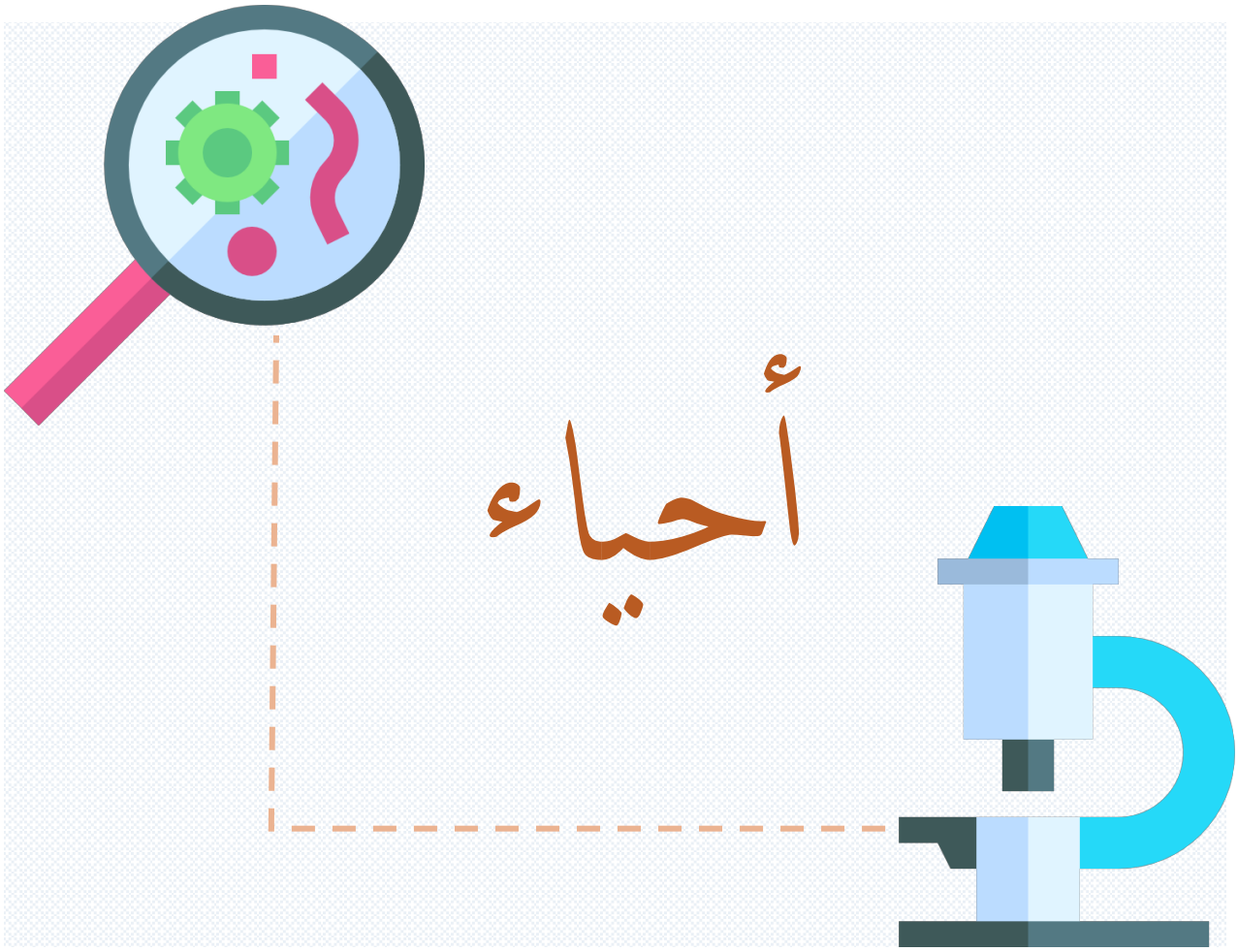

قناة #مقابلة ـ معيد

اسئلة اختبار معيد بجامعة الامام عبدالرحمن بن فيصل تخصص أحياء عامة

عبارة عن ١٠٠ سؤال (اسئلة عامه وتخصص)

(اخر سؤال لو كان لك منصب بالجامعه اكتبي ٥-٦ اسطر عن مساهماتك بالجامعه بحلول ٢٠٣٠)

.

.

١- سنة حصول جامعة الدمام على الاعتماد الاكاديمي ؟

٢- سابع حكام المملكه ؟

٣- مؤسسه الاصلاحيه الاسلاميه الحديثه ؟

٤- ثاني غزوات الرسول ؟

٥- أول مولود ذكر بعد الهجره ؟

٦- المحيطات الأساسيه والغير اساسيه بالزهره ؟

٧- محتوى الزهره الكامله ؟

٨- ماهو التنوع الحيوي ؟

٩- نوع الروابط بين الاحماض الامينيه ؟

١٠- نوع الرابطه بين القواعد النيتروجينيه بالdna ؟

١١- الاسم العلمي للمشروم ؟

١٢- اسم فطر عفن الخبز ؟

١٣- اسم علم الفطريات ؟

١٤- اسم بكتيريا تسوس الاسنان ؟

١٥- في اي مدينه تنتشر حمى الضنك ؟

١٦- الناقل لحمى الوادي المتصدع ؟

١٧- سبب مرض الجدري ؟

١٨- تقنية تستخدم لمعرفة الاراضي التي تحتوي مياه صالحه للزراعه ؟

١٩- نوع التفتح في النوره عديدة الشعب ؟

قناة #مقابلة ـ معيد

٢٠- نوع التطفل في البعوض وبق الفراش ؟

٢١- الاحرف التي تنتهي بها الفصيله ؟

٢٢- اسم كريات الدم البيضاء التي تمنع التجلط ؟

٢٣- سبب وجود مسارات رمل على الجدار ؟

٢٤- عوامل تتحكم في توزيع الكائنات الحيه ؟

٢٥- عدد الاحماض الامينيه المكونه للبروتينات ؟

٢٦- التشابه بين الدنا والرنا ؟

٢٧- ماهي الماده الخلاليه للدم ؟

٢٨- نوع اللماده التي تفرزها الغدد اللعابيه ؟

٢٩- تصنيف الديدان المفلطه المقسمه؟

٣٠- حيوان حامل لطفيل ولكن لاتظهر عليه الاعراض يسمى ؟

٣١- فيتامين يساعد في تجلط الدم ؟

٣٢- العلاقه بين بكتيريا العقد الجذريه والنبات ؟

٣٣- علاقه بكتيريا هضم السليلوز بمعدة المجترات ؟

٣٤- غلاف يحيط بمكونات بالعضلات يسمى ؟

٣٥- الوحده الحركيه بالعضلات ؟

٣٦- الوحده الوظيفيه بالكليه ؟

٣٧- نوع ثمرة البندق ؟

٣٨- كيف يكون التلقيح الذاتي بالزهره في النباتات الهوائيه ؟

٣٩- تسمى الزهره التي تلتحم الاسديه فيها ؟

٤٠- اسم علم الحشرات باللاتيني ؟

٤١- اعلى نقطه يتحمل فيها النبات الجفاف ؟

٤٢- تركيز المحلول الذي تنكمش فيه الخليه ؟

٤٣- طريقة العرب بالتفريق بين الحيوانات الولوده والبيوضه ؟

٤٤- ماهو المدى الحراري ؟

٤٥- معنى اسم ابراهيم ؟

٤٦- من فتح الصين ؟

٤٧- فيروس ينتقل عن طريق الفم والدم ؟

٤٨- اين يتم استحلاب الدهون ؟

٤٩- وظيفة خيوط بيلّي في الخليه البكتيريه ؟

٥٠- الحبل السري نسيج ضام ...؟

٥١- وظيفة النسيج الطلائي الحرشفي ؟

٥٢- المكان الذي توجد فيه المستقبلات في الخليه العصبيه ؟

٥٣- مكان وجود محاور الخلايا العصبيه في النخاع ؟

٥٤- وظيفة الخلايا الداعمه ؟

٥٥- السكر منقوص الاوكسجين في دنا او رنا ؟

٥٦- كيف يكون النقل النشط ؟

٥٧- اخراج الاميبيا ب.. ؟

٥٨- امتصاص الايونات من التربه يعتبر تغذيه ؟

٥٩- عدد ارجل الحشرات ؟

٦٠- كم الHp بالدم عند الذكور ؟

٦١- اي من الاتي مثال على الغده الحويصليه المركبه ؟

٦٢- يعتبر الاوكسين من الهرمونات ....؟

٦٣- عدد القواعد النيتروجينيه ل ٨ احماض امينيه ؟

٦٤- طريقة تضاعف الدنا ؟

٦٥- في اي خيط من الدنا توجد قطع اوكازاكي ؟

٦٦- عمل الخلايا الحارسه ؟

٦٧- اي مما يلي من وسائل التخفيف من التلوث؟

٦٨- الرياح تسبب اضرار على الكائنات بطريقه (مباشره ، غير مباشره) ؟

٦٩- من أضرار التصحر ؟

قناة #مقابلة ـ معيد

٧٠- بكتيريا تستخدم في انتاج المضادات الحيويه ؟

٧١- The difference between immigration and emigration ؟

٧٢- اخر سؤال مقالي ، لو كنتي تملكين منصب بالجامعه ،اكتبي عن اسهاماتك بالجامعه التي تواكب رؤية ٢٠٣٠ ؟ (ليس ضمن التقييم)

٧٣- في اي مرحله من الانقسام نستطيع دراسة الكروموسومات ؟

٧٤- في اي مرحلة في الخليه يتضاعف الدنا ؟

٧٥- الناقل لداء المقوسات ؟

--

١Gram-positive bacteria, responsible for food poisoning, is/are

A. Mycoplasmas
B. Pseudomonas
C. Clostridia✓
D. all of these

٢Which of the following gram-negative bacteria is/are not aerobic?

A. Pseudomonas
B. Neisseria
C. Escherichia✓
D. None of these

قناة #مقابلة ـ معيد

٣Gram-negative bacteria, responsible for food poisoning, is/are

A. Salmonella✔
B. Pseudomonas
C. Clostridia
D. None of these

٤Mycoplasmas are different from the other prokaryotes by

A. presence of chitin in cell walls
B. presence of murrain in cell walls
C. presence of proteins in cell walls
D. absence of cell wall itself✔

٥Mycoplasmas, rickettsiae, and chlamydiae are

A. types of fungi
B. small bacteria✔
C. species of protozoa
D. forms of viruses

٦Primary differences between cilia and flagella are

A. arrangement of microtubules
B. length and location of basal bodies
C. how the microtubules are fused to each other

D. number, length and direction of force✔

٧ What is Mycology?

A. Study of viruses

B. Study of nucleic acid

C. Study of bacteria

D. Study of fungi✔

٨ .٥٨Which of the following is a characteristic unique to the ciliates?

A. Use of cilia as a sensory function

B. Presence of both a macronucleus and several micronuclei

C. Both (a) and (b✔(

D. Possess a light-detecting eye spot

٩What are Blue-Green bacteria called?

A. Acquaobacteria

B. Cyanobacteria✔

C. Protozoa

D. None of the above

١٠Which of the following bacteria lack a cell wall and are therefore resistant to penicillin?

A. Cyanobacteria
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C. Bdellovibrios
D. Spirochetes
١١ A cluster of polar flagella is called

A. lophotrichous✔
B. amphitrichous
C. monotrichous
D. petritrichous
١٢The cooci which mostly occur in single or pairs are

A. Streptococci
B. Diplococci✔
C. Tetracocci
D. None of these

١٣The viral nucleocapsid is the combination of

A. genome and capsid✔
B. capsid and spikes
C. envelope and capsid
D. capsomere and genome
١٤Edward Jenner began inoculating humans with material from _____ lesions.

A. Smallpox
B. Avianpox
C. Cowpox✔
D. Chickenpox

١٥Which of the following bacteria can grow in acidic pH?

