

- 2- Carbamates.
- 3- Aggregation pheromone.
- 4- NPV
- 5- Bacterial crystal.

With best wishes
Dr/ Doaa S. Mohamed

4. The electrophysiological technique can be used to study the response elicited by a pheromone. (.....)
5. Are small paired bodies situated immediately behind the brain which store the hormone synthesized by NSC. (.....)
6. Farm practices that man has learnt by his long experience as a farmer in order to keep the pest populations down. (.....)
7. A disease caused by a living organism that is transferable to individuals. (.....)
8. Chemicals that prevent insect damage to plants or animals by rendering them unpalatable or offensive. (.....)
9. Time between the entrance of pathogens and manifestation of symptoms. (.....)
10. Dissemination of toxins in blood. (.....)

Fourth Question: give the reasons of five only of the following. (5marks)

- 1- The male sex pheromone is of lesser value than the female sex pheromone in insect pest control.
- 2- PTG are lost during the early part of adult and CA remain.
- 3- Tillage tends to reduce soil insects.
- 4- If the antifeedant is placed within the mouth, feeding is not prevented.
- 5- Chemical compounds acting as sex pheromones are very much fewer than the number of insect species, however, the reproductive isolation of species is found in nature.
- 6- Growing resistant plant varieties.

Fifth Question: Write short notes about five parts only of the following: (5 marks)

- 1- What causes pest outbreak?
- 2- The theory of positive anemotaxis.
- 3- Desirable traits in pathogens.
- 4- The pheromone dispensers.
- 5- Advantages of hormonal control.
- 6- The cultural methods of applied control.

Sixth Question: Write the mode of action of the following. (5marks)

- 1- Chitin synthesis inhibitor.

- a) One mile or more b) Two miles or more
c) Three miles or more d) Four miles or more
13. Sugar solution + insecticides use as a poison baits for
- a) Biting insects b) Sucking insects c) Subterranean insects d) Cockroaches
14. In the absence of.....the pupa turned to adult, during development of insects
- a) BH b) MH c) JH d) AH
15. Chemicals that if released by one organism to induce response in an individual of another species is advantageous to the recipient.
- a) Allomones b) Kairomones c) Allomones-Kairomones d) Alarm pheromones

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

(10 Marks)

1. In the Cyclorrhaphous larvae of Diptera, the CC, CA, and PTG are all fused in a single structure called Weismann's ring. ()
2. α -ecdysone is the true MH. ()
3. Fungi need a high degree of atmospheric humidity to germinate. ()
4. The primer pheromones operate through olfactory sensilla. ()
5. Yellow color in particular is used to repel insects. ()
6. Natural food lures stimulate gustatory receptors. ()
7. Young bacteria (vegetative cell) can be used in controlling insect's larvae. ()
8. The protozoa breed only in vivo; this is the most disadvantages in using it in pest control. ()
9. Aphrodisiacs are usually produced by female but could be produced by either sex. ()
10. There is every possibility of one species getting sexually aroused by pheromone of another. ()

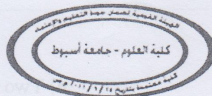
Third Question: Write the suitable terminology of the following sentences.

(10 Marks)

1. The control goes on without the intervention of man. (.....)
2. Pathogen infecting large populations of insects. (.....)
3. The swelling structure of the conidium germinate short tube. (.....)



Assiut University
Faculty of Science
Zoology & Entomology
Department



Second semester Insect control Exam
(30 – 5 – 2025)



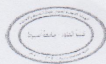
Time: 2 hours
Level: Four
Course Code: Z

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. Pyrethrum is a potent insecticide, and it is also function as.....at lower concentration.
a) Feeding deterrent b) Insect repellent c) Insect attractant d) None of them
2. Azadirachtin act asagainst number of insect pests.
a) Feeding deterrent b) Insect repellent c) Insect attractant d) All of them
3. Which hormones does neem affect?
a) Allatotrophic H. b) Juvenile H. c) Brain H. d) Ecdysone H.
4. What type of Tipula iridescent virus?
a) IV b) NIV c) NPV d) CPV
5. Which of the following secrete ecdyson?
a) Neurosecretory cells b) Corpora cardiaca c) Corpora allata d) prothoracic gland
6. What is the common portal entry of fungi?
a) Ingestion b) Integument c) Spiracles d) Inhalation
7. Which is the most common sensilla in Diptera?
a) Trichodea b) Basiconica c) Placodea d) Coeloconica
8. *Bacillus thuringiensis* var.....kills caterpillar.
a) *Thuringiensis* b) *Kurstaki* c) *Israliensis* d) All of them.
9. Which is the type of *Bacillus thuringiensis*?
a) Sporeformers and non-crystalliferous b) Non-sporeformers.
c) Sporeformers and crystalliferous d) Non-Sporeformers and crystalliferous
10. Which glands secrete the activation hormones?
a) NSC b) CC c) CA d) PTG.
11. Gyplure pheromone is produced by the female of.....
a) *Trichoplusia ni* b) *Bombyx mori*
c) *Pectinophora gossypiella* d) *Porthetria dispar*
12. Male moths attracted to a trap baited with the female sex pheromone from distance as long as.....



