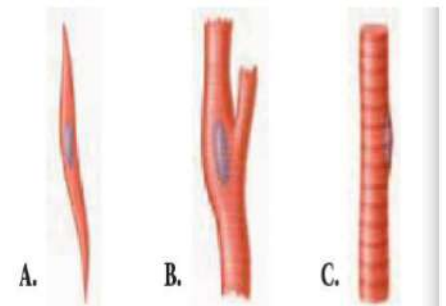
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Q 10 Page 107 Figure 10



22- What muscles shown above are classified as voluntary muscles?

- A
- B
- C**
- all muscles

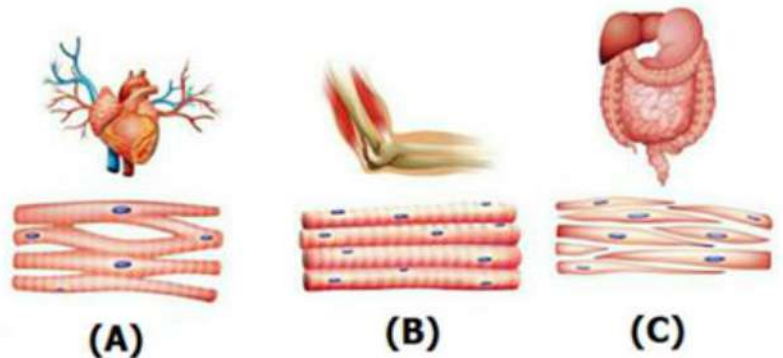


23- What muscles shown above are classified as involuntary muscles?

- a- **A and B**
- b- B and C
- c- A and C
- d- all muscles

24- Which of the following letter refer to the voluntary striated muscle?

- A
- B**
- C
- all muscles



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25- Which is not a characteristic of smooth muscle?

- a- It is an involuntary muscle.
- b- It has one nucleus per cell.
- c- **It has striations and stripes.**
- d- It lines organs of the digestive tract.

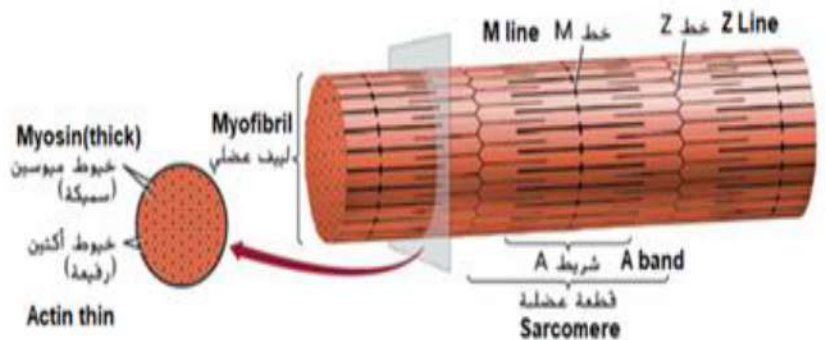
Q 11-12 Page 109 Figure 12

26- Which represents the levels of organization of skeletal muscle from larger to smaller units?

- a- **fibers → myofibrils → sarcomeres → filaments**
 b- filaments → myofibrils → sarcomeres → fibers
 c- myofibrils → filaments → fibers → sarcomeres
 d- sarcomeres → myofibrils → filaments → fibers

27- Which of the following indicates where the actin filaments are attached within the myofibril?

- a- A Band b- M Line
 c- Sarcomere d- **Z line**



28- What is the area running the Z line to the Z line?

- a- A Band b- M Line
 c- **Sarcomere** d- Z line

29- Which of the following indicates were consists of only myosin filaments?

- a- A Band b- **M Line**
 c- Sarcomere d- Z line

30- The location in a sarcomere where the overlap of actin and myosin filaments results in a dark band is called.....

- a- **A Band** b- M Line
 c- Sarcomere d- Z line

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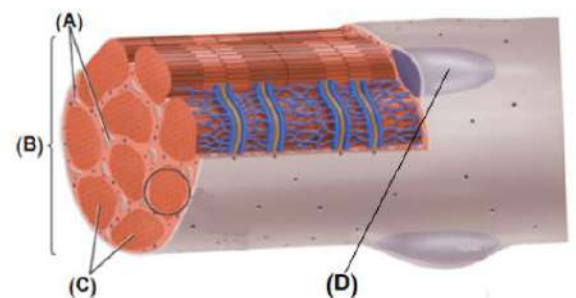
32- Which requires (ATP)?