A. Vibrio cholerae
B. Lactobacilli✔
C. Shigella
D. Salmonella

١٦In the passive diffusion, solute molecules cross the membrane as a result of

A. concentration difference
B. pressure difference
C. ionic difference
D. all of theseHadeel Albalawi:

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قناة #مقابلة ـ معيد

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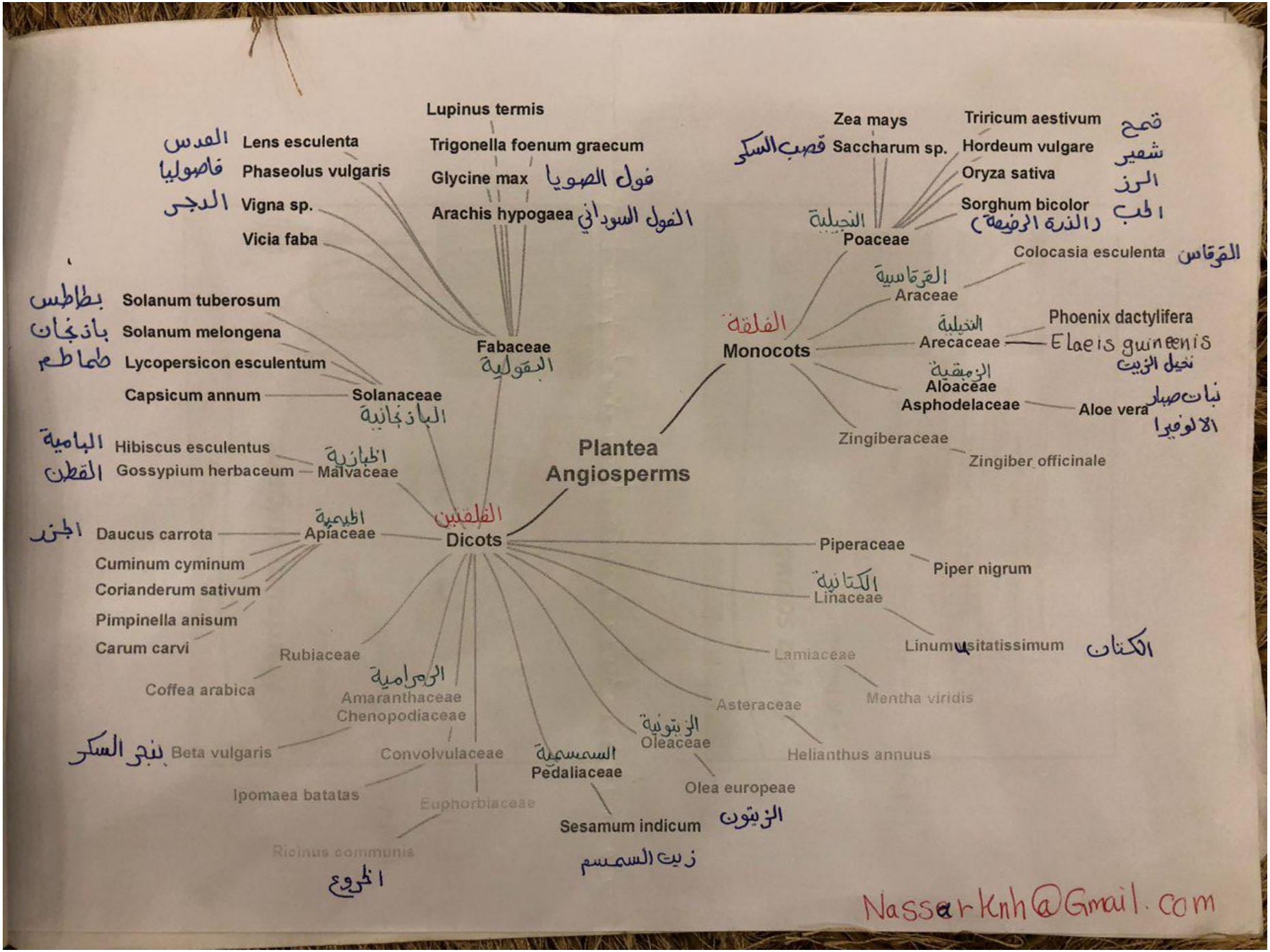
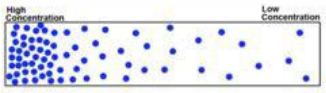
قناة #مقابلة ـ معيد



هذي جابوها وتعتبر بيسك بالاحياء

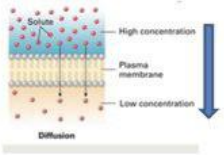
Types of transport in Cells

Concentration - the amount of a particular substance in a contained area compared with the amount of the same substance in another area



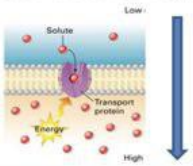
PASSIVE TRANSPORT –

- The movement of substances through a membrane from a region of high to a region of low concentration –
- No energy needed (ATP)
- Example: diffusion and osmosis



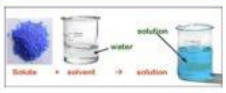
ACTIVE TRANSPORT –

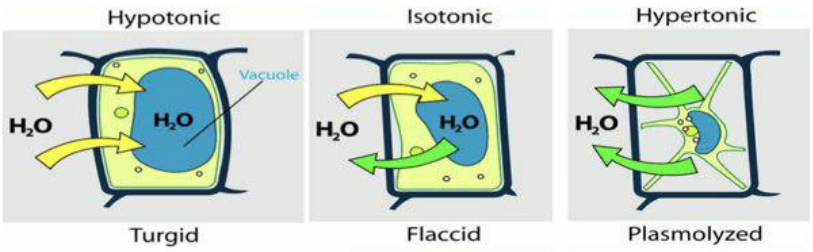
- The movement of substances through a membrane from a region of low concentration to a region of high concentration –
- Requires cellular energy (ATP)



Plant-Water Relations

SOLUTION: A liquid mixture in which the minor component (the solute) is uniformly distributed within the major component (the solvent).





Hypotonic-

A solution that causes a cell to swell because of osmosis meaning water rushes into the cell

Isotonic-

A solution that causes no change in cell size. Meaning there is no movement of water.

Hypertonic-

A solution that causes a cell to shrink because of osmosis. Meaning water leaves the cell.

Processes of transport in the living system

There are two types of process of transport in the living system:

1. Diffusion: the tendency of molecules to move from an area of higher concentration to an area of

2. Osmosis: movement of water through a membrane from a region of higher to lower

قناة #مقابلة ـ معيد

اسئلة اختبار معيد لتخصص نبات واحياء دقيقة بجامعة الملك سعود .. عام ١٤٣٨- طالبات 🔻

١/الفايروس المنتشر حالياً بافريقيا ؟
Ebola

2- الطحالب الي يستخدمونها في البنايات عشان تعزل الصوت؟
Diatoms

3-ايش هيا قوه تكبير المجهر للبكتيريا كان فيه خيارين
Objective 100x

4/ ...كي
macc...
...فريقيه ... d
differ...
...فرق بين البكتريا المخمره للاكتوز والغير مخمره (المخمره) تعطي لون احمر والغير مخمره

لون شفاف)

5/ الاسم العلمي للمشروم
Agaricus

6/ تقسم الكائنات الدقيقه الى ...
اذا على التغذية (ذاتية وغير ذاتية)
اذا على الحركة (متحركة او غير متحركة)
7/ جدار الخلوي للفطر يحتوي على ..
كيتين

8/ مجموعه من الافراد تسمى ...

9/ فيروس يحتوي على rna فقط..
فيروس الايدز HIV

١٠/ الخميره تابعة لاي نوع من الفطريات ..
الفطريات الاسكية
١١/ الطحالب الحمرا تحتوي على

صبغه
فيكوارثرين
١٢/تقسيم الكائنات الدقيقة حسب تغذيته
heterotrophs
Phototrophs

١٣/تقسيم الفطريات
🤦‍♀️نص السؤال ناقص

14/ Sond-proof room —-> Diatoms or chara

15/ Agar-Agar —-> Gelidium

16/ Primative algae--->Blue green algae

17/ Advanced algae---->Rhodophyta

18/ cell wall of fungi is made up of —->chitin

19/ gametophyte dominant in —-
>bryophytes

20/ replication of dna in ?
metaphase or Interphase

٢١ / سبب تسميه الفطريات الناقصه بهذا الاسم ... ينقصها تكاثر جنسي

٢٢ / تتكاثر الفطريات بطريقة ....

٢٣/ ماحجم الفيروس

٢٤/ الفيروس يعتبر .. Obligait incllular

٢٥ / الطراز الجيني لورده بيضاء كان السؤال اذا كانت (rr هو r ورده بيضاء R اللورده الحمراء ف ايش يكون طراز البيضاء شيء مثل كذا السؤال)

٢٦ /انقسام السيتوبلازم يسمى ..

Cytokinesis

٢٧/ وكمان فيه سؤال عن الفيروس
ومن الخيارات كان فيه
pentagon /cube

٢٨/ وكمان كان فيه سؤال جدار
الخليه البكتيريه

29/ deurtromycota? lack
sexual spores

٣٠/ Reverse-transcribing
RNA viruses--->
retroviruses

٣١/ طيب فيروس الحمى
yellow fever virus ؟ اش نوعه!!
ssRNA

٣٢/ اي الفيروسات التاليه RNA
٣٣/اي الفيروسات التاليه DNA

٣٤/ ايش النياتات اللي الطور

« المشيجي هو السائد فيها Bryophyte

٣٥/ Which of the following is not RNA virus ?!!

٣٦/ جدار الخلية البكتيرية المحتوية على حمض التكويك؟!! gram positive

٣٧/ Fungi usually store the reserve food material in the form of
a) Starch
b) Lipid
c)*glycogen*
d) protein

٣٨/ جاء سؤال عن جدار الحويصلة المغايرة Heterocyst تكون عديمة اللون وجدارها سميك

٣٩/ Parasitic on different spices--->heteroceous

٤٠/ motile algae---> green algae(chlorophyta)

٤١/ طيب تقسيم البكتريا ع اساس الحركه ايش الاجابه »Motile and non motile

٤٢ / كان فيه سؤالين عن الشئ المشترك في الفايروسات عن المادة الكيميائيه والثاني عن تركيب

٤٣ / سوال عن polar flagilla
(cluster of flagella emerging from the same site)
Lophotrichous

٤٤/ اش اقل عدد كروموسوم موجود ف الطحالب؟
2n , 4n , 6n ?

٤٥:الطحالب هي
unicellural ,
cloneal,filamentos , all the
abov

٤٦/ Mastigomycota الفطريات
السوطية---> ابواغ متحركة
zoospores

٤٧/ Basidomycetes--
>chlamydospore

48/ bacteria cocus in chain
- sterptococcus

٤٩/ في سوال جا عن البيئة من
الاختبارات المجتمع والجماعه
وعلم البيئة (community-
Ecology - popullation)

٥٠/ Amastigomycota —
تتصنف حسب
sexual ولا asexual ?
Sexual

٥١/Virus count by ?
plaque assay

٥٢/ viral detetion by?
ELISA

٥٣/ virus structure in all virus?
Capsid

٥٤/ Virus chemical structure? protien

٥٥/ Two important components found in all viruses: ?
capsid and genome

٥٦/ bacteria lack cell wall?
mycoblasma

٥٧/ Rod shape bacteria--->
bacillus

٥٨/ جا سؤال عن الخشب واللحاء عن الخشب »
water and nutrition شي زي
كذا

٥٩ / كان فيه سوال عن طحلب الفولفكس و الانابينا او الكلاميد اتوقع يعني شيء زي كذا عن عند انويه فيها ...

60/Function of pili of the bacteria:
1- *Attachment to the host tissue*🌟
2- Movement
3- Reproduction (multiplication)
4- Engulf of food
5- All of the above

61/ Hb A2 is consisting of:
3 -1 ά chains and 2 γ chains

2 -2 á chains and 2 β chains
2* -3 á chains and 2 δ chains*🌟
2 -4 á chains and 3 δ chains
3 -5 á chains and 2 δ chains

[3/20, 4:13 AM] +966 55 877 0855 : Function of pili of the bacteria:
1- *Attachment to the host tissue*🌟
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Hb A2 is consisting of:
1- 3 á chains and 2 γ chains
2- 2 á chains and 2 β chains
3- *2 á chains and 2 δ chains*🌟

4- 2 á chains and 3 δ chains
5- 3 á chains and 2 δ chains

One is motile gram –ve rods:
1- Haemophilus Influenza
2- Bacillus anthracis
3- Pseudomonas aerogenes
4- *Vibrio cholerae* 🌟
5- Yersinia Pestis
[3/20, 4:14 AM] +966 55 877 0855 : Enzyme required to digest milk sugar is
🌟Lactase

The color of Cholera when cultured on TCBS is
🌟Yellow

Leishmania is transported by
🌟Sand fly

[3/20, 4:20 AM] +966 55 877 0855 : What does steatorrhea mean?
a) *Increased amount of fat in feces* 🌟
b) Persistent diarrhea
c) Hyperlipermia
d) Isosthenuria

What is the use of screening test?
a) Follow up disease course
b) Confirm disease diagnosis
c) *Detect the disease at sub-clinical stage* 🌟
d) Discover treatment ragime complications

Which of the following viruses replicates in the nucleus ?

a) Poxviruses
b) Picomaviruses
c) *Herpes virses* 🌟
d) glucos

-Vitamin A deficiency causes

Night blindness 🌟

-Goiter is

Enlargement of thyroid gland due to iodine deficiency 🌟

-Which of the following cause U.T.I and it is indole positive
.
E.Coli 🌟

1) plasma consist of :
🌟Albumin
🌟Globulin
🌟Protein

2) Sodium Citrate , prevent the clotting action by :
🌟by forming calcium insoluble salt

3) the granulocytes are formed in :
🌟bone marrow stem cell

4) the non-granulocytes are formed in :
🌟bone marrow stem cell and lymphatic tissue

الي بالعلامم الصفراء هيا الاجابه
[3/20, 9:42 PM] +966 55 877 0855 : Which of the following causing enlargement of RBCs

[A] Reticulocytes
[B] Platelets
[C] Plasmodium 🌟
[D] Leishmania

The worm which cause blood in urine is
[A] Fasciola
[B] Schistosoms haematobian 🌟
[C] H.nana
[D] Ascaris

The significant count of bacteria to be inflammation is
[A] More than 10 🌟
[B] Less than 10^3
[C] More than 10^3
[D] Less than 10^3

1Gram-positive bacteria, responsible for food poisoning, is/are

A. Mycoplasmas
B. Pseudomonas
C. Clostridia ✓
D. all of these

2Which of the following gram-negative bacteria is/ are not aerobic?

