

4. In that organization, they place emphasis on mutual aid and cooperation.

a. reward

b. stress

c. pressure

5. His company empowered him to negotiate the contract.

a. helped

b. authorized

c. ordered

6. Plato's teachings had a profound effect on Aristotle.

a. depth

b. affection

c. influence

7. The supervisor dictated a memo to her secretary.

a. note

b. letter

c. report

8. The Chinese people worship their ancestors.

a. elders

b. forefathers

c. heirs

9. Jan took many snapshots while on vacation in Europe.

a. notes

b. gifts

c. photos

10. Marsha found it difficult to cope with the loss of her job.

a. deal with

b. think about

c. confirm

III. Read the following Passage then Choose the Correct Answer: (5 x 2) 10 Marks

Seagulls live on the beach. They eat small fish, bread, and seaweed. Seagulls run quickly on the sand and fly quickly in the sky. Seagulls will run or fly away if you try to catch them. There are many seagulls on the beach. Crabs also live on the beach. They eat shrimp, ocean plants, and small fish. Crabs crawl quickly on the sand and in the ocean. Crabs will crawl away if you try to catch them. There are many crabs on the beach, but it is not always easy to see them. Starfish live on the beach, too. They eat clams, oysters, and small fish. Starfish move slowly on the sand and in the ocean. Starfish will not move away if you try to catch them. There are few starfish on the beach.

1. Seagulls, crabs, and starfish all eat a. clams b. bread c. fish.

2. Which animal does not move quickly? a. starfish b. seagulls c. crabs

3. Based on information in the passage, which sentence is false?

a. Starfish are hard to catch.

b. Crabs eat shrimp and ocean plants.

c. Seagulls move quickly on the sand and in the air.

4. The passage does not talk about _____

a. what starfish eat

b. how crabs catch food

c. how fast beach animals move

5. Based on information in the passage, we can understand that _____

a. the beach is not as nice as the mountains

b. the beach is a good place to vacation

c. many animals live at the beach

IV. Translation: (5 x 1) 5 Marks

Distance learning makes use of educational experts in the various branches of knowledge all over the world.

- | | | | |
|---|-------------------|---------------------|------------------|
| 1. "Distance learning" is translated into _____ | a. التعلم عن بُعد | b. مسافة التعليم | c. بُعد التعليم |
| 2. We translate "make use" as _____ | a. يُدرس | b. يستفيد | c. يستخدم |
| 3. "Educational experts" means _____ | a. تعليم خبرات | b. التربية والتعليم | c. خبراء تربويين |
| 4. The word "branches" is translated as _____ | a. فروع | b. أشجار | c. غصن |
| 5. The word "knowledge" is translated as _____ | a. علم | b. معرفة | c. دراسة |

Good Luck Dr Mariana Nagaty



Choose the Correct Answer: (25 x 1) 25 Marks

- number of morphemes in "unlikely" is ____ a. one b. two c. three
- synonym of "hasten" is ____ a. crawl b. conceal c. accelerate
- ____ everyone to come. a. except b. expect c. accept
- synonym of "obtain" is ____ a. gain b. allow c. assert
- cause it was important to me". This sentence is ____
- ____ sentence fragments b. run-on sentence c. correct sentence
- opposite of "polite" is formed by adding the prefix ____ a. in b. im c. il
- synonym of "reflect" is ____ a. confirm b. mirror c. grind
- I you ____ the responsibility for this decision? a. except b. expect c. accept
- synonym of "traditional" is ____ a. arbitrary b. frequent c. conventional
- ____ you to proceed carefully. a. advise b. advice c. advises
- number of morphemes in "replay" is ____ a. one b. two c. three
- opposite of "happy" is formed by adding the prefix ____ a. in b. ir c. un
- magician's trick was just an optical ____ a. illusion b. allusion c. delusion
- synonym of "ordinarily" is ____ a. routinely b. restrictively c. coarsely
- synonym of "complex" is ____ a. conventional b. complicated c. valuable
- ow was drifting on the road." This sentence is ____
- ____ sentence fragments b. run-on sentence c. correct sentence
- number of morphemes in "Inescapable" is ____ a. one b. two c. three
- synonym of "apex" is ____ a. zenith b. pier c. flaw
- opposite of "responsible" is formed by adding the prefix ____ a. in b. ir c. il
- number of morphemes in "dogs" is ____ a. one b. two c. three
- synonym of "retrieve" is ____ a. accelerate b. generate c. recover
- opposite of "active" is formed by adding the prefix ____ a. in b. im c. il
- synonym of "launch" is ____ a. propose b. initiate c. omit
- opposite of "legal" is formed by adding the prefix ____ a. in b. im c. il
- elt awful about hitting this man today he didn't even seem to notice." This is called ____
- ____ ment b. correct c. run-on sentences