Assiut University Faculty of Science Department of Zoology	Final Exam of Principles of Embryology (Z 334) for Chemistry- Zoology & Zoology students	June, 1 st 2025 Time: 2 hours Total marks: 50
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Answer the following questions using labeled drawings when it is possible:

- 1- A) Draw and give labels for different parts of: (a) sperm (b) chick egg. (4 marks)
B) Compare between mesodermal somite in *Amphioxus* and toad. Use labeled drawings (6 marks)
- 2- A) State true or false: (5 marks)
i- Chordamesoderm is located at the floor of archenteron.
ii- Proximal centriole functions for the union of male and female nuclei.
iii- Fertilization cone helps to prevent entry of new sperms into the ovum.
iv- The value of pH is important factor during fertilization.
v- Type of cleavage in chick embryo is discoidal meroblastic one.
- B) Choose the right answer: (5 marks)
i- In crocodiles, yolk is synthesized in
a) oocyte b) liver of mother c) fat bodies d) a and b
ii- The surface of human oocyte is covered by an area called
a) corona radiata b) zona radiata c) zona pellucida d) vitelline membrane
iii- An example of oviparous animals is
a) lion b) pig c) duck d) human
iv- Cleavage type in the amphioxus is
a) equal holoblastic b) unequal holoblastic c) meroblastic d) superficial
v- If nondisjunction occurs in the second meiosis, trisomy probable percentage is
a) 100% b) 75% c) 50% d) 25%
- 3- A) Compare between ovum and sperm. (5 marks)
B) Account the factors that control successful external fertilization. (5 marks)
- 4- What are the different types and functions of placenta? (10 marks)
- 5 - Write on the advantages and disadvantages of testosterone. (10 marks)
- End of questions.....Best of Luck

Dr. Reda A. Ali
Prof. Experimental Embryology

س ٣: أكتب المصطلح العلمي الدال على كل عبارة مما يأتي: (١٥ درجة):-

- 1- A substance –comes from volcanic vents and factories- causes acid rains when dissolves with rains.
- 2- Salt intolerant organisms.
- 3- A marine area located at the bottom.
- 4- The areas where the soil is saturated or inundated for at least part of the time.
- 5- The middle portion of the lake where the rate of temperature change with depth is the greatest.
- 6- Weakly swimming organisms.
- 7- Organisms which inhabit mud surface.
- 8- Compounds which change the ionic state of metals that otherwise be toxic.
- 9- The chemical material used by plants and animals that inhibit the growth of their competitors.
- 10- One of the limiting factors of corals needed by zooxanthellae.

س ٤: (٥ درجات):-

أكتب الكلمة أو الكلمات الناقصة فيما يلي:

- 1-are considered as nursery regions of aquatic habitat.
- 2- is a group of animals live in marine habitat.
- 3- The.....zone is the relatively shallow part of the ocean that lies over the continental shelf.
- 4-has an adverse effect on corals.
- 5- One of the importance of corals is:.....

س ٥:

في ضوء دراستك أكتب ما الذي تتوقع حدوثه في الحالات الآتية: (٥

درجات):-

- 1- Cutting large areas of land forests.
- 2- Increasing of Pollution in the Red Sea.
- 3- Increasing of BOD in the aquatic habitat.
- 4- Increasing of temperature of water in the aquatic habitat.
- 5- Adding sewage water to the River Nile.

With best wishes

س ٢: ضع الرقم المناسب من فقرات العمود (A) أمام ما يناسبه من فقرات العمود (B) (١٥ درجة):

A	B
1- Important in tourism industry	+ Acts as toxicants or as growth stimulators ().
2-Marine ecosystem	+ Are common nutrients needed in large quantities for cell development ().
3-Euryhaline organisms	+ The salinity effect dominates over thermal stratification ().
4- Heat	+ Have swift unidirectional water flow ().
5-Ponds and Lakes	+ Are weaker swimming organisms ().
6- Biological activity	+ It appears in the aquatic habitat when nutrients increase ().
7-The pelagic zone	+ Gives a good indication of eutrophication ().
8- Humic acid	+ Contain approximately 97 % of the planet's water ().
9-BOD	+ Is one of the functions of aquatic ecosystem ().
10- Eutrophication	+ are salt tolerant ().
11- Plankton	+ Considered as abiotic characteristics of aquatic ecosystem ().
12-Streams and Rivers	+ Considered as lentic waters ().
13- In Estuaries	+ Is considered as a factor that determines any aquatic structure ().
14- CO ₂ - NO ₃ - SIO ₂	+ Is the open water of the lake ().
15- Cu- Zn	+ considered as Chelating compound in natural waters ().