A. Pseudomonas
B. Neisseria
C. Escherichia ✓
D. None of these

3Gram-negative bacteria, responsible for food poisoning, is/are

A. Salmonella ✓

B. Pseudomonas
C. Clostridia
D. None of these
4Mycoplasmas are different from the other prokaryotes by

A. presence of chitin in cell walls
B. presence of murrain in cell walls
C. presence of proteins in cell walls
D. absence of cell wall itself✓
5Mycoplasmas, rickettsiae, and chlamydiae are

A. types of fungi
B. small bacteria✓
C. species of protozoa
D. forms of viruses

6 Primary differences

between cilia and flagella are

A. arrangement of microtubules
B. length and location of basal bodies
C. how the microtubules are fused to each other
D. number, length and direction of force✔
7What is Mycology?

A. Study of viruses
B. Study of nucleic acid
C. Study of bacteria
D. Study of fungi✔
58. 8Which of the following is a characteristic unique to the ciliates?

A. Use of cilia as a sensory function
B. Presence of both a

macronucleus and several micronuclei
C. Both (a) and (b) ✓
D. Possess a light-detecting eye spot
9What are Blue-Green bacteria called?

A. Acquaobacteria
B. Cyanobacteria ✓
C. Protozoa
D. None of the above

10Which of the following bacteria lack a cell wall and are therefore resistant to penicillin?

A. Cyanobacteria
B. Mycoplasmas ✓
C. Bdellovibrios
D. Spirochetes
11A cluster of polar flagella is called

A. lophotrichous✔
B. amphitrichous
C. monotrichous
D. petritrichous
12The cooci which mostly occur in single or pairs are

A. Streptococci
B. Diplococci✔
C. Tetracocci
D. None of these

13The viral nucleocapsid is the combination of

A. genome and capsid✔
B. capsid and spikes
C. envelope and capsid
D. capsomere and genome
14Edward Jenner began inoculating humans with material from _____ lesions.

A. Smallpox
B. Avianpox
C. Cowpox ✓
D. Chickenpox

15Which of the following bacteria can grow in acidic pH?

A. Vibrio cholerae
B. Lactobacilli ✓
C. Shigella
D. Salmonella

16 In the passive diffusion, solute molecules cross the membrane as a result of

A. concentration difference
B. pressure difference
C. ionic difference
D. all of these

هذا عرض انسجه مكتوب بالانقلش و مترجم بالعربي

Lecture 11: Animal Tissues

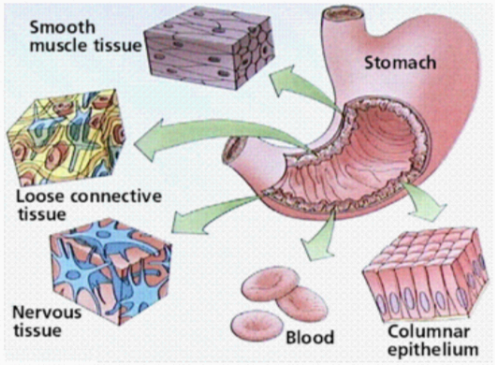
Animal Tissues (أنسجة الحيوان) Histology (علم الانسجة)

- Animals are multicellular organisms كائنات عديدة الخلايا with their specialized cells grouped into tissues.
- In most animals, combinations of various tissues make up functional units called organs, and groups of organs that work together form systems.
- For example, the human digestive system consists of a stomach, small intestine, large intestine, and several other organs, each a composite of different tissues.

Animal Tissues (أنسجة الحيوان) Histology (علم الانسجة)

Organization of the Animal Body

- Organs in animals are composed of a number of different tissue types.
- Organs are composed of tissues, which are in turn composed of cells



قناة #مقابلة ـ معيد

Animal Tissues (Histology)

- **A tissue is a group of cells with a common structure and function.**

- **Different types of tissues have different structures that are especially suited to their functions.**
- **A tissue may be held by a sticky extra-cellular matrix that coats the cells or weaves them together in a fabric of fibers.**

- **Types of tissues:**

1- Epithelial tissue نسيج طلائي,

2- Connective tissue نسيج ضام,

3- Nervous tissue نسيج عصبي,

4- Muscle tissue نسيج عضلي.

(1) Epithelial Tissues الأنسجة الطلائية

Covers تغطي **body surfaces and lines** تبطن **body cavities**

Function of Epithelium

Lining organs	Protecting organs	Forming glands
تبطين الأعضاء	حماية الأعضاء	تكوين الغدد

Glands can be single epithelial cells, such as the goblet cells الخلايا الكأسية **that line the intestine.**

Multicellular glands الغدد عديدة الخلايا **include the endocrine glands** الغدد الصماء .

Epithelia are classified by the number of cell layers and the shape of cells on the free surface.

Types of epithelia

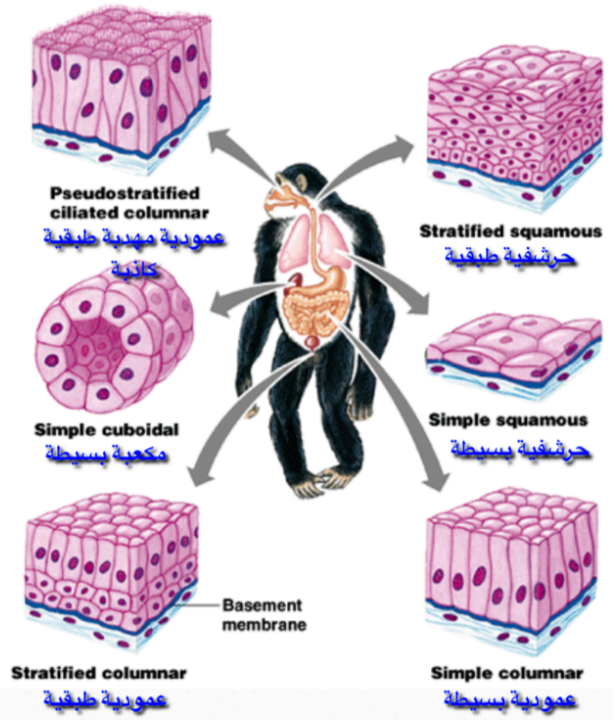
Simple epithelium بسيط**:**
layer of cells,

Stratified epithelium طبقيي**:**
is multiple layers of cells.

Pseudostratified epithelium:
single layer of cells

Types of epithelial cells:

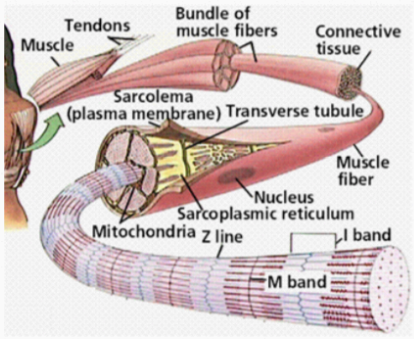
- **Cuboidal** (مكعبة),
- **Columnar** (عمودية),
- **Squamous** (حرشفية).

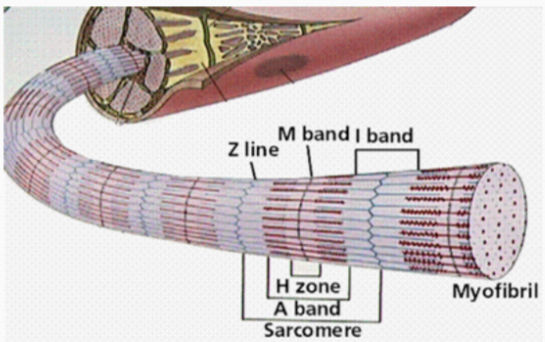


Muscle tissue النسيج العضلي:

Is composed of long cells called muscle fibers ألياف عضلية **that are capable of contracting when stimulated by nerve impulses.**

It has large numbers of myofibrils لُيَفات عضلية **made of the contractile proteins actin** الأكتين **and myosin**الميوسين .
Muscle is the most abundant tissue in most animals,



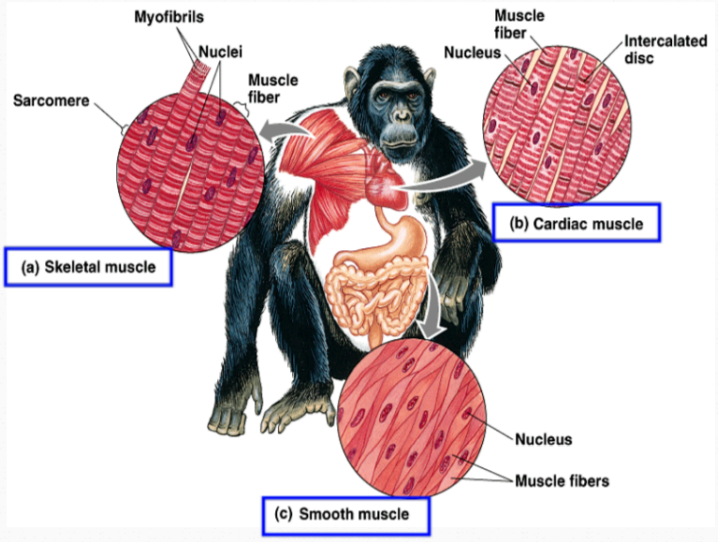


- **There are three types of muscle tissue in the vertebrate body:**

) **Skeletal muscle,**
العضلات الهيكلية

) **Cardiac muscle,**
العضلات القلبية

) **Smooth muscle**
العضلات الملساء .

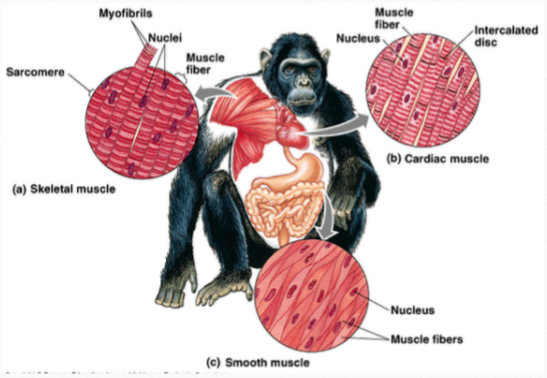


Skeletal muscle:

- It attaches to bones by tendons الأوتار, skeletal muscle is responsible for voluntary movements الحركات الإرادية.
- Also called striated muscle عضلات مخططة.

Cardiac muscle:

- forms the contractile wall of the heart.
- Cardiac cells are branched.



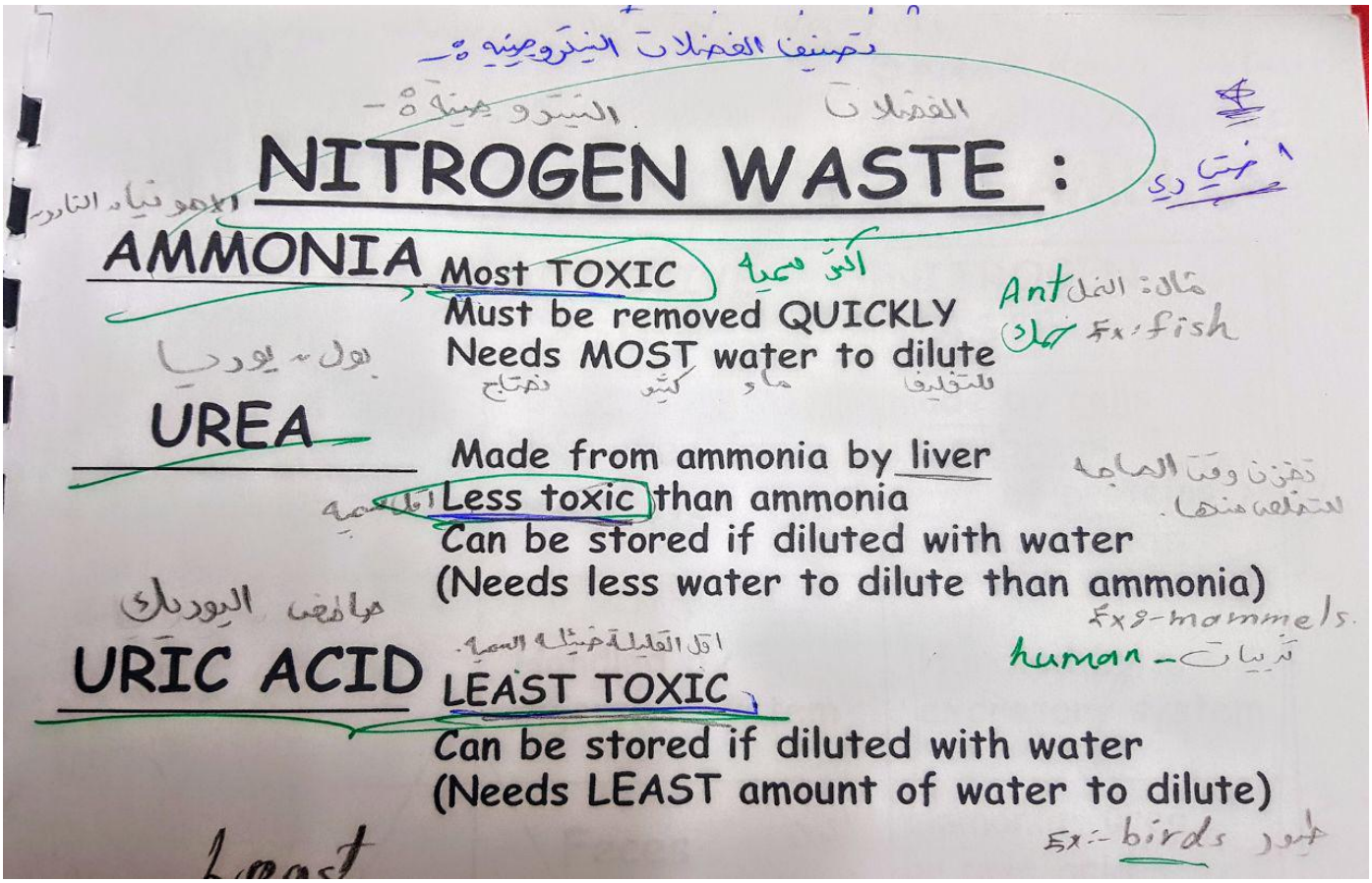
Smooth muscle:

No striations,

Is found in the walls of the digestive tract, urinary bladder, arteries, and other internal organs.