Choose the one word or phrase which would best keep the meaning of the original sentence if it were substituted for the underlined word. (10 x 1) 10 Marks

- er the major's able leadership, the soldiers found safety. a. guidance b. intensity c. flagship
- victors defined their terms to the conquered. a. wrote b. insinuated c. dictated
- anges of language and culture were a direct result of commerce. a. trade b. embargo c. school

Turn the Page Please



Answer the following questions (NOTE: Exam in TWO pages)

Q1: Answer FOUR the following questions (20 degree)

1. Explain the structure of placid scale by drawings?
2. Types of tails in fish?
3. Arterial system in bony fish?
4. Pentadactyle limb in vertebrates?
5. Compare between pisces (fish) and tetrapod?

Q2: mention three taxonomic statement for SEVN ONLY from the following ranks (21 degree)

- 1- Phylum Chordate
- 2- Order Cyclostomata
- 3- Infraphylum Gnathostomata
- 4- Class Amphibia
- 5- Class Reptilia
- 6- Class Aves
- 7- Class Mammalia
- 8- Infra-Class Metatheria

Q3: Compare between THREE ONLY from each pair of the following (9 degree)

- 1- Lamprey and hagfish
- i. Urodela and Apoda
- ii. Chondrichthyes and Osteichthyes
- iii. Chelonia and Crocodilia

Best wishes.....

3- Distinguish between Chilopoda & Diplopoda, giving examples .

4- Classify Class Gastropoda, give an example for each.

5- List the diagnostic characters in Echinodermata.

6- Clarify the structure & functions of the exoskeleton in Arthropoda.

7- Illustrate the structure & importance of mantle in Mollusca.

Q3. Correct over the line:

(13 marks)

1- Tanning process occurs in Laganum.

2- Supra branchial chamber represents the place of fertilization in Chiton.

3- Mites have five anterior holes & parasitize the respiratory tract of vertebrates.

4- Limax has an upward oral surface and flexible arms.

5- Detorsion occurs in Tripneustes.

6- Cyclops eviscerates to avoid predation.

7- Iulus can shut off its metabolism in tun state.

8- Ommatidia are blind tubes extend into hemocoel & empty uric acid into hindgut.

9- Captacula are found in Buthus.

10- Cerata is unique system of hydraulic canals performs several functions.

11- Aeolids are similar to Pentastomida.

12- Gammarus belongs to Onychophora.

13- Sepia is characterized by clapping during movement.

د. هناء عاطف

بالتوفيق والسداد

End



University: Asyut

Invertebrate II

Total degree = 50

Faculty: Science

Code: 222 Z

Final exam.

Dept.: Zoology & Entomology

May / 2025

Time: 2 hrs.

Answer the following questions: (Note: The questions are in 2 pages)

Q1. Choose between brackets:

(13 marks)

- 1- (Tagmatization – Coiling - Cryobiosis) occurs in Tardigrada.
- 2- Radula is absent in (Prosobranchia – Bivalvia – no one).
- 3- (*Lepas* - *Octopus* & *Eremina* - *Pagurus*) can secrete/s its/their shell/s.
- 4- Endoskeleton is found in (*Iulus* - *Astropecten* - no one).
- 5- In Prosobranchia (visceral mass - head - foot) lost its symmetry.
- 6- The excretion in *Lycosa* is by (nephridia - malpighian tubules - green glands).
- 7- (Scallops - Clams- Mussels) are unattached surface bivalves.
- 8- Parthenogenesis could be noticed in (*Cypris* - *Dentalium* - *Echinometra*).
- 9- *Peripatus* belongs to (Chelicerata - Crustacea – no one).
- 10- Radula is highly modified in (*Conus* – *Chiton* – *Eremina*).
- 11- Balance organ in *Penaeus* is (maxilla - cheliped - antennule).
- 12- (Tardigrades - Pauropods - Mites) have 3 branched antennae & 9 pairs of legs.
- 13- Spinnerets are found in (*Lambis* - *Irganum* – no correct answer).

Q2. Answer 6 only from the following questions:

(24 marks)

- 1- Demonstrate with drawings the feeding & digestion in both *Penaeus* & *Tripneustes*.
- 2- Draw only with labeling the blood circulation in both *Scolopendra* & *Andonta*.

Look behind please!