- a- Muscle contraction
 b- Muscle relaxation
 c- Neither muscle contraction nor relaxation
 d- **Both muscle contraction and relaxation**

33- Which letter of the following refers to the mitochondria?

- a- B b- C
 c- D d- **A**

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Q 17 Page 117 Exercise 42

Athletes burn fat at a maximum rate when they exercise at an intensity near the lactate threshold, the point at which lactic acid starts to build up in the muscles. In addition, athletes who consume the greatest amounts of oxygen during intense exercise (VO_{2peak}) burn the most fat.

Researchers compared the lactate threshold and oxygen consumption of overweight subjects who did not exercise to those of highly trained athletes.

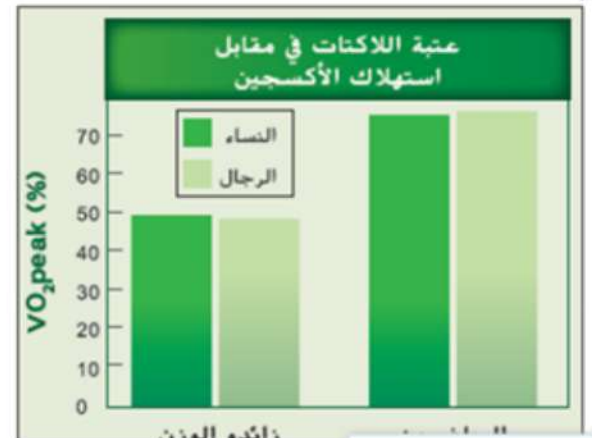
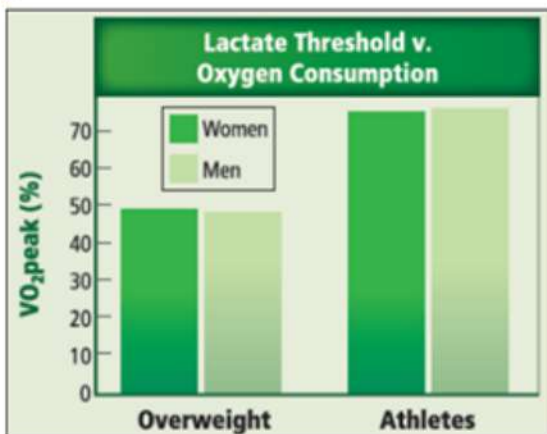
At what percent of (VO_{2peak}) was the lactate threshold reached in overweight subjects?

يحرق الرياضيون الدهون بأقصى معدل عند ممارسة التمرينات المكثفة، ليصلوا إلى عتبة حمض اللاكتيك وهي الدرجة التي يزيد عندها حمض اللاكتيك ويبدأ في التراكم في العضلات.

بالإضافة إلى ذلك، إن الرياضيين الذين يستهلكون أكبر قدر من الأوكسجين (VO_{2peak}) أثناء ممارسة التمرينات المكثفة يحرقون أكبر قدر من الدهون.

لقد قارن الباحثون بين عتبة حمض اللاكتيك واستهلاك الأوكسجين لدى الأفراد الذين يعانون من السمنة ولا يتدربون والرياضيين كثري التدريب.

ما نسبة الحد الأقصى من استهلاك الأوكسجين (VO_{2peak}) التي حدثت عندها عتبة حمض اللاكتيك لدى الأفراد المصابين بالسمنة؟



a- 60%

b- 70%

c- 30%

d- 50%

42. How might an overweight person who does not exercise increase his or her VO_{2peak} and, therefore, his or her lactate threshold?

42. كيف يمكن لشخص مصاب بالسمنة لا يمارس التمارين أن يزيد من قيمة VO_{2peak} ومن ثم زيادة عتبة حمض اللاكتيك؟

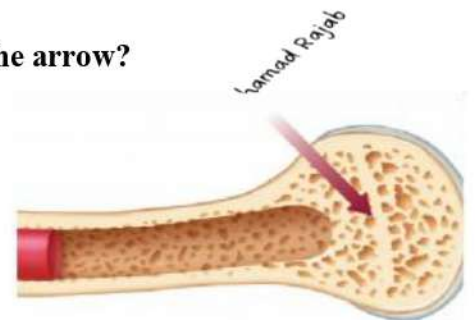
42. take in oxygen

Bonus Question

1- What is a characteristic of the portion of the bone indicated by the arrow?