Its cells are spindle-shaped.

هذا تقسيم الفضلات .. والاشد سمّيه

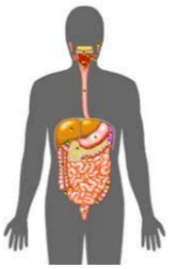
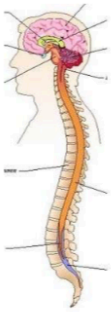


قناة #مقابلة ـ معيد

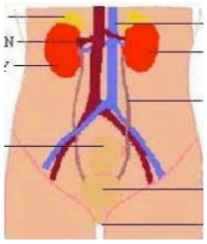
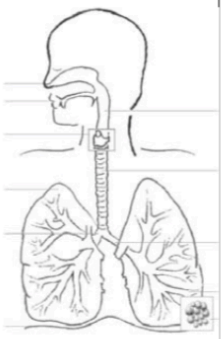
هذا ملخص اجهزة الجسم

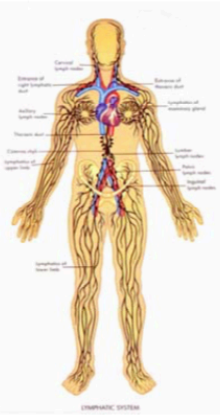
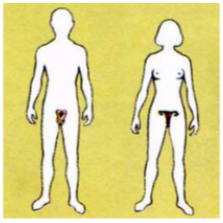
Name _____ Period _____ Date _____

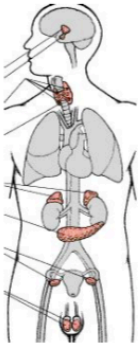
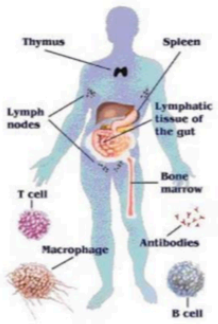
THE HUMAN BODY SYSTEMS

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Digestive	1. take in food (ingestion) 2. digest food into smaller molecules and absorb nutrients 3. remove undigestable food from body (feces)		Mouth, esophagus, stomach, Sm. Intestine, Lg. intestine, rectum, anus Salivary glands, pancreas, liver, gall bladder	1. w/circulatory – absorb & deliver the digested nutrients to the cells 2. w/muscular – control the contractions of many of the digestive organs to pass food along 3.w/nervous – hypothalamus maintains homeostasis by triggering appetite (stomach growling), digest.
Circulatory	Transport materials to and from cells		Heart Veins Arteries Capillaries Red blood cells	1. w/respiratory – deliver O_2 from lungs to cells and drop off CO_2 from cells to lungs 2. w/digestive – absorb and deliver digested nutrients to cells 3. w/excretory – kidneys filter cellular waste out of blood for removal 4. w/lymphatic – both transport things to and from cells 5. w/immune – transports WBCs throughout body to fight disease 6. w/nervous – brain controls heartbeat 7. w/endocrine – trans. hormones
Nervous	1. gathers and interprets information 2. responds to information 3. helps maintain homeostasis		Brain Spinal cord Nerves Nerve cells = neurons hypothalamus	Controls all other systems Hypothalamus – maintains homeostasis by working with all systems

قناة #مقابلة ـ معيد

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Excretory	1. removes waste products from cellular metabolism (urea, water, CO_2) 2. filters blood		Kidneys Ureters Bladder Urethra Lungs Skin – sweat glands Liver (produces urea)	1. w/circulatory – filters waste out of blood 2. w/lungs – removes excretory waste 3. w/integumentary – removes excretory waste
Respiratory	Takes in oxygen and removes carbon dioxide and water		Nose Trachea Bronchi Bronchioles Alveoli lungs	1. w/circulatory – takes in O_2 for delivery to cells and removes CO_2 brought from cells 2. w/excretory – removes excretory waste 3. w/nervous – controls breathing 4. w/muscular – diaphragm controls breathing
Skeletal	1. protects organs 2. provides shape, support 3. stores materials (fats, minerals) 4. produces blood cells 5. allows movement		Bones Cartilage ligaments	1. w/muscular – allow movement 2. w/circulatory – produce blood cells 3. w/immune – produce white blood cells 4. w/circulatory and respiratory – protects it's organs

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Integumen-tary	1. barrier against Infection (1st line of defense) 2. helps regulate body temp. 3. removes excretory waste (urea, water) 4. protects against sun's UV rays 5. produces vitamin D		SKIN *Epidermis *Dermis - sweat gland - sebaceous gland (oil) - hair follicle - blood vessels - nerves	1. w/excretory – removes cellular waste 2. w/nervous – controls body temperature (sweating, goose bumps) 3. w/immune – prevents pathogens from entering
Lymphatic	1. stores and carries WBC's that fight disease 2. collects excess fluid and returns it to blood (2nd circulatory system-reaches places other one can't – between cells)		Lymph (liquid part of blood – plasma, when it's in lymph vessels) Lymph Vessels Lymph Nodes Contain WBCs	1. w/immune – holds lots of WBCs to fight pathogens 2. w/circulatory – to transport materials to and from cells
Reproduct-ive	Allows organisms to reproduce which prevents their species from becoming extinct.		Ovaries *produce eggs Testes *produce sperm	1. w/endocrine – controls production of sex cells 2. w/muscular – uterus contracts to give birth – controlled by hormones

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Muscular	Allows for movement by contracting		Cardiac muscle Smooth muscle Skeletal muscle tendons	1. w/skeletal – allow movement 2. w/digestive – allow organs to contract to push food through 3. w/respiratory – diaphragm controls breathing 4. w/circulatory – controls pumping of blood (heart) 5. w/nervous – controls all muscle contractions
Endocrine	Regulates body activities using hormones. Slow response, long lasting		Glands *Hypothalamus *Pituitary *Thyroid *Thymus *Adrenal *Pancreas *Ovaries *Testes Glands produce Hormones	1. w/circulatory – transports hormones to target organs 2. w/nervous – maintain homeostasis, hormone release 3. w/reproductive – controlled by hormones 4. w/skeletal – controls growth of bones
Immune	Fights off foreign invaders in the body		White Blood Cells *T cells *B cells -produce antibodies *Macrophages Skin	1. w/circulatory – transports WBCs to fight invaders 2. w/lymphatic – has lots of WBCs to fight invaders, spleen filters bacteria/viruses out of blood 3. w/skeletal – WBCs made in bone marrow 4. w/integumentary – prevents invaders from getting in

اسئلة اختبار معيد لتخصص نبات واحياء دقيقة بجامعة الملك سعود عام ١٤٣٨- طالبات
🔻..

١/الفايروس المنتشر حالياً بافريقيا ؟
Ebola

٢- الطحالب الي يستخدمونها في البنايات عشان تعزل الصوت؟
Diatoms

٣-ايش هيا قوه تكبير المجهر للبكتيريا كان فيه خيارين
Objective 100x

٤/ مانوع بيئة ماكونكي macconkey
بيئه تفريقيه (selective and different)
تفرق بين البكتريا المخمره للاكتوز والغير مخمره (المخمره تعطي لون احمر والغير مخمره لون شفاف)

٥/ الاسم العلمي للمشروم
Agaricus

٦/تقسم الكائنات الدقيقه الى ...
اذا على التغذية (ذاتية وغير ذاتية)
اذا على الحركة (متحركة او غير متحركة)
٧/جدار الخلوي للفطر يحتوي على ..
كيتين

قناة #مقابلة ـ معيد

٨/مجموعه من الافراد تسمى ...

٩/فيروس يحتوي على rna فقط..
فيروس الايدز HIV

١٠/الخميره تابعة لاي نوع من الفطريات ..
الفطريات الاسكية
١١/الطحالب الحمرا تحتوي على صبغه
فيكوارثرين
١٢/تقسيم الكائنات الدقيقة حسب تغذيته
heterotrophs
Phototrophs

١٣/تقسيم الفطريات
نص السؤال ناقص♀🤦

١٤/ Sond-proof room —-> Diatoms or chara

١٥/ Agar-Agar —-> Gelidium

١٦/ Primative algae--->Blue green algae

١٧/ Advanced algae--->Rhodophyta

قناة #مقابلة ـ معيد

١٨/ cell wall of fungi is made up of —->chitin

١٩/ -— gametophyte dominant in
bryophytes<

٢٠/ replication of dna in ? metaphase or Interphase

٢١ / سبب تسميه الفطريات الناقصه بهذا الاسم ... ينقصها تكاثر جنسي

٢٢ / تتكاثر الفطريات بطريقة ....

٢٣/ ماحجم الفيروس

٢٤/ الفيروس يعتبر .. Obligait incllular

٢٥ / الطراز الجيني لورده بيضاء هو rr (كان السؤال اذا كانت اللورده الحمراء R ورده بيضاء r ف ايش يكون طراز البيضاء شيء مثل كذا السؤال)

٢٦ /انقسام السيتوبلازم يسمى ..
Cytokinesis

٢٧/ وكمان فيه سؤال عن الفيروس ومن الخيارات كان فيه pentagon /cube

٢٨/ وكمان كان فيه سؤال جدار الخليه البكتيريه

٢٩/ deurtromycota? lack sexual spores

قناة #مقابلة ـ معيد

٣٠/ Reverse-transcribing RNA viruses <---
retroviruses

٣١/ طيب فيروس الحمى
yellow fever virus اش نوعه ؟!!
ssRNA

٣٢/ اي الفيروسات التاليه RNA

٣٣/اي الفيروسات التاليه DNA

٣٤/ ايش النياتات اللي الطور المشيجي هو السائد فيها » Bryophyte

٣٥/ Which of the following is not RNA virus ?!!

٣٦/ جدار الخلية البكتيرية المحتوية على حمض التكويك؟!! gram positive

٣٧/ Fungi usually store the reserve food material in the form of
a) Starch
b) Lipid
*c)*glycogen
d) protein

٣٨/ جاء سؤال عن جدار الحويصلة المغايرة Heterocyst تكون عديمة اللون وجدارها سميك

٣٩/ Parasitic on different spices--->heteroceous

٤٠/ (motile algae---> green algae(chlorophyta

٤١/ طيب تقسيم البكتريا ع اساس الحركه ايش الاجابه « Motile and non motile

٤٢ /كان فيه سؤالين عن الشئ المشترك في الفايروسات عن المادة الكيميائيه والثاني عن تركيب

٤٣ / سوال عن polar flagilla (cluster of flagella emerging from (the same site
Lophotrichous

٤٤ /اش اقل عدد كروموسوم موجود ف الطحالب؟
٢n , 4n , 6n ?

٤٥:الطحالب هي
unicellural , cloneal,filamentos , all the abov

٤٦/ Mastigomycota الفطريات السوطية---> ابواغ متحركة zoospores

قناة #مقابلة ـ معيد

٤٧/ Basidomycetes-->chlamydospore

٤٨/ bacteria cocus in chain - sterptococcus

٤٩/ في سوال جا عن البيئة من الاختبارات المجتمع والجماعه وعلم البيئة (community- Ecology - popullation)

٥٠/ Amastigomycota — تتصنف حسب sexual ولا asexual ?
Sexual

٥١/ Virus count by ?
plaque assay

٥٢/ viral detetion by?
ELISA

٥٣/ virus structure in all virus?
Capsid

٥٤/ Virus chemical structure? protien

٥٥/ Two important components found in all viruses : ?
capsid and genome

٥٦/ bacteria lack cell wall? mycoblasma

٥٧/ Rod shape bacteria---> bacillus

٥٨/ جا سؤال عن الخشب واللحاء » عن الخشب
water and nutrition شي زي كذا

٥٩ /كان فيه سوال عن طحلب الفولفكس و الانابينا او الكلاميد اتوقع يعني شيء زي كذا عن عند انويه فيها ...