- 31- The pyriform nerve cells found in
 a) Purkinje cells of cerebellum b) retina c) Spinal ganglia
- 32- What do you call the space where a chondrocyte sits (exists) in?
 a) Space of Disse b) Vacuole c) Lacune
- 33- Which part of the alimentary canal is lined by stratified squamous epithelium?
 a) Gall bladder b) Stomach c) Oesophagus
- 34- Which cells that their cytoplasm is full of melanin granules?
 a) Pigment cells b) fibroblast c) leucocytes
- 35- Areolar connective tissue is type ofconnective tissue.
 a) Loose b) Dense c) Supporting.

II) Mention whether each of the following statements is true (T) or False (F): (15 marks)

- 36- Exocrine secretion goes into blood stream.
- 37- Macrophage cells showed metachromatically stain when stained with toluidine blue.
- 38- Multilocular adipose tissue composed of small fat cells which are filled with many droplets of fat.
- 39- Neuroepithelium is found in taste buds in the tongue.
- 40- Fibroblast is resting cell while fibrocyte is active cell.
- 41- The function of macrophage is heparin secretion.
- 42- Most of plasma cells die after four to five days and few survive to become memory cells.
- 43- Yellow elastic connective tissue found in arteries.
- 44- The cartilage cells receive their oxygen and nutrients by diffusion.
- 45- The lubrication considered one of the functions of epithelial tissue.
- 46- The reticular fibers formed mainly from collagen.
- 47- Cartilage is a model for the formation of bone and present in freely mobile joint.
- 48- Perikaryon may be contains pigments in their cytoplasm.
- 49- Osteocytes are locating in endosteum and periosteum layers of the bone.
- 50- The osteoblast may aid in calcium removal from bone when the body's calcium level drops too low.

انتهت الأسئلة
 مع تمنياتي لكم بالتوفيق: د/ شيماء محمود صالح

- 14- What happened in deficiency of lipotropic factors?
 a) Fatty infiltration b) Cloudy swelling c) Inflammation
- 15- It is the case in which the nucleus gradually dissolves away and disappear.....
 a) Pyknosis b) Karyorrhexis c) Karyolysis
- 16- is not present in the adult nerve cells.
 a) Pigments b) Centrosome c) Fibrils
- 17- Which one its basic function is communicates signals to target cells?
 a) Muscle cell b) Neuron c) Both a&b
- 18-is a flask-shape cell having a single process which divides into a central and peripheral branch.
 a) Bipolar nerve cell b) Multipolar nerve cell c) Pseudo-polar nerve cell
- 19- The cytoplasm of the muscle fibers is called
 a) Axoplasm b) Sarcoplasm c) myelin cytoplasm
- 20- The muscle fibers owe their contractility to the presence of contractile bundle of protein filaments called.....
 a) Myofibrils b) Sarcofibrils c) Axofibriles
- 21- muscle is non-striated and involuntary.
 a) Skeletal b) Cardiac c) Smooth
- 22- is a type of bone cell that breaks down bone tissue.
 a) Osteoclast b) Osteocyte c) Osteoblast
- 23- Reticular connective tissue can be found in
 a) Spleen b) kidney c) Ear
- 24- are tough and resist stretch.
 a) Elastic fibres b) Reticular fibres c) Collagenous fibres
- 25- Tropocollagen is synthesized by the.....
 a) Fibroblasts b) Collagen c) Both a&b
- 26-is caused by an irritant short duration of action.
 a) Acute inflammation b) Chronic inflammation c) Subacute inflammation
- 27- According to the mode of secretion (changes in the secretory cells), glands are classified into:
 a) Exocrine and endocrine b) Unicellular and multicellular c) Merocrine, apocrine and holocrine
- 28- Which cell is a connective tissue fixed macrophage?
 a) Kupffer cells b) Langerhans cells c) Microglia
- 29- External auditory canal has special nature secretion which is.....
 a) Waxy secretion b) Fatty secretion c) Water secretion
- 30- Which of the following organ is mixed gland?
 a) Pancreas b) Testis c) Both a&b



Assiut University
Date: 28-5-2025
Time: 2 hours
3 pages

Faculty of Science
Zoology Department

Final Exam of Histology & Histopathology (212z)

For Second Year Students (Credit Hour)

I) Choose the most appropriate answer for each of the following statements: (35 marks)