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- a- It contains no living cells.
- b- It contains bone marrow.
- c- It is the only type of bone tissue in long bones.
- d- It is made of overlapping osteon systems

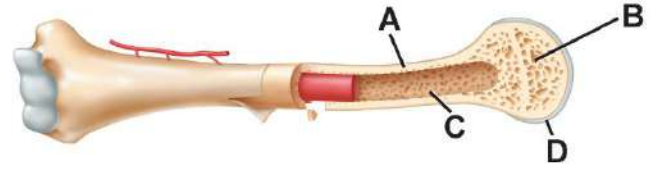


3- Which of the following tissue are considered as the main structure of ligaments?

- a- Epithelial tissue
- b- Muscular tissue
- c- Connective tissue
- d- nervous tissue

2- Where in this bone is the spongy bone tissue?

- A B
C D



4- bone-forming cells are called.....

- a- Osteoblasts b- **Osteoclast** c- Osteocytes

5- What is the condition that a person with insufficient calcium can develop and results in weak, fragile bones that break easily?

- a- Osteoblasts b- Osteoclast
Mohamad Rajab d- **Osteoporosis**
c- Osteocytes

6- Which type of fracture involves breaking a bone but does not come through the skin?

- a- **Simple** b- Complicated c- Stress

7- Which type of fracture involves breaking a bone and the bone protrude out the skin?

- a- Simple b- **Complicated(compound)** c- Stress

8- What are the cells that remove old bone tissue called?

- a- Osteoblasts b- Osteocytes
c- **Osteoclasts** d- Osteozymes

Q 18 Page 104 table 1

CH5-Immune system

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

| 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 |

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

- a- Digestive system b- skeletal system
c- **liver** d- Nervous system

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

- a- **Bacteria** b- Protozoa
Mohamad Rajab d- Virus
c- Fungus

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6-What is the micro-organism that cause Hepatitis B?

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

7- What is the micro-organism that cause Athlete's foot?

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

8-What is the micro-organism that cause Giardia?

- Mohamad Rajab
a- **Bacteria** b- **Protozoa**
c- Fungus d- Virus

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

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

10- The nonliving pathogen is the

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

Q 6 Page 125 Figure 3

10- Which type of disease transmission is shown above

- a- Direct contact
- b- object transmission
- c- Air transmission
- d- **vector transmission**



11- Which type of disease transmission is shown above

- a- Direct contact
- b- object transmission
- c- **Air transmission**
- d- vector transmission



5- Which type of disease transmission is shown a picture?

- a- vector transmission
- b- **object transmission**
- c- air transmission
- d- direct contact



1- An individual that is symptom-free but capable of passing the pathogen is called a

- a- Holder
- b- Transmitter
- c- **Carrier**
- d- passenger

2- Rabies is found in domestic dogs and many wild animals, such as bats, foxes, skunks, and raccoons.

Rabies can be transmitted from.....

- a- **animal reservoir**
- b- contaminated water
- c- soil
- d- insects

3- Which of the following common ways of transmission do the humans acquire the coronavirus through?

- a- Contaminated water
- b- Mosquito bites
- c- Sick animals
- d- **Contacting infected humans**

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

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

Q 13 Page 126

10- Lyme disease, malaria, and West Nile virus are diseases that are passed to humans by

- a- direct contact
- b- indirectly through the air
- c- organisms called vectors that carry pathogens**
- d- indirectly through touching contaminated objects

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11- West Nile Virus is an example of a disease which is spread by _____.

- a- direct contact
- b- indirect contact by objects
- c- indirect contact through the air
- d- Vectors**

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

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

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13- What is the main cause of aches and pains associated with the flu?

- a. The pathogen affects the nervous system.
- b. The pathogen invades and lives inside cells.**
- c. The pathogen produces chemical toxins.
- d. The pathogen triggers an immune response.

14- When pathogenic bacteria invade the body, beside to the cell damage that can occur, bacteria cause harm through.....

- a- degrading cell membrane
- b- **secreting toxins**
- c- dehydrating the cell
- d- none of the above

Q 4 Page 128 Figure 7

11- Which substance is secreted by the organisms shown above?