٦٠/Function of pili of the bacteria:
١- Attachment to the host tissue*🌟*
٢- Movement
٣- (Reproduction (multiplication
٤- Engulf of food
٥- All of the above

٦١/ Hb A2 is consisting of:
١- ٣ ά chains and 2 γ chains
٢- ٢ ά chains and 2 β chains
٣- ٢* ά chains and 2 δ chains*🌟
٤- ٢ ά chains and 3 δ chains
٥- ٣ ά chains and 2 δ chains

تلخيص طفيليات

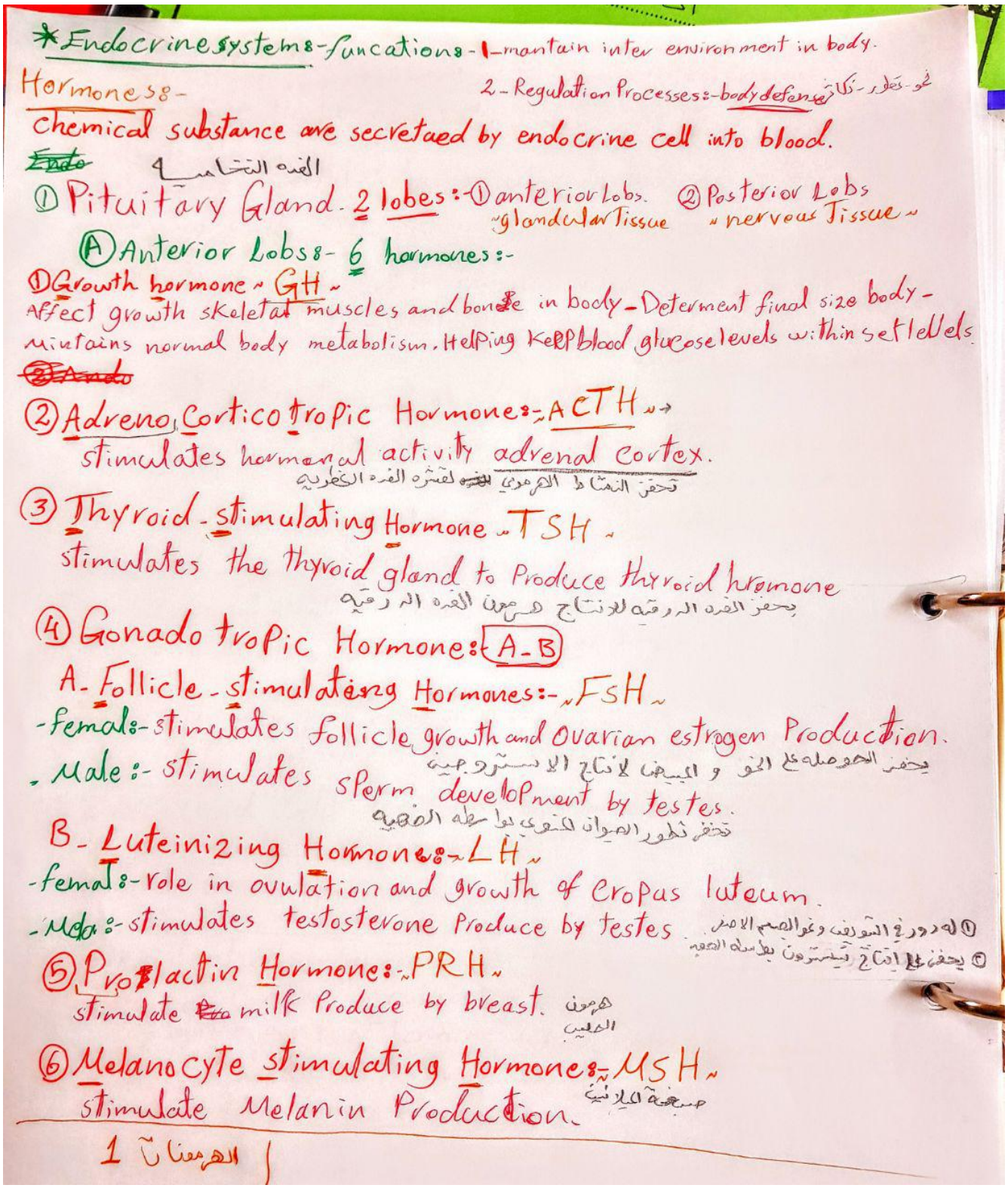
	Entamoeba	Lishmania	*Trypanosoma* sp.		Giardia	Trichomonas vaginalis
Classifcation:	K: Protozoa P: Rhizopoda C: Entamoeba e.g.:Entamoeba histolytica	K:protozoa P: Euglenozoa C: Kinetoplastidea G: Leishmania	K: protozoa P: Sarcomastigophora SP: Mastigophora C: Zoomastigophorea O: Kinetoplastida e.g.: Trypanosoma brucei	K: protozoa P: Sarcomastigophora SP: Mastigophora C: Zoomastigophorea O: Kinetoplastida e.g.: Trypanosoma cruzi	P:Sarcomastigophora SP:Mastigophora C:Zoomastigophorea O: Diplomonadida e.g: Giardia lamblia	P:Sarcomastigophora SP:Mastigophora C:Zoomastigophorea O:Trichomonadida e.g.1: Trichomonas vaginalis e.g.2: Trichomonas buccalis e.g.: Trichomonas intestinalis
Disease:	Amoebiaisis, amoebic dysentery, amoebic colitis, amoebic liver abscess.	1 ***L. donovani*** (Visceral Leishmaniasis "Kala azar"). 2 ***L. Tropica*** (Cutaneous Leishmaniasis "oriental sore"). 3 ***L. braziliensis*** (Muco-cutaneous Leishmaniasis "Espundia")	***T. brucei gambiense, T. brucei rodesiense*** **cause : sleeping sickness (African trypanosomes)**	**causes chaga's disease**		**trichomonad vaginitis**
Geographical Distripution:	Cosmopolitan especially in tropics and subtropics and wherever sanitary conditions are bad.	Most of the affected countries are in the tropics and subtropics.	• rural Africa.	***T. cruzi*** **is mainly distributed in South America,**		
Habitat:	Large intestine, occasionally extra-intestinal (liver, lung, brain, …).	Macrophage of human Midgut of sand fly	blood fluids (e.g., lymph, spinal fluid) mid gut and salivary glands of tsetse fly	Midgut and hindgut of bug. Cells of human	Intestine	-endoparasite -residing in the upper part of vagina around the cervix and urethra in **women** and , the urethra and associated glands of male

Hosts:	Definitive host: man. Reservoir host: monkey, dog and rat.	Vector of Leishmaniasis: transmitted by certain species of sand fly, including flies in the genus Lutzomyia. Reservoir host: dogs Intermediate host: human	Vector: transmitted by the **tsetse fly (*Glossina* species),**	**insect vector of** the genus ***Triatoma* (kissing" bug)**	Human	both male and female
Morphology:	Three stages [Trophozoite - precyst - cyst]	Tow stages: Promastigotes infective stage – in midgut of sand fly. Amastigotes: in macrophage cells of human.	**<u>1- The TRYPOMASTIGOTE:</u>** • It is found in the **bloodstream** • has a characteristic 'C' shape • single flagellum emerges through a flagellar pocket and runs the whole length of the cell. • The large kinetoplast is found at the posterior end of the cell. The **METACYCLIC TRYPOMASTIGOTE** is the **infective stage** **<u>2-The AMASTIGOTE</u>** • It is **the intracellular** • It is a round/oval-shaped cell with no protruding flagellum. **<u>3- The EPIMASTIGOTE</u>** • It is found in the intestinal tract (midgut) of the **insect vector**. • The kinetoplast is found anterior and adjacent to the nucleus • The flagellum emerges in the middle of the cell.		**<u>1- The trophozoite form</u>** - bilaterally symmetrical, pear shaped flagellate -anterior part is broad and round while the posterior end is narrow and tapering. -has central sucking discs -Four pairs of flagella -axostyle -pair of nuclei -parabasal bodies or median bodies. **<u>2- The cyst form</u>** Cyst formation occurs when conditions in the duodenum are unfavourable -a thick resistant wall -smooth wall and finely granular cytoplasm. -Inside the cyst the nuclei may divide and four nuclei are formed. -sensitive to desiccation	**-trophozoite phase** and there is no cystic phase. -Pear shaped -single nucleus -undulating membrane - 3 to 5 anterior free flagella.

Life cycle:	Infective stage: quadrinucleated mature cyst. Diagnostic stage: Cyst & trophozoite Mode of infection: ingestion of cysts: 1- In contaminated food and drinks.	Infective stage: promastigote Diagnostic stage: Amastigote	Infective stage: metacyclic trypomastigote Diagnostic stage: trypomastigote	Infective stage: metacyclic trypomastigote Diagnostic stage: intracellular amastigote	Infective stage: cyct Diagnostic stage: trophozoite and cyct in stool .	Infective stage: trophozoite in vagina or orifice of urine Diagnostic stage: trophozoite in vaginal and prostatic secretions and urine.
Clinical aspect	*Asymptomatic infection: infected persons are usually helthy. *symptomatic infection: 1- Intestinal Amoebiasis: • acute dysentery (diarrhea alternating with constipation, tenesmus with blood & mucucs in stool). • chronic non-dysenteric amoebiasis. 2- extra-intestinal amoebiasis: The trophozoites may disseminate via blood to other extra-intestinal sites e.g. in the liver, lung, brain … etc.	The factors determining the form of disease include: – leishmanial species, – geographic location, – immune response of the host.	**Symptoms/Pathology** fever, headache, joint pain, weakness and itching. infect the central nervous system, the symptoms include headache, abnormal behaviour, lethargy, and finally unconciousness and coma before death.	-begins with a lesion at the site of inoculation called a chagoma . -fever, anorexia, or heart problems . -Symptomatic chronic disease, including pathology of the heart and digestive tract, weight loss and pulmonary infections may then develop and can be fatal.	**Symptoms/Pathology** • Fatty diarrhea. • Abdominal pain (heavy infections). **Prophylaxis** • Avoiding contaminated food and water. • Avoiding insects. • Treatment of patients.	

Diagnosis:	- Intestinal amoebiasis: 1-Stool examination by: -Direct smear: Trophozoite appears more in diarrheic stool while cysts are present more in well-formed stool -Concentration techniques 2-Stool culture. 3-Rectal scraping: to detect trophozoites. 4-Sigmoidoscopy or total colonoscopy for: Visualization of the lesions- Biopsy-Aspiration. **II- Extra-intestinal amoebiasis:** X-rays. - Ultrasonography. -Computed tomography (CT) and magnetic resonance imaging (MRI). -Immunological tests. -Examination of aspirates for trophozoites by smear or culture. -Leucocytic count: leucocytosis.	Clinically: 1- Fever 2- Enlargement of liver and spleen. 3- Anaemia & leukopenia. 4- By the picture of sore. Laboratory Diagnosis: Giemsa stained slides of the tissue used to detect the parasite (amastigote form).	Diagnosis is made by identifying trypanosomes in fluid from a chancre, lymph node aspirate, blood, bone marrow aspirate, or, during the late stage of infection	1-By microscopic examination of blood smear • Diagnosis of chronic Chagas disease is made by testing with at least two different serologic tests.	**Diagnosis** • Trophozoites and / or cysts in stools. • ELISA test is available to detect Giardia antigen.	
Prevention and Control:	Anti-vector measures. Proper sewage disposal. Safe water supply. Not to use excreta as fertilizer or storage before use. Health education:		1 -Avoiding tsetse flies . a - Bed nets b - Fly repellents 2 -Control of reservoir host (cattle, horses,..etc). 3- Treatment of patients.		**Prophylaxis** • Avoiding contaminated food and water. • Avoiding insects. • Treatment of patients.	

هذي الهرمونات .. اختصرتها قد مقدر



قناة #مقابلة ـ معيد

(B) Posterior Lobes:- acts storege area hormones made by ~~Hypo~~ HyPothalamus
يعمل كمساحة تخزين لصنع الهرمونات في تحت المهاد

A - Antidiuretic hormone: ADH - help control blood Pressure.

B - oxytocin:-

① stimulate Powerful Contraction uterine muscles.

② Causes milk ejection in nursing Women.

② HyPothalamus:- (تحت المهاد) Part the nervous system - located: above Pituitary gland.

- secrates (ADH - OXYtocin) which stored in Posterior Pituitary
تخزن في الفص الخلفي - الغدة النخامية -

③ Pineal Gland:- small gland located in Brain.

- Secretes melatonin hormone regulation sleep - wake cycle.
تفرز هرمون ميلاتونين التي تنظم النوم والاستيقاظ

④ Thyroid gland:- Located front neck: Two lateral Lobes:- 2 hormone

① Thyroid hormone (T4 . T3):-

- Essential normal growth of tissue. - مسؤول عن نمو الانسجة بشكل طبيعي
- stimulate metabolic rate. - تحفز معدل الايض

② Clacitonin:- يتحكم في مستويات الكالسيوم في الدم

- Controls levels of calcium in blood - released blood Ca is high -

⑤ Parathyroid Glands:- 4 gland - Posterior surface thyroid gland

- secrate Parathyroid Hormone - PTH -
① ينظم اتزان الكالسيوم
② زيادة مستويات الكالسيوم في الدم

regulate Calcium ion homeostasis, increase levels Calcium in blood
- released blood Ca is low -
يفرز اذا انخفض الكالسيوم في الدم

⑥ Adrenal Glands:- Cover top each Kidney.

1 - Adrenal Cortex - the outer Part - Produces:-
3 major groups of hormones which called:- Corticosteroids

2 - Adrenal medulla: the inner Part - 2:-
1 - epinePhrine - adrenaline
2 - nor epinePhrine - nor adrenaline -

The Prepare the body stressful condations.
تهيئ الجسم لمواجهة الظروف

الهرمونات 2

⑦ Thymus Gland:- الغدة الزعترية small gland located upper thorat

1- Thymosin hormone stimulates development - T-lymphocytes - T cells -
Tcells - تفرز هرمون ثيموسين يحفز على تطور خلايا (التي لمفوسايت -

⑧ Pancreas:- له نوعين من الخلايا - خلايا تفرز للخارج - خلايا تفرز للداخل -

① endocrine cells - Islet cells Langerhans - لانجرهانز

A- Alpha Cells - secrate glucagon -

B- Beta Cells - secrate insulin -

Bath hormones:- Control blood glucose levels → ①

② Exocrine Cells:- تحوي نوع آخر البنكرياس ①
secrate digestive enzyme. تفرز هرمونات هاضمة ② . تهضم الدهون - كربوهيدرات - بروتين

⑨ Gonads:-

① Endocrine Produce sex hormones.