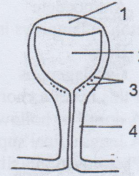
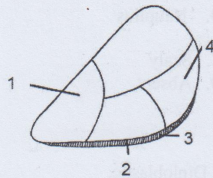
- 1-produce antibodies and plays an important role in defense mechanism.**
a) Mast cell b) Plasma cells c) Both a&b
- 2- The pigment cells are found in**
a) Skin b) Hair c) Both a&b
- 3- Elastic fibers are appeared dark brown bystain.**
a) H&E b) Milligan's c) Orcein
- 4- cells are found close to blood capillaries, and may be considered as myoepithelial that may contract and constrict the blood capillaries.**
a) Pericyte b) Fibrocyte c) Macrophage
- 5- Brown adipose tissue takes the brown color due toof this tissue.**
a) Vascularity b) Softness c) Pigmentation
- 6- Irregular dense white C.T. can stretch indirection while regular dense white C. T stretched indirection.**
a) Different / One b) One / Different c) No / One
- 7- In cartilage tissue, thecells are developed from embryonic mesenchymal cells.**
a) Chondroblast b) Perichondrium c) Chondrocyte
- 8- The cartilage growth by**
a) Mitosis b) Appositional c) Both a&b
- 9- The experimental scientist coined the term "cell".**
a) Antony b) Robert Hooke c) Theodor Schwann
- 10- Germinal epithelium is a modified epithelial tissue its function is**
a) Division b) Contraction c) Differentiation
- 11-contains Nissl bodies and neurofibrils which extend in its finest branches.**
a) Axon b) Dendrites c) Both a&b
- 12-The study of changes in tissues caused by disease is.....**
a) Etiology b) Histopathology c) Pathogenesis
- 13-In which case the disturbance of cell metabolism is irreversible.....**
a) Necrosis b) Hydrobic degeneration c) Cloudy swelling

8. The circuli of the cycloid scales are used to determine the sex of fish
9. The third eyelid in frog is called nictitating membrane
10. Salivary glands in frog are absent

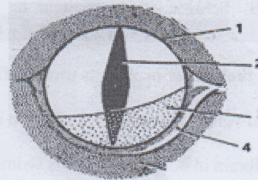
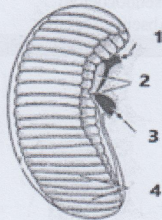
Q3: Answer **FIVE** the following questions including **1** and **3** (20 degree)

1. **State the different types of caudal fins or tails in fishes.**
2. Diagrammatically show the structure of lateral compound eye of vertebrate.
3. **Draw the pentadactyl limb structure in the vertebrates.**
4. Compare between mature gametes in branchiostomata.
5. Discuss the structure of solenocytes of Amphioxus.
6. Compare between pisces (fish) and tetrapod?

Q4: Define the structure and label each item for the following questions (10 degree)



A-.....B-.....



C-.....D-.....

Best wishes.....,



Answer the following questions (NOTE: Exam in TWO pages)

Q1: Choose the best correct answer; A, B, C, or D (1 Mark each, 10 Degree)

- 1- One of the following is converted into thyroid gland of vertebrates:
A. Endostyle
B. Pharyngeal gill slits
C. Epipharyngeal groove
D. Peripharyngeal bands
- 2- Each gill pouch in petromyzon communicates with the respiratory pharynx by:
A. Gill lamella
B. Gill arches
C. External gill slits
D. Internal gill slits
- 3- In petromyzon optic lobes are present in:
A. Forebrain
B. Midbrain
C. Hindbrain
D. Medulla oblongata
- 4- Intermediates between cephalochordates and vertebrates:
A. Ostracoderms B. Placoderms C. Branchiostoma D. Ammocoete larva
- 5- In deuterostomes, blastopore forms:
A. The mouth
B. The anus
C. Brain
D. Kidney
- 6- The petromyzon larva is called:
A. Tornaria
B. Ammocoete
C. Crinoid
D. Nauplius
- 7- Exoskeleton in lampreys is:
A. Bony
B. Cartilaginous
C. Scaly
D. Absent
- 8- Which of this is not a chordate character?
A. A dorsal or hollow tubular nerve cord.
B. A longitudinal supporting rod-like notochord.
C. Pharyngeal gill slits.
D. Diploblastic.
- 9- Which of the following is anamniote animal?
A. Fish
B. Reptilian
C. Aves
D. Mamalian
- 10- Coelom in Amphioxus is:
A. Enterocoelic in origin
B. Schizocoelic in origin.
C. Pseudocoelom
D. Absent altogether.