- a- Anthrax
- b- gentamicin
- c- influenza
- d- penicillin**



15- Fungus Penicillium secretes a chemical to kill competing bacteria that grow on the fungal food source. This chemical is called

- a- Penicillin**
- b- Erythromycin
- c- Neomycin
- d- Gentamicin

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8-Which of the following is not considered an antibiotic?

- a- **Histamine**
- b- Neomycin
- c- Penicillin
- d- Gentamicin

9- Bacteria in a population might have a trait that enables them to survive when a particular antibiotic is present. These bacteria can reproduce quickly and pass on the variation. This has caused the bacteria to develop.....

- a- antibiotic tolerance
- b- antibiotic side effect
- c- **antibiotic resistance**
- b- histamine side affect

10-What is the source of most antibiotics?

- a- Bacteria
- b- **fungi**
- Mohamad Rajab
- c- Protists
- d- Plants

12- How are most viral diseases fought?

- a- with antibiotics
- b- with antiviral drugs
- c- with chemical agents
- d- **by the body's immune system**

Q 5 Page 132

1- Lymphatic system includes organs and cells that helps to

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

2-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

3-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

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

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

5- 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

6- Where are lymphocytes produced?

- a- **Bon marrow**
- b- spleen
- c- Thymus gland
- d- lymph nodes

Q 14 Page 133 Figure 11

8- Proteins that are produced by **B lymphocytes** and specifically react with a foreign antigen is called.....

- a- Antigens
- b- **Antibodies**
- c- Interleukin 1
- d- Interleukin 2

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

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

10- The letter **A** indicates to

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

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

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

12- 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

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

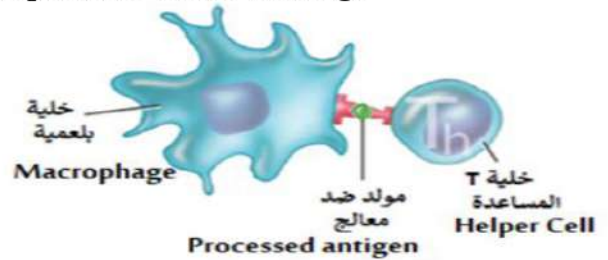
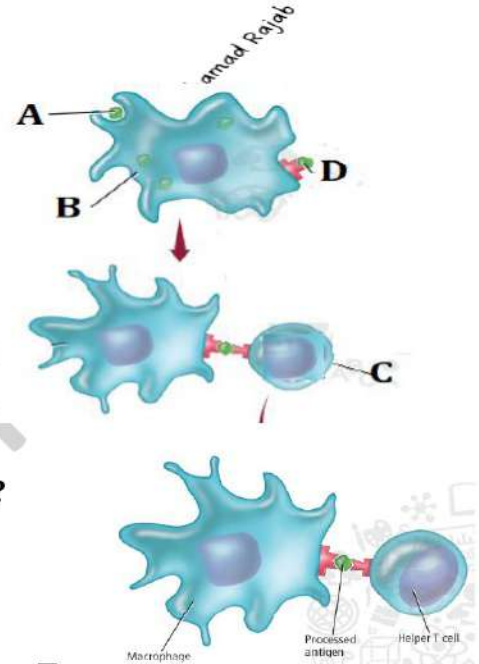
- a- Plasma cells
- b- B cells
- c- **Helper T cells**
- c- Macrophages

14- 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

15- Lymphocytes that specifically react with a foreign antigen is called.....

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



16-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**

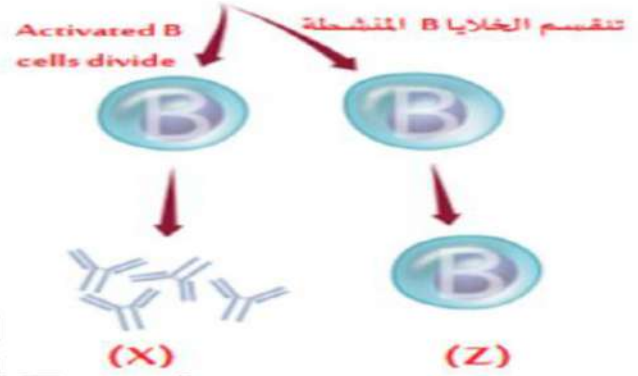
17- Which white blood cells are the antibody factories?