② Exocrine Produce sex Cell.

Endocrain organs:- 1- Testes. 2- Ovary.

① Testes:- Produce testosterone hormone:- 3 funcations:-

1- Responsible growth and maturation reproduction organs.

2- 〃 appearance secondary sex characters.

3- supports final stages sperm production.

② - Ovary - Ovaries - 2 hormones:-

1- Estrogen:- 2 funcations:-

1- Responsible growth and maturation reproduction organs.

2. 〃 appearance secondary sex characters.

2- Progesterone:- 2 funcations:-

1- regulation cyclin changes in uterine lining

2- Pregnancy - inhibits contractions uterus's muscles.

الهرمونات 3

Immunity:

1. **Innate (non-specific) immune system:**
   A. External: skin, mucous membrane.. etc
   B. Internal: phagocytes, antimicrobial proteins
2. **Adaptive (specific) immune system:**
   A. Humoral immunity (antibodies)
   B. Cellular defense

Innate Immune System:

1. External: skin, mucous membrane, body secretions.. etc

2. Internal:
   A. Phagocytes (bacteria-eating cells)
      1. Neutrophils (most abundant): they self-destruct after they swallow intruders (make pus)
      2. Macrophages (biggest): they use cytoplasmic extensions to engulf pathogens. They're derived from monocytes that moved from blood stream to occupy tissues:
         A. Free macrophages: patrol tissues
         B. Fixed macrophages: relatively immotile macrophages found in tissues, such as stellate macrophages found in the liver (kupffer cells)
   B. Natural Killer Cells (NK):
      Patrol and kill infected or cancerous cells.
      (How?) A healthy cell contains an MHC class I protein on its surface. If it stops making it when infected, it triggers an NK response that leads to apoptosis (programmed cell death)

   C. Inflammatory response:
      > redness, swelling, heat, pain
      e.g.: the production of histamine
      Histamine and other inflammatory chemicals cause capillaries to release protein-rich fluid to clot blood in case of injuries

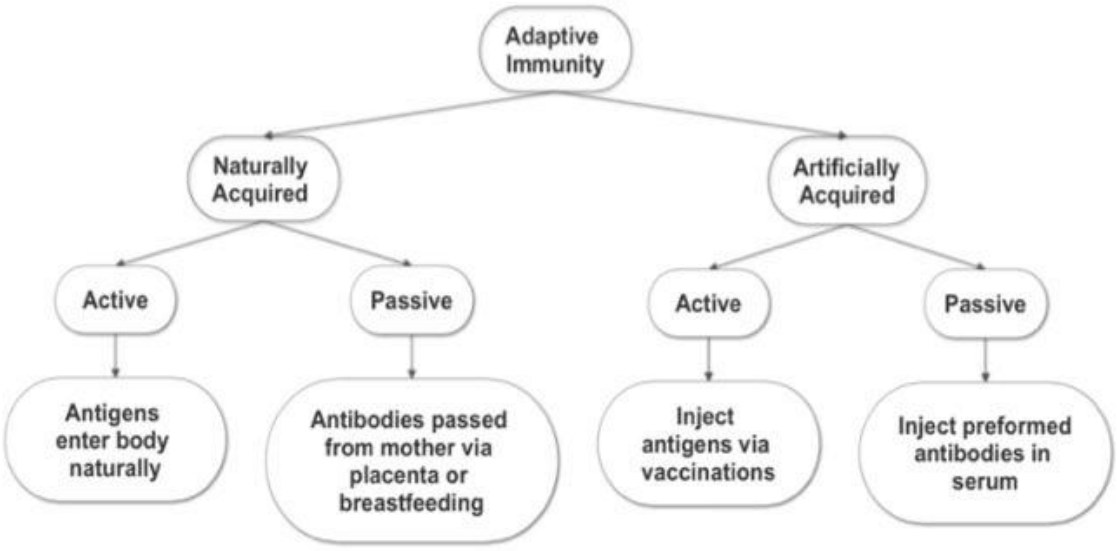
      P.S. heat fasten healing process
      P.S. leukocytosis is an increase in WBC count in blood and is usually a sign of an inflammatory response

Adaptive (acquired) Immune System:
> is specific, systematic, and has a memory

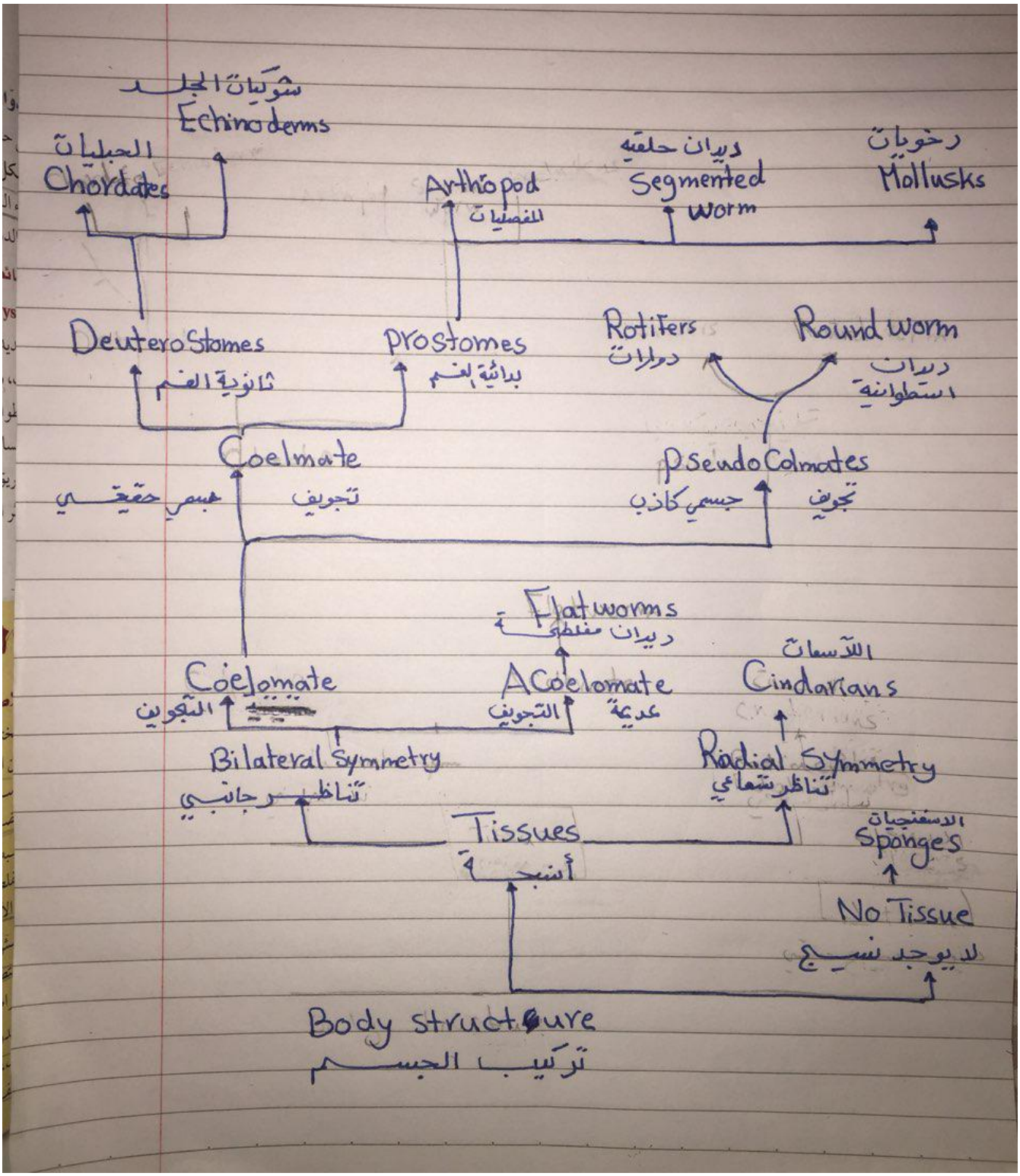
A. Humoral immunity (B lymphocytes > produced in bone marrow)
   1. Recognize antigen using membrane-bound antibodies
      P.S. epitope is the part of antigen that is recognized by B cells
   2. B cell activated (with help of T cell) > divide and multiply into several B cells (plasma cells (fighters), memory B cells)
   3. Plasma cells secrete free antibodies into blood stream
   4. Free antibodies >
      - Attach to and block intruder's receptors, preventing it from attacking and invading new cells (this process is called **neutralization**)
      - Mark out antigens to prepare for phagocytosis (this process is called **opsonization**)
      - Bivalent nature of antibody (two binding sites) lead to cross-linking one antigen to another which cause antigens to clump together (this process is called **agglutination**) which help in phagocytosis as large clumps of antigens can be eliminated in one pass

B. Cell-mediated response (T lymphocytes > mature in thymus)
   1. Helper T cells (CD4+ T cells) have receptors that attach to a specific combination of (antigen + MHC class II) on B cell surface
   2. Activate both B cell and helper T cell
   3. Helper T cell starts multiplying and releasing cytokines which activate other T cells into multiplying to helper, memory, and regulatory T cells
   4. Cytokines also send alarm to other immune cells
   5. Cytotoxic T cells (CD8+ T cells) roam and kill infected body cells (how do they know which cell is infected?) > infected cells represent invader's proteins on their MHC class I
   6. Cytotoxic T cells attach to infected cell's MHC class I and release killer enzymes (granzymes) that induce programmed cell death
   7. Regulatory T cells (suppressors) tell immune system to stop fighting once the invader is beaten

      P.S. Regulatory T cells help prevent autoimmune diseases
      P.S. HIV virus targets helper T cells



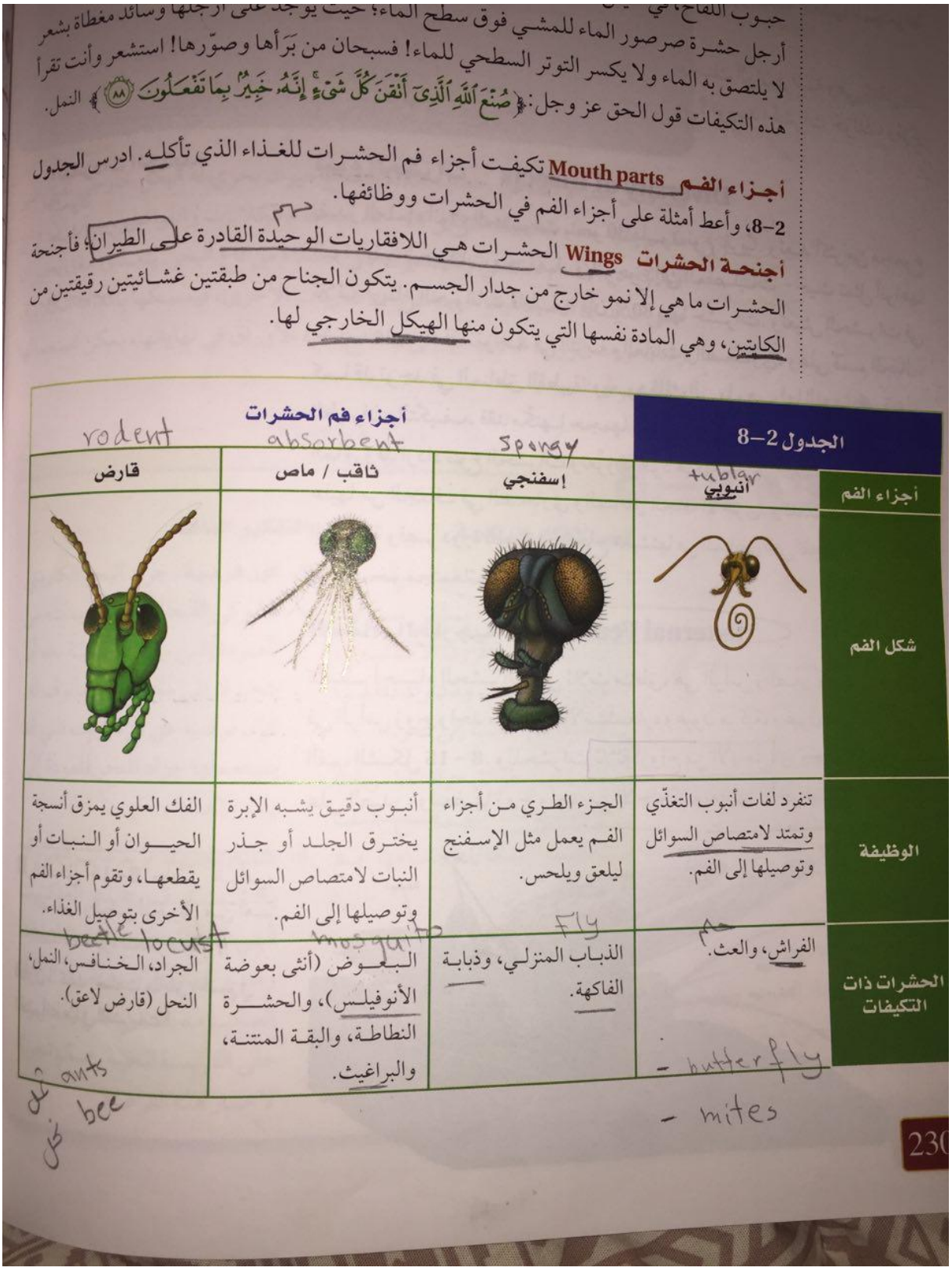
هذا الجدول بالانقلش .. تصنيف الممالك



قناة #مقابلة ـ معيد

الاسفنج = عديم تناظر Asymmetry

Insect mouth من ضمن المواضيع المطروحة وكاتبين مع الرسم



حبوب اللقاح، في
أرجل حشرة صرصور الماء للمشي فوق سطح الماء؛ حيث يوجد على أرجلها وسائد مغطاة بشعر
لا يلتصق به الماء ولا يكسر التوتر السطحي للماء! فسبحان من برأها وصوّرها! استشعر وأنت تقرأ
هذه التكيفات قول الحق عز وجل: ﴿صُنْعَ اللَّهِ الَّذِي أَتْقَنَ كُلَّ شَيْءٍ إِنَّهُ خَبِيرٌ بِمَا تَفْعَلُونَ ﴿٨٨﴾﴾ النمل.