Q2: Put (T) for True statements or (F) for false statements (1 Mark each, 10 Degree)

1. Oral fimbriae or papillae is used for fish attachment
2. Spiral valve or typhlosole in dogfish is used for absorption
3. Hindbrain in bony fish controls swimming movements
4. Membranous labyrinth in dogfish has static and acoustic function
5. Air bladder is used for hydrostasis, respiration, and sound production in fish
6. In petromyzon optic lobes are present in medulla oblongata
7. Intermediates between cephalochordates and vertebrates Ammocoete larva

عند عمل تلقیح ذاتي للفران الصفراء تنتج النسبة		a. 1:1	b. 3:1	14
		c. 2:1	d. جميع النسل اصفر	
تنشأ الأنثى الخصوية في الانسان من طفرة في الجين		a. SRY	b. TFM	15
		c. TDF	d. a & c	
التركيب الوراثي AAA+X في الدروسوفيليا يكون		a. أنثى	b. ذكر	16
		c. بين جنسي	d. ذكر فائق	
تم عمل تلقیح اختياري لإنثى خلية ثلاث جينات مرتبطة بالجنس في الدروسوفيليا وهي A, B, R, وكان النسل الناتج كالتالي				
A	B	R	350	
a	b	r	340	
a	B	R	130	
A	b	r	110	
A	B	r	32	
a	b	R	28	
A	b	R	6	
a	B	r	4	
Total		1000		
وبجمل المسألة كانت النتائج كالتالي :- (قم باختيار الحرف الدال على الإجابة الصحيحة)				
المسافة بين A-B هي		a. 25 وحدة خريطة	b. 27 وحدة خريطة	17
		c. 29 وحدة خريطة	d. 31 وحدة خريطة	
المسافة بين B-R هي		a. 6 وحدة خريطة	b. 7 وحدة خريطة	18
		c. 8 وحدة خريطة	d. 9 وحدة خريطة	
النسبة المئوية للعبور المزدوج المشاهد هي		a. 1%	b. 1.5 %	19
		c. 2 %	d. 3 %	
النسبة المئوية للعبور المزدوج المتوقع هي		a. 1.5 %	b. 1.75 %	20
		c. 2 %	d. 3 %	
معامل التوافق هو		a. 0.57	b. 0.9	21
		c. 0.8	d. 0.7	
أثناء عملية التضاعف في الكائنات prokaryotes الانزيم الذي يقوم بعملية Decatenation هو:				
Topoisomerase I		b. Topoisomerase II	22	
Ter-binding protein		d. DNA Polymerase I		
خيط الـ m-RNA الرسول الاتي 5'-AAUCGUAC-3' هو ناتج نسخ الاتي:				
3'-TTAGCATG-5'		b. 5'-TTUGCUTG-3'	23	
3'-AATGCTAC-5'		d. 3'-AAUGCUAC-5'		
ناتج ترجمة الـ m-RNA التالي 5'-GCCACGUCCUAA-3' سلسلة من عديد الببتيد تحوي:				
حمض اميني واحد		b. اثنين من الاحماض الامينية	24	
ثلاثة احماض امينية		d. أربعة احماض امينية		
الانزيم الذي يقوم بمضاعفة DNA السلسلة المتأخرة Lagging strand في الكائنات مميزة النواة هو:				
DNA polymerase- α (alpha)		b. DNA polymerase- β (beta)	25	
DNA polymerase- δ (delta)		d. DNA polymerase- ε (epsilon)		

انتهت أسئلة الامتحان خالص تمنياتي بالنجاح والتوفيق أ.د/كرم أمين

ucyphane 100

السؤال الثاني: في الجدول التالي ضع الحرف المناسب امام رقم العبارة مما يلي: (25 درجة بالتساوي)

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
					25	24	23	22	21	20	19	18	17	16