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

Q 19 Page 134

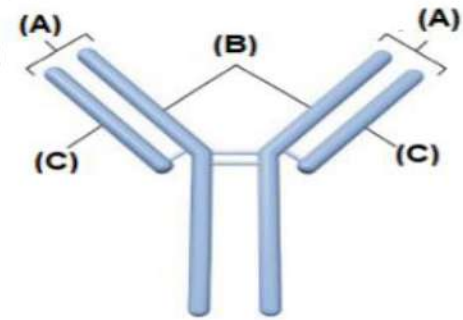
18- What do the letters (X) and (Z) represent?

- 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**



20- What do the letters (A) and (B) represent?

- 1- (A): Antigen binding site and (B): light chain
- 2- (A): Heavy chain and (B): Antigen binding site
- 3- (A): Light chain and (B): Antigen binding site
- 4- **(A): Antigen binding site and (B): Heavy chain**



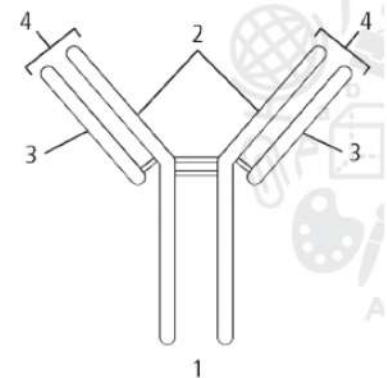
21- Antibodies are made of two light protein chains and two heavy protein chains. If the molecular weight of a light chain is 10000 and the molecular weight of a heavy chain is 20000.

What is the molecular weight of an antibody?

- a- 90000
- b- 50000
- c- **60000**
- d- 30000

3. Why are parts 2 and 3 of the diagram above important for the formation of antibodies?

- A. They allow for an enormous number of possible antibodies to form.**
- B. They are created by the T cells in the immune system.
- C. They help reduce the number of antibodies that form.
- D. They help stimulate the inflammatory response.



22- helper T cells can bind to and activate

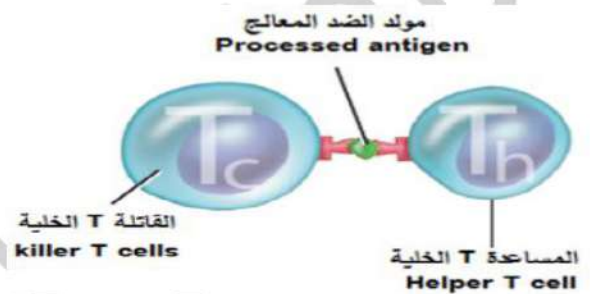
- a- Plasma cells
- b- B cells
- c- Cytotoxic T cells
- d- **B cells and Cytotoxic T cells**

23- The link between the cellular and humeral response are the

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

24- 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**



25- Activated cytotoxic T cells destroy pathogens by

- a- **Chemical attack**
- b- Antibiotic
- c- phagocytosis
- d- lysozyme

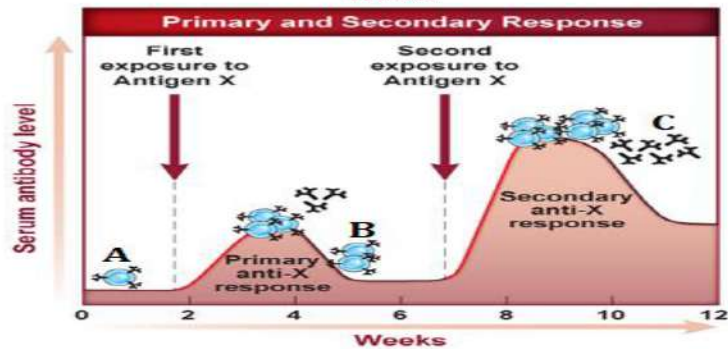
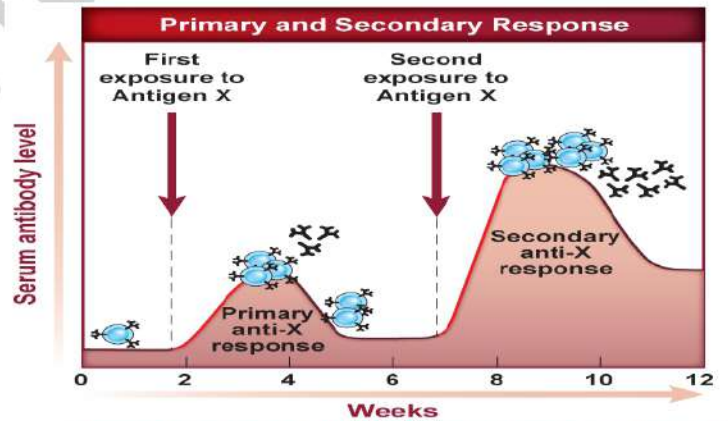
Q 15 Page 136 Figure 13