أجزاء الفم Mouth parts تكيفت أجزاء فم الحشرات للغذاء الذي تأكله. ادرس الجدول 2–8، وأعط أمثلة على أجزاء الفم في الحشرات ووظائفها.

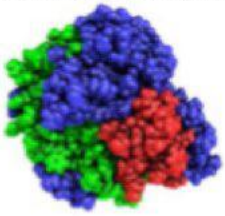
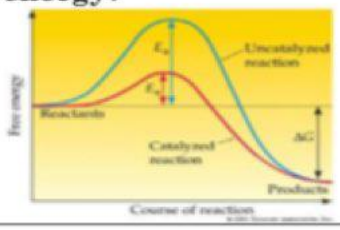
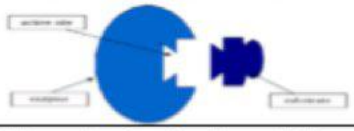
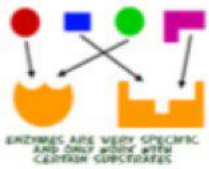
أجنحة الحشرات Wings الحشرات هي اللافقاريات الوحيدة القادرة على الطيران؛ فأجنحة الحشرات ما هي إلا نمو خارج من جدار الجسم. يتكون الجناح من طبقتين غشائيتين رقيقتين من الكايتين، وهي المادة نفسها التي يتكون منها الهيكل الخارجي لها.

الجدول 2–8 أجزاء فم الحشرات

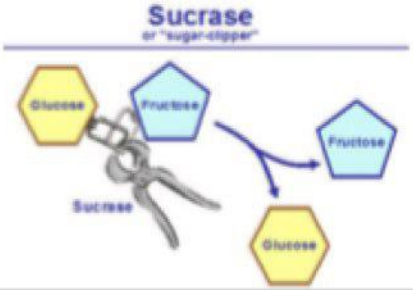
أجزاء الفم	أنبوبي	إسفنجي	ثاقب / ماص	قارض
شكل الفم				
الوظيفة	تنفرد لفات أنبوب التغذّي وتمتد لامتصاص السوائل وتوصيلها إلى الفم.	الجزء الطري من أجزاء الفم يعمل مثل الإسفنج ليلعق ويلحس.	أنبوب دقيق يشبه الإبرة يخترق الجلد أو جذر النبات لامتصاص السوائل وتوصيلها إلى الفم.	الفك العلوي يمزق أنسجة الحيوان أو النبات أو يقطعها، وتقوم أجزاء الفم الأخرى بتوصيل الغذاء.
الحشرات ذات التكيفات	الفراش، والعث.	الذباب المنزلي، وذبابة الفاكهة.	البعوض (أنثى بعوضة الأنوفيلس)، والحشرة النطاطة، والبقة المتنة، والبراغيث.	الجراد، الخنافس، النمل، النحل (قارض لاعق).

قناة #مقابلة ـ معيد

هذا ملخص بسيط للانزيمات

Questions/Main Idea:	Notes:
What are **enzymes**? 	• Enzymes are proteins that help molecules react with one another • Their monomers are amino acids. • Enzymes are used by cells to trigger and control **chemical reactions**. • Without enzymes, several reactions in cells would never occur or happen too slowly to be useful. • In digestive enzymes, often end in "-ase"
What is a **chemical reaction**?	• It is the process of changing one set of chemicals (reactants) into another set of chemicals (products) by rearranging the atoms. • Reactants' bonds are broken and new ones are formed in the products.
What is a **catalyst**? 	• It is a substance that speeds up the rate of a chemical reaction. • It lowers the **activation energy**. • It participates in the reaction but doesn't change itself; therefore it can be used over and over.
What is **activation energy**? 	• It is the amount of energy needed to start a chemical reaction. • Catalysts speed up chemical reactions by lowering their activation energy. • Enzymes are catalysts because they lower the activation energy by holding molecules together to either help them bind (synthesize) or help them break apart (decompose).
What is a **substrate**?	• Enzymes bind to or break molecules called **substrates**. • These substrates are the reactants that are catalyzed by the enzyme.
What is the **active site**? 	• Each substrate and enzyme has a specific shape, therefore enzymes bind to substrates based on shape. • The site on the enzyme where the substrates bind is called the **active site**.
What is the Lock and Key Hypothesis? 	• Enzymes bind to the substrates based on their complementary shape. • The fit is so exact that the active site and substrates are compared to a lock and key. • Most digestive enzymes are named for the foods (molecules) they help react—lact**ase** helps break down lact**ose** (milk sugar)

قناة #مقابلة ـ معيد

What are other examples of enzymes and what they break down? 	• **Lactase** breaks down lactose into glucose and galactose • **Sucrase** (the "sugar-clipper"): breaks down sucrose (common table sugar) into glucose and fructose • **Amalyse** breaks down starch in your mouth and stomach • **Lipase** breaks down ats • **Pepsin** breaks down proteins
How are enzymes affected by the reaction?	Enzymes are **NOT** changed by the reactions they catalyze, therefore they are reusable!
How can enzymes be affected? 	• Enzymes each work best at a specific **temperature** and **pH**. • Temperatures outside the correct range can cause enzymes to break down or change shape. • This break down is called **denaturation**.
Why are enzymes considered the body's "workers"? 	• Nearly every reaction in your body is helped by an enzyme! • Remember—enzymes are proteins!

اهم الانزيمات الهاضمة

العضو	المواد المهضومة	PH	الانزيمات والهرمونات والأحماض الهاضمة	الآلية: يحول	نواتج الهضم	ملاحظات
الفم	كربوهيدرات	قلوي	اميليز اللعاب (تيالين)	يحول النشا والجليكوجين	سكريات ثنائية	
المعده	البروتينات	حامضي =٢	HCL (٢لتر) ↓	يهيء البيئة للانزيمات		يفرز من الخلايا الجدارية
			بيسينوجين إلى بيسين	البروتينات	ببتيدات قصيرة	بيسينوجين يفرز من الخلايا الرئيسة
			برورينين إلى الرينين	بروتين الحليب	كازين	كازين بروتين صلب يهضمه البيسين
الأمعاء الدقيقة	كربوهيدرات	قلوي	اميليز البنكرياس*	يحول الكربوهيدرات	سكريات ثنائية	
	البروتينات		تريسينوجين الى تريسين* كيموتريسينوجين إلى كيموتريسين*	البروتينات	ببتيدات قصيرة	*مفرزة ضمن العصارة البنكرياسية
	الدهون		الليباز*	المستحلب الدهني	أحماض دهنية وجليسرول	[illegible]
	الأحماض النووية		رايبو نيوكليز RNase*	RNA	نيوكليوتيدات	
			ديوكسي رايبونيوكليزDNase*	DNA	نيوكليوتيدات	
			ببتيديزات Peptidases	ببتيدات قصيرة	أحماض امينية	
			نيوكليز	نيوكليوتيدات	S - N - P	
			مالتيز	مالتوز	ج + ج	
			لاكتيز	لاكتوز	ج + جا	
			سكريز	سكروز	ج + ف	

Ascaris, other nematoda

	Ascariasis	Hookworms	Tissue (Filarial) Nematodes	
Classifcation:	• **Phylum:** ***Aschelminthes*** • **Class:** ***Nematoda*** *e.g.* ***Ascaris lumbricoides***	***Ancylostoma duodnale:*** ***Necator americanus***	a. ***Lymphatic*** ***Wuchereria bancrofti***	b. ***Cutaneous*** ***Dracunculus medinensis***
Common name:	Roundworm		Filaria worms	Guinea worms
Disease:	Ascariasis	**Hookworm infection**	Elephantiasis, Wuchereriasis Bancroftian filariasis, lymphatic filariasis	**Dracunculiasis**
Geographical Distripution:	• Worldwide distribution. • Highest prevalence in tropical and subtropical regions, and areas with inadequate sanitation.	Worldwide, in areas with warm, moist climate • *Ancylostoma duodnale:* Middle East, North Africa • *Necator americanus*: America	Worldwide in tropical areas.	Pakistan, India, and Iran and infections greatly reduced over much of sub-Saharan Africa.
Habitat:	• The adult worms live loosely attached to the mucous membrane of the small intestine of man by its lips.	Small intestine	Lymph nodes, lymphatic glands and vessels in legs, arms and genitalia (testes)	Surface of skin (usually the in legs)
Hosts:	Definitive host : human		Definitive host : human **Intermediate host**: Mosquito (*Anopheles sp*. or *Culex sp*.)	**Final host:** humans **Intermediate host:** tiny crustaceans.
Morphology:	**Adult worm:** • The male measures 20 cm, and the female 25 -35 cm in average length. • The adult is creamy white in colour • It has a club-shaped oesophagus	Egg: **oval, colorless, thin- shelled, segmented**		Adult females are threadlike nematode worms that can grow to 1 meter in length.

	• The posterior end of the male is curved ventrally; it has one set of genitalia provided with two retractile. • The posterior end of the female is straight; it has two sets of genitalia. **Egg**: There are 3 types of eggs: • **a- Fertilized egg :** 60x45µ, oval in shape, yellowish brown in colour with two coverings , outer mamillated and inner thick egg shell and containing immature ovum. • **b- Unfertilized egg:** 90x45µ, long and narrow, less mamillated layer and thin egg shell and containing refractile granules. These eggs are laid by unfertilized or single female. • **c- Decorticated egg**: When the mamillated layer is lost, the fertile or infertile egg is said to be decorticated.			
Life cycle:	• **The infective stage :** is the egg containing 2nd stage larva. • **Diagnostic stage** : eggs in faeces • **Mode of infection** : Humans become infected by swallowing Embryonated eggs containing 2nd stage **Rhabditiform larva**	**Infective stage:** Filariform larva **Mode of infection :** Filariform larvae in moist soil penetrate skin through bare feet **Site of infection:** Small intestine, heart, lung **Diagnostic stage: Egg in feces**	• **The infective stage :** L3 larva enter the skin by mosquito. • **Diagnostic stage :** microfilaria in blood and lymph nodes • **Mode of infection:** Motile microfilaria • **Site of infection**: Lymph nodes, lymphatic glands and vessels in legs, arms and genitalia (testes)	• **The infective stage :** L3 larva in copepod • **Diagnostic stage :** L1 larva in water .
Clinical aspect	• Although infections may cause stunted growth. • Adult worms usually cause no acute symptoms. • High worm burdens may cause abdominal pain and intestinal obstruction. • Migrating adult worms may cause symptomatic occlusion of the biliary tract. • Also oral expulsion may occur in very high worm burden.	• Iron deficiency: Anemia due to loss of blood at site attachment in intestine • *cardiac problems • *local skin manifestations "ground itch" • *respiratory symptoms during larval pulmonary attack	• Inflammation of vessels, rupture of lymphs, fibrosis, leading to obstruction. Thickening, hypertrophy of tissues, enlargement of tissues (especially extremities and genitalia)	• causing very painful blistering. • There is no cure for Guinea worms and the only way to remove one is to slowly over the course of weeks wind the worm out on a stick.
Disease Transmission	Man is infected by ingestion of the infective eggs containing 2nd stage larva with water or raw vegetables or contaminated hand.	•	• Infected mosquitos	• Humans become infected when they drink water containing the crustaceans.
Diagnosis:	• Microscopic identification of Fertilized and unfertilized *Ascaris lumbriocoides* eggs in stool of the infected human is diagnostic for Ascariasis.	• **Microscopic examination of characteristic egg in stool**	• **Demonstration of microfilaria in blood molecular diagnosis using PCR** • **Surgery in elephantiasis**	
Prevention and Control:	• Avoid contaminated food and water • Frequent hand washing is recommended • Personal cleanliness • Treatment of infected persons • Infected persons must not work as a food handlers			