1	A. 50٪ B. أكبر من 50٪ C. أقل من 50٪ D. 100٪	في حالة الارتباط غير التام بين الجينات تكون نسبة التراكيب الأيوية
2	A. فوسفات B. ادينين C. جوانين D. ثيامين	يدخل في تركيب الـ RNA كل هذه المكونات فيما عدا
3	A. DNA Polymerase I B. Reverse Transcriptase C. Poly (A) Polymerase D. Dam methylase	الانزيم المسؤول عن إضافة زيل من عديد الادينين لجزيء الـ mRNA هو
4	A. DNA Polymerase II B. DNA Polymerase I C. DNA Polymerase III D. RNA Polymerase I	انزيم التضاعف الرئيسي في الكائنات غير مميرة النواة هو
5	A. AUG B. AUC C. UAA D. AAA	من احدى شفرات الانهاء لعملية الترجمة لخط الـ mRNA
6	A. DNA Polymerase I B. Reverse Transcriptase C. Poly (A) Polymerase D. Dam methylase	يقوم انزيم بإضافة مجموعة ميثيل للأدينين الموجود في التسايق GATC
7	A. Topoisomerase I B. Topoisomerase II C. Primase D. Helicase	الانزيم الذي يلعب دورا هاما في تخفيف التوتر الناتج عن الحلزونة الفائقة الموجبة هو
8	A. DNA Polymerase III B. DNA Polymerase I C. DNA Polymerase II D. RNA Polymerase I	الانزيم الذي يلعب دورا في اصلاح الأخطاء التي تحدث أثناء التضاعف للـ DNA
9	A. DNA Polymerase III B. DNA Polymerase I C. DNA Polymerase II D. RNA Polymerase I	الانزيم المسؤول عن بناء شظايا او كازاكي هو
10	A. Primase B. Ligase C. Helicase D. Dam methylase	يقوم انزيم ببناء يادي صغير من الـ RNA
11	A. Poly (A) Polymerase B. Aminoacyl- tRNA synthetase C. Gyrase D. Peptidase	يعتبر انزيم هو الانزيم المسؤول عن ربط الحمض الأميني بالـ tRNA المناسب
12	A. كروموسوم X وتنقل من الاب الى جميع أبنائه B. كروموسوم Y وتنقل من الاب الى أبنائه الذكور C. كروموسوم Y وتنقل من الاب الى جميع أبنائه D. الكروموسومات الجسدية	الصفات الهولندية هي الصفات التي توجد على
13	A. 13:3 B. 15:1 C. 9:3:4 D. 9:7	تتغير النسبة المندلية في حالة الجينات المكاملة (التفوق المتنحي المزدوج) من 9:3:3:1 الى

Handwritten signature

السؤال الأول: في الجدول التالي ضع الحرف (T) امام ارقام العبارات الصحيحة والحرف (F) امام ارقام العبارات الخطأ مما يلي: - 25 درجة بالتساوي

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
					25	24	23	22	21	20	19	18	17	16

1	الأفراد ذات التركيب الوراثي AaBBCcDd تعطي ثمانية أنواع من البياضات
2	تنتج حالة XY Female في الإنسان نتيجة فقد الجين SRY من كروموسوم Y
3	في الدجاج النسل الناتج من التهجين RRpp X rrPP يكون جميعه ذو عرف جوزي
4	في نبات الدخان، نسبة الأفراد SsSs الناتجة من التهجين SsSs X SsSs تساوي 25٪
5	في نبات الاسبرجس يمكن الحصول على المراد تركيبها Aa من اباء تركيبها الوراثي AA x aa
6	ذكور نحل العسل أحادية المجموعة الكروموسومية (1n) حيث تنتج من بويضة غير مخصبة
7	إذا تزوجت امرأة سليمة من عمي الألوان برجل مصاب بعَمي الألوان فإن جميع الأبناء الذكور سوف تكون سليمة
8	في حالة السيادة المشتركة تتساوى النسبة المظهرية مع نسبة الطرز الوراثية في الجيل الثاني
9	تتميز منطقة بدء التضاعف في الكائنات بدائية النواة باحتوائها على تنانينات غنية بالأدينين والثايمين
10	لون الأزهار في نبات حنك السبع من أمثلة الصفات التي تتبع في توارثها حالة السيادة المتعدمة
11	يمكن الحصول على الـ DNA من الـ RNA عن طريق إنزيم Reverse transcriptase
12	إنزيم البلمرة DNA polymerase II هو إنزيم التضاعف الرئيسي في بكتريا E. coli
13	قد يكون للجين الواحد أكثر من وظيفة وذلك عن طريق القص المتنوع لجزيء الـ pre-mRNA
14	يختلف الـ DNA عن الـ RNA في أن السكر الخماسي في الـ DNA هو سكر الريبوز (ribose)
15	يعمل إنزيم التضاعف DNA polymerase III في الاتجاه 5' ← 3' وكذلك في الاتجاه 3' ← 5'
16	إنزيم DNA polymerase- δ (delta) هو المسؤول عن تضاعف الـ DNA في الميتوكوندريا
17	عملية الترجمة الوراثية هي تحويل التتابعات الشفرية الموجودة في الـ mRNA إلى أحماض أمينية
18	تحتوي جينات الكائنات بدائية النواة Prokaryotes على الإنترونات introns والأكسونات exons
19	تحتوي كروموسومات الكائنات حقيقية النواة على نقطة واحدة لبداية التضاعف تسمى نقطة الأصل OriC
20	يطلق على المقاطع المثلثة في النسخة النهائية للـ mRNA والتي يتم ترجمتها اسم إنترونات introns
21	السلسلة الشفرية codon strand لأحد الجينات قد تكون سلسلة قالب template strand لجينات أخرى
22	في الكائنات مميرة النواة Eukaryotes يقوم إنزيم الـ RNA polymerase II بنسخ جينات الـ rRNA
23	دور الـ tRNA في الخلية هو نقل المعلومات الوراثية من الـ DNA إلى الـ ديسيتويلازم حيث يتم تخليق البروتين
24	في الكائنات بدائية النواة Prokaryotes تبدأ عملية الترجمة مباشرة بلفظ الـ mRNA
25	تعمل بروتينات الـ SSB على تثبيت سلاسل الـ DNA المزدوجة أثناء عملية التضاعف