43- What enables the secondary response to the antigen to be more rapid and stronger than the primary response to the antigen?

- a- activated T cells
- b- antihistamines
- c- **memory B cells**
- d- secondary antibodies

44- The letter **B** indicates to:

- a- Helper T Cells
- b- **Memory B cells**
- c- Cytotoxic T cells
- d- B cells



37- Active immunity occurs after the immune system is exposed to disease antigens and produces.....

- a- Neutrophils
- b- **Memory cell**
- c- Basophils
- d- Helper T Cells

40- Active immunity lasts for longer time than the passive immunity due to the formation of ..

- a- B cells
b- T cells
c- Antibodies
d- **Memory cells**

Q 16 Page 137 Exercise 1

46- The table below shows the differences between specific and nonspecific immunity.

What do the letters (A) and (B) in the table present?

- a- **(A): Rapid response and (B): Memory**
b- (A): Memory and (B): Rapid response
c- (A): No response and (B): Memory
d- (A): Active immunity and (B): Passive immunity

| (Nonspecific) | Specific |
|--|--|
| Reacts to any pathogen | Reaction is tailored to individual pathogens |
| (A) | Slow-developing response |
| No memory | (B) |
| Involves skin, chemicals, and phagocytes | Involves lymphocytes |

Q 20 Page 140

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

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

16- 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

17- What causes anaphylactic shock?

- a- a large influx of antibodies
b- **a massive release of histamine**
c- an extreme autoimmune reaction
d- toxic environmental agents

9- Common allergens that cause severe allergic reactions are

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

18- What is the term for the formation of antibodies to the body's own proteins?

- a- Cancer
b- leukemia
c- **Autoimmunity**
d- antipeptide disorder

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

- A
- B**
- C
- D



(D)



(C)



(B)



(A)

23- Which of the antigens initiates allergic reaction upon exposure to some flowering plant?

A

B

C

D

Bonus Question

9- Which is the first defense against your body against infectious disease?

The helper T

your skin

phagocytosis

Antibodies

10- It acts as a chemical barrier in tears and saliva, breaks down bacterial cell walls?

a- Mucus

b- **Enzyme lysozyme**

c- Interferon

d- complement proteins

11- 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

12- A chromosomal disorder that result from abnormal chromosome numbers is

a- Sickle cell anemia

b- Hemophilia

c- Huntington disease

d- **Dawn syndrome**

13- which of the following is an example of a condition with environmental and genetic origin?

a- **coronary artery disease**

b- Dawn syndrome

b- Hemophilia

d- Type 2 diabetes

14- which of the following is an example of metabolic disease?

a- Leukemia
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b- Arteriosclerosis

c- **Type 2 diabetes**

d- Hemophilia

15- which type of noninfectious disease is defined as a problem in biochemical pathway in the body?

a- Inflammatory disease

b- **metabolic disease**

c- Degeneration disease

d- cancer

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

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

12- The above photo demonstrates which disease?

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



13- In autoimmunity, which attacks the body's own proteins?

- a- Antigens
b- allergens
c- **antibodies**
d- antihistamines

14- What is the term for the formation of antibodies to the body's own proteins?

- a- Cancer
b- leukemia
c- **Autoimmunity**
d- antipeptide disorder

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15- An inflammation in which antibodies attack the valves of the heart,

- a- Osteoarthritis
b- Rheumatoid arthritis
c- **Rheumatic fever**
d- Osteosarcoma

16- A disorder in which autoantibodies are formed and attack healthy tissue

- a- Osteoarthritis
b- Rheumatoid arthritis
c- Rheumatic fever
d- **Lupus**