Hymeno, echino, balan, Entero

	Hymenolepiasis nana	Echinococciasis	BALANTIDIASIS	Enterobiasis
Classifcation:	**Phylum:** ***Platyhelminthes*** **Class:** ***Cestoda*** e.g. ***Hymenolepis nana.***	**Phylum:** Platyhelminthes • **Class:** Cestoda e.g. ***Echinococcus granulossus***	**Phylum III: Ciliophora** **Class**: ciliatea E.g.: *Balantidium coli*	**Phylum:** Nemathelminthes • **Class:** nematoda e.g.: *Oxyuris (Enterobius) vermicularis*
Common name:	dwarf tapeworms	**(Dog tape worm)**		Pinworm, threadworm
Disease:	Hymenolepiasis	Hepatic echinococcosis Pulmonary echinococcosis Cerebral echinococcosis	BALANTIDIASIS	Enterobiasis
Geographical Distripution:	cosmopolitan	Widely distributed	**Distributed in south and central America & different regions of Asia.**	Cosmopolitan. It has the widest geographical distribution
Habitat:	The adult lives in the small intestine of human & rodents	intestine of the definitive host (dog).	**large intestine**	• The usual habitat of the pinworm is the caecum and the adjacent portions of the large and small intestines.
Hosts:	**Definitive host:** human & rodents **Intermediate** host: human & insects	definitive host: carnivorous animals especially the species from family canidae such as dogs, wolves, foxes, …etc **Intermediate host(s): 60 (human, cattle, pigs, sheep,...etc).**	**Definitive host:** human **reservoir hosts**: **Pigs**	**Definitive host:** human
Morphology:	• Adult is 1-3 cm (dwarf)- flat formed from scolex, immature segments, mature segments & gravid segments.	• worm has three proglottids (immature, mature & gravid); the scolex with suckers and rostellum	• **Body is large and covered with cilia.** • **Macro and micro nuclei.** • **Macronucleus (vegetative nucleus) involved in production of proteins**	**The adult has**: • **Male**: About 5 mm in length with curved tail and a single spicule.
	• Egg is ovoid, translucent, with two envelopes, contains hexacanth embryo	• The mature proglottis contains male and female reproductive organs. • The hydatid cyst has cuticular & germinal layers in its wall. • The germinal layer produces brood capsules that contain • protoscoleces. • Within the hydatid cyst many daughter cysts are formed. •	• **Micronucleus involved in reproduction.** • **Two contractile vacuoles.** • **Cytostome (mouth-like).** **Cytoproct (anus-like).**	• **Female**: About 10 mm in length with a long pointed tail. • Two expansions (alae) at the anterior end and a prominent (double bulbed oesophagus). ***The egg**: • Size: 50 x 20 um • Shape: plano-convex in shape, • Colour: It is colourless • Content: mature larva.
Life cycle:	• **Definitive host:** human & rodents • **Intermediate host**: human & insects • ***Infective stage:*** *cysticercoid (rodents) & embryonated egg (human)* • ***Diagnostic stage:*** mature eggs pass with feces • ***Mode of infection:*** ingest cysticercoid-infected arthropods or autoinfection by contaminated food	• **Infective stage:** Hydatid cyst. • **Infection route:** Oral. • **Intermediate host(s):** 60 (human, cattle, pigs, sheep,….etc). • **Infection Mode** : Eating infected intermediate host. • **Infection site:** Small intestine.	• **Infective stage:** cyst in contaminated food. • ***Diagnostic stage:*** Trophozoite and / or cyst in stool.	**definitive host:** human ***Infective stage:*** embryonated eggs ingested by human ***Diagnostic stage***: eggs in perianal folds ***Mode of infection:*** • External Autoinfection: (hand to mouth) from scratching the perianal areas. • Ingestion of eggs in food and drink. • Inhalation of air-borne eggs in dust. • Contaminated toilet seats with larvae.

Clinical aspect	1 In light infections, usually there are no manifestations. 2 In heavy infections, **mucosal ulcerations** lead to **enteritis** manifested clinically by: **abdominal discomfort, colic, diarrhea, passage of mucous**	• In **dogs** the infection is usually asymptomatic, but with very large number of worms, high mucus secretion is found. • In **humans**: - Hepatic echinococcosis (leads to hepatomegaly) - Pulmonary echinococcosis (bloody sputum is found) - Cerebral echinococcosis (different neurological signs occur) • The hydatid cyst causes pressure on the surrounding tissues and organs.	• Dysentery • Abdominal pain • Wide intestinal ulcers (Secondary infection)	• The clinical symptoms are due to the perianal irritation caused by the migration of the gravid females. • It causes local purities and discomfort which **occur mainly at night** that leads to **insomnia especially in children.**
Disease Transmission	When another human or the same man (autoinfection: feco-oral) ingest the eggs with food or drink	• When the final host eats the intermediate host	Eating contaminated food	
Diagnosis:	1- Stool examination for finding the characteristic eggs	• Serological test (detection of *Echinococcus* antibodies) • Imaging techniques supported by positive serologic tests. • Microscopical identification of protoscoleces from surgically removed hydatid cyst	**Laboratory diagnosis** • **Trophozoite and / or cyst in stool.** • **Biopsy material from large intestine (Ulcer detection).**	• Clinical picture of perineal and vaginal prurities. • Adult worms may be found in faeces or in the perianal region. • Larvae may be seen in faeces. • Eggs are seldom found in Faeces except when the uterus of a gravid female

				ruptures during its migration to the perianal region. **The eggs are best obtained by swabbing the perianal region by:** • Scotch adhesive tape swab • National Institute of Health (N.I.H.) Swab
Prevention and Control:	• Personal cleanliness • Treatment of infected persons (treatment should be prolonged & repeated and include all contact family members to avoid autoinfection and inter-family transmission of infection) • Infected persons must not work as a food handlers • Rodent control	• Avoid contaminated food and water • Food should be sufficiently heated to kill eggs • Frequent hand washing is recommended • Dogs should not eat raw meat • Avoiding stray dogs	• **Avoiding contaminated food and water.** • **Avoiding contact with pigs.** • **Treatment of patients.**	• Personal cleanliness • The finger nails should be cut short; • the hands should be washed after using the toilet and before meals • Underwear's and bed sheets should be carefully handled and washed. • Food and drink should be protected from dust and from hands of infected individuals. • Mass treatment of the whole family

Mal, toxo, fas, schis

	Malaria	toxoplasmosis	fascioliasis	schstosomasis
Classifcation:	Phylum: Apicomplexa Class: Haematozoea Genus: Plasmodium 4 species : 1- Plasmodium falciparum: 2-Plasmodium vivax: 3- Plasmodium ovale: 4- plasmodium malariae:	Phylum: Apicomplexa (Sporozoa). Class: Coccidea. Genus: Toxoplasma (T.) e.g. Toxoplasma gondii	• **Phylum: *Platyhelminthes*** • **Class: *Termatoda*** • **Genus: *Fasciola*** **3 species of can infect human: *Fasciola hepatica* *Fasciola gigantica*** ***Fasciola buski*** (live in small intestine)	Phylum: Platyhelminthes Class: Termatoda Genus: Schistosoma species of can infect human: – S. haematobium – S. mansoni – S. japonicum – S. mekongi – S. intercalatum
Disease:	Malaria disease	toxoplasmosis	**liver Rot** **Halzoun syndrome (Pharyngeal fascioliasis)**	
Geographical Distripution:	in tropical and subtropical regions, including parts of the Americas, Asia, and Africa.	in warm climates and at lower altitudes than in cold climates and mountainous regions	• in Europe, the Middle East, and Asia. in areas where sheep and cattle are raised.	**Schistosoma mansoni** is found in parts of South America and the Caribbean, Africa, and the Middle East. • **Schistosoma haematobium** in Africa and the Middle East. • **Schistosoma japonicum** in the Far East
Habitat:	Liver cell – RBCs (human) Midgut - salivary glands (mosquito)	Tachyzoite (acute stage, free or in pseudocyst in brain, liver, lung, spleen, bone marrow, eye, etc.) Bradyzoite (chronic stage, in True cyst in different organs)	- lives in **the bile ducts** of man and herbivorous animals **- The ova** pass with bile to the intestine to come out with faeces.	
Hosts:	1 **human (Intermediate host):** 2 **female Anopheles (Definitive host):**	Definitive host: Cats. Intermediate hosts: Human. Cattle. Sheep. Camel. Pig. Dogs .Rodents. Chickens	• Definitive host: man. • Reservoir host: herbivorous animals. • Intermediate host: snail *Lymnaea cailliaudi*	

Morphology:	Sporozoites (salivary gland) Schizonts (liver cell) dormant stage [hypnozoites] ring stage Merozoites infect (RBCs) Trophozoites mature into schizont The gametocytes: male (microgametocytes) and female (macrogametocytes)	Stages of the asexual cycle (in intermediate Host) A- Trophozoite B- Pseudocyst C- True Cyst Stages derived from cat (D.H) Sporulated oocyst Unsporulated oocyst	**Morphology of the adult:** • The adult is leaf-like, about 60 x 15 mm. • It has an oral sucker • and a larger ventral sucker • Male reproductive system begins with two branched testes in the middle of the body • The ovary is a branched organ **The ovum is:** • Size: about 150 x 80 m. • Shape: Operculated, oval in shape. • Colour: Yellow in colour. • Content: Contains immature embryo.	**Adult Worm** • Separate sex(male and female worms) • The male has a gynecophoric canal in which it carries the female during the life cycle. • 10-20 mm long. **Egg**: • Oval (S. haematobium & S. mansoni) or Round (S. japonicum) • Translucent • Contains mature miracidium • With terminal spine (S. haematobium), lateral spine (S. mansoni), or rudimentary lateral spine (S. japonicum) **Miracidium** • Pyriform • Ciliated **Sporocyst** • Sac- like • Contain germinal cells masses **Cercaria** • Has a body and tail • Has furcocercous (forked) tail • 400-600µm long
Life cycle:	1 **Asexual cycle in human (Intermediate host):** – **Schizogony** Erythrocytic cycle Exo-erythrocytic cycle – **Gametogong.** 2 **Sexual cycle in female Anopheles (Definitive host):** - **Sporogony.**		• *Infective stage: encysted metacercaria.* • *Diagnostic stage: eggs in stool.* • *Mode of infection: ingestion of encysted metacercaria in water or plants.*	

Clinical aspect	Characteristic fever: a) Shivering & cold stage (30-60 minutes). b) Hot stage (1-4 hours, fever with hot dry skin) c) Sweating stage (1-2 hours, profuse sweating & temp. falls. d) The attack is repeated at 3rd days (tertian malaria) or at 4th day (quartan malaria) Enlarged spleen. Anemia due to destruction of RBCs a. Microcytic. b. Hypochromic.	Infection with Toxoplasma in immuno-competent persons is generally an asymptomatic infection. acute infection may develop: A flu-like illness. Cervical lymphadenopathy. Atypical pneumonia. Acute encephalitis. Chorioretinitis. Symptoms usually resolve within a few months to a year. In immunodeficient patients or infants (congenital) infection lead to: 1-Toxoplasmic encephalitis (hydrocephalus) 2-Myocarditis. 3-Retinochoroiditis (Ocular Toxoplasma infection)	**During the acute phase** – abdominal pain, – hepatomegaly, – fever, – vomiting, – diarrhea, – eosinophilia, and can last for months. **In the chronic phase** – biliary obstruction, – inflammation, **liver Rot**.	Acute schistosomiasis (Katayama's fever) occur weeks after the initial infection, especially by S. mansoni and S. japonicum. Manifestations include: – fever, –cough, –abdominal pain and diarrhea, – hepatospenomegaly, – eosinophilia. Chronic infection: colonic polyposis with bloody diarrhea (S. mansoni). – portal hypertension with hematemesis and splenomegaly (S. mansoni, S. japonicum); – cystitis and ureteritis with hematuria, which can progress to bladder cancer (S. haematobium). – pulmonary hypertension (S. mansoni, S. japonicum) – glomerulonephritis (S. haematobium). – may central nervous system lesions.
Disease Transmission	By female anophilos mosqitoe	Ingestion of undercooked infected meat containing Toxoplasma cysts (true or pseudo- cyst) Ingestion of the sporulated oocyst from fecally contaminated hands or food. Organ transplantation or blood transfusion. 4- Transplacental (congenital) transmission. 5- Accidental inoculation of tachyzoites	• Humans can become infected by ingesting metacercariae-containing freshwater plants or metacercariae-contaminated water. • **Pharyngeal fascioliasis** occur by eating raw infected liver.	
Diagnosis:	1 **Clinical Diagnosis.** 2 **Parasitological Diagnosis.** 3 **Serological Diagnosis.**	1-The detection of Toxoplasma-specific antibodies (IgM & IgG) is the primary	• Microscopic identification of eggs is useful in the chronic (adult) stage.	Microscopic identification of eggs in stool or urine is the
	4 **Molecular Diagnosis.**	diagnostic method to determine infection with Toxoplasma. 2-Observation of parasites in patient specimens, such as bronchoalveolar lavage or lymph node biopsy. 3-Isolation of parasites from blood or other body fluids, and intraperitoneal inoculation into mice or tissue culture. 4-Detection of parasite genetic material by PCR.	• Eggs can be recovered in the stools or in material obtained by duodenal or biliary drainage.	most practical method for diagnosis. Stool examination Urine examination
Prevention and Control:	- Aovid mosqitoe - Using bed net - Using insecticide	Avoid: - eating undercooked meat - Organ transplantation or blood transfusion. - Transplacental (congenital) transmission -Clean hands	• Treatment of infected animals. • Snail control. • Avoid eating raw vegetables before washing them. • Avoid drinking infected water. • Avoid eating raw liver to prevent halzoun syndrome	Avoidance of wading, bathing, swimming in or drinking polluted water. • Wearing protective clothes -drying of exposed skins. • Abstinence from defecation and micturation in water canals. • Mass treatment of all infected cases. • Control of Snail (intermediate host) through: – Physical methods : changing the suitable environmental conditions like canal coverage – Biological methods :introduction of natural enemies as competitive snails or fish – Chemical methods using molluscicides eg: copper sulphate

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