Mary Kamil

(10 marks)

2. Ecdysone hormone.

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3. Air sacs.

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4. The Mandible.

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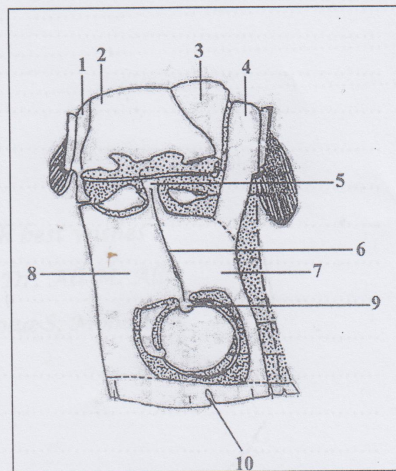
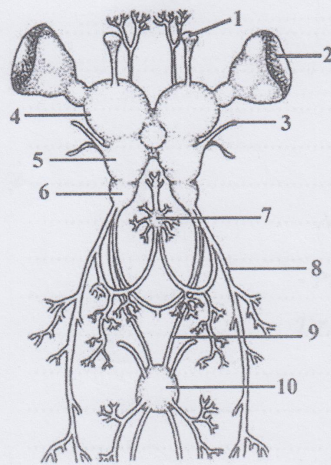
5. Wing venation.

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Fourth Question: Define and labeling the following diagram. (10 marks)



- 11- What is the major component of insect hemolymph?
 a) Water b) Oxygen c) Hemocytes d) Hemoglobin
- 12- During insect respiration, air enters through tracheae by pores called?
 a) Tracheoles b) Ostia c) Spiracles d) Gonopore
- 13- How many pairs of ganglia have fused together to form the insect suboesophageal ganglion?
 a) Two b) Three c) Four d) Six
- 14- List the stages of the complete metamorphosis life cycle in the correct order?
 a) Egg-pupa-larva-adult b) Egg-larva-pupa-adult
 c) Egg-numph-pupa-adult d) Egg-numph-adult
- 15-Neurons always carry information toward the central nervous system.
 a) Afferent neurons b) Efferent neurons
 c) Internuncial neurons d) Association neurons

Second Question: Put (True) or (False) in front of the following substances:
(7.5 Marks)

1. The flow of hemolymph in dorsal vessel from front to back is controlled by ostia. ()
2. The old empty exoskeleton is called ternal. ()
3. All insects in apterygote undergo metamorphosis. ()
4. In insects, the circulatory system is not important in gas transport. ()
5. Insect segments are grouped into three function units or tagmata. ()
6. Halter is the hind wing of Hymenoptera. ()
7. Insects have cuticular processes which have the ability to move. ()
8. Gastric caeca are a part of fore gut which increase the surface area. ()
9. The absence of wings is a primary or a secondary condition. ()
10. The occipital suture separates the occiput sclerite from gena. ()

Third Question: Write the functions of the following:
(7.5 marks)

1. Tentorium.

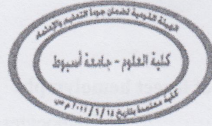
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Assiut University
Faculty of Science
Zoology & Entomology
Department



Second semester General Entomology
Exam
(30 - 5 - 2025)



Time: 2 hours
Level: Two
Course Code:240Z

Note: the questions on four pages and the answers in the same place

Answer the following questions (50 marks)

First Question: Choose the best correct answer: (15 marks)

1. Generally, the last abdominal segment bears.....
a) Two pair of cerci b) A pair of antennae c) A pair of cerci d) A pair of spiracles
2. Which is the first layer secrete during ecdysis?
a) Procuticle b) Epicuticle c) Endocuticle d) Cuticulin
3. On which suture the posterior tentorial pits found?
a) Epistomial b) Frontoclypeal c) Occipital d) Postoccipital
4. Which of the following is the dorsal sclerite of each insect body segment?
a) Sternum b) Notum c) Pleuron d) Tergum
5. The Long axis of head is horizontal and in line with the long axis of insect body.
This orientation is called:
a) Prognathus b) Hypognathus c) Opisthognathus d) All of them
6. What is Deutocerebrum usually innervate?
a) Labrum b) labium c) Compound eyes d) Antennae
- 6- Which of the following is not lined by cuticle?
a) Foregut b) Midgut c) Hindgut d) Malpighian tubules
- 7- Which of the following is responsible for absorption of waste products from hemolymph?
a) Foregut b) Midgut c) Hindgut d) Malpighian tubules
- 8- The valve between mid and hind gut in insects is called.....
a- Rectum b- Peritrophic c- Pylorus d- Ileum
- 9- The protocerebrum innervates the.....
a) Antennae b) Compound eyes c) Mouthparts d) Labrum
- 10- Mosquito larvae get oxygen by.....
a) Cuticular respiration b) Siphon c) Bubbles d) Gills

2- Choose the correct answer: (10 Marks).

- 1- A soil community includes (plants-animals-microorganisms-all).
- 2- The biosphere includes all (species-communities-ecosystems) found in the earth.
- 3- The water present in the air in the form of vapor is (air humidity- relative humidity-absolute humidity)
- 4-The biotic factors in the ecosystem includes (the non living factors- the living factors- all).
- 5-Light affects (the growth of glands in birds- deer reproduction- the behavior of animals -all).
- 6- Herbivorous animals belong to (Heterotrophs- Saprophytes- both).
- 7- The formation of a pair bond between one male and one female is called (Monogamy -Polyandry-Natality rate).
- 8- The number of deaths of a population in a given time period is called (Natality rate- Mortality rate- Density).
- 9- The absolute quantity of water vapor present in the air is called (Absolute humidity-Relative humidity-both).
- 10-A small number of young is characteristic of (long lived mammals- species that reproduce only once in their life- both).

3-Write the scientific term of the following (10Marks)

- 1- A type of pollution produced as a result of constructing dams on rivers.
- 2- A type of pollution which may increase diseases and parasites as well as the decomposition of organic matter in the ecosystem.
- 3- A group of animals which has a wide range of tolerance for temperature.
- 4- A type of reproduction in which the ova do not need to be fertilized.
- 5- The percent between the quantity of water vapor in a unit of volume and that required for the saturation of that volume at fixed temperature and pressure.

4- Apply your knowledge to analyze some of the abiotic and biotic factors which you may find in the River Nile. (7.5 marks)

- 5- If you visit a new habitat, how can you know that there is a stable ecosystem. (7.5 Marks).

With Best wishes



Faculty of Science

Assiut University

Dept. of Zoology

Exam of Animal Ecology Code No. 225Z

Credit hour system 2nd level. Year 2024-2025

Time allowed: 2 hours

Answer the following questions:

1- Choose the suitable number from column (A) and write it in Column (B): (15 marks)

1-The community	Is the main factor which the producers depend to make food for other heterotrophs().
2-The ecosystem	Are the plants().
3- The limiting factor	Is killing and eating an individual of the same species ().
4- Range of tolerance	Are those which become active during night ().
5- Homeostasis	Are those which become active during day time ().
6-Monogamy	Is a relationship between two organisms in which one benefits and the other is harmed().
7-Polyandry	The number of births in a given time period. ().
8-Birth rate	Species that sometimes regulate their body temperature and sometimes do not..... ().
9-Heterotherms	The formation of a pair bond between one male and one female ().
10-light	The individual female gains two or more males ...().
11- The Producers	The range of the environmental conditions within which the organism can tolerate..... ().
12-Cannibalism	The maintenance of conditions within the range that the organism can tolerate ().
13-Diurnal animals	The factor which determines the types of organisms which may exist in that environment ().
14-Nocturnal animals	Is the structural and functional unit studied in Ecology ().
15-Parasitism	Is an assemblage of populations in a given area ().



Answer the following questions (NOTE: Exam in ONE page)

Q1: Answer TEN ONLY of following themes: (50 degree)

- 1- Compare between extensive, intensive, and semi-intensive culture?
- 2- Different types of pond culture?
- 3- What are the objectives of aquaculture?
- 4- Mention the different kinds of aquaculture?
- 5- What are the merits of cage culture?
- 6- Mention considerations in site selection.
- 7- Ecological factors to be considered in site selection and explain one of them.
- 8- Economic and social factors to be considered in site selection.
- 9- Causes of mortality in fry transportation.
- 10- Mention the criteria of selection of species for aquaculture?
- 11- What are the different methods of seed production?
- 12- Mention the causes of diseases in fish farming?

Best wishes.....,