قسم علم الحيوان

جامعة أسيوط - كلية العلوم

اختبار مادة البيئة المائية ٢٠٢٤-٢٠٢٥

الزمن: ساعتان.

أجب عن الأسئلة الآتية:

س ١: اختر الإجابة الصحيحة من بين الأقواس: (١٠ درجات):

- 1- One of the functions of aquatic ecosystem is (attenuate air -purify water -both)
- 2-Plankton in aquatic habitat can be considered as (a biotic characteristic- consumers- both).
- 3- The consumer organisms in aquatic habitat include (bacteria-zooplankton-both).
- 4-Autotrophic organisms in aquatic habitat include (stenohaline – phytoplankton -both).
- 5-Organisms found in freshwater habitat include (Protozoa-cephalopods-both).
- 6- The last step in eutrophication of aquatic ecosystem is (the increasing of minerals like phosphate and nitrite- algal bloom- formation of detritus).
- 7- A low BOD means (less of organic materials- lots of organic material- both).
- 8- The benthic organisms include (epibenthic – infauna – both).
- 9- A horizontal meander in the river Nile occurs at (Suhag-Qina - Aswan).
- 10-Optimal reef development occurs where the mean annual temperature is about (32:35- 30:35- 23:25).

اقلب الصفحة من فضلك

Question 4: Choose true or false (2 marks)

1. Biologically, the splanchnocranium arises from mesoderm.
2. The flexible lining that is present between adjacent cranial bones increasing the efficiency of the movement of reptiles.
3. The most anterior part of skull is the splanchnocranium that is used to support the tongue when it is extended.
4. The hard palate, composed of skin, is very chondritic in amphibians.

4 -



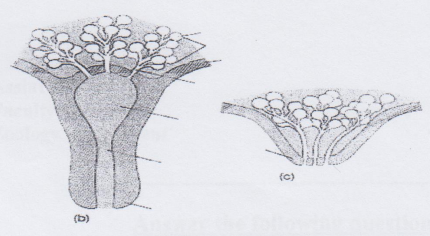
A



B

With my best wishes
Dr. Amany Mohamed

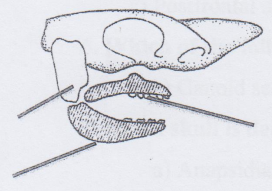
2-



Choose the correct answer of the following (10 marks)

1. The mouth is neither defined nor supported by jawbone
 a) Agnathans b) Cyclostomata c) Osteichthyes d) Chondrichthyes
2. The skin of hagfish includes additional epidermal cell called
 a) mucous cell b) thyroid cells c) goblet cell d) keratinocytes
3. A muscular layer is present in the skin of
 a) Agnathans b) Cephalochordates c) Hag fish d) Osteichthyes
4. Embryonic structures of birds preserved by
 a) Pouches and hairy scales b) Remipneumones and scales c) Feathers and scales d) Feathers and scales
5. The upper temporal arch of a diposidion skull composed of
 a) Squamosal and squamosal b) Squamosal and squamosal c) Squamosal and squamosal d) Squamosal and squamosal

3-



6. Which of the following is an epidermal in origin?
 a) Dermal papillae b) Dermal papillae c) Dermal papillae d) Dermal papillae
7. Which of the following is an epidermal in origin?
 a) Dermal papillae b) Dermal papillae c) Dermal papillae d) Dermal papillae

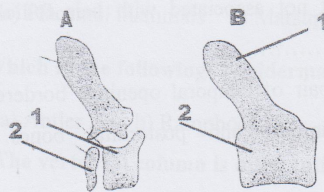
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➤ Question 3: Choose true or False (5 marks)

1. Embryologically, the splanchnocranium arises from mesoderm ()
2. The flexible hinge that is present between adjacent epidermal scales increasing the efficiency of the movement of reptiles ()
3. The most ancient part of skull is the splanchnocranium which first arose to support pharyngeal slits in agnathan ()
4. The hard palate, composed of paired bony contributions from premaxilla and maxilla in amphibians ()
5. Numerous of multicellular glands are present within the epidermal layers and dermis ()

➤ Question 4: Identify the following specimen and writ a comment on each one (15 marks)

1-



20. The vomer bone is in category..... Bone ofgroup
 a) Replacement- Vault b) Dermal- Orbital c) Dermal- palate
21. Crocodiles and some turtles have.....
 a) scent gland b) Femoral gland c) Salt gland
22. The trabeculae cartilage contribute to the formation of
 a) Occipital ring b) Basal plate c) Ethmoid plate
23. Specialized functions of the skin.....
 a) Form an exoskeleton b) Prevents the entrance of pathogens c) a & b
24. Articular bone is formed by the ossification of.....
 a) Meckels cartilage b) Palatoquadrate c) Occipital arch
25. True horn is formed of.....
 a) compacted keratinous fibers
 b) bony core covered by keratinized sheath
 c) bony core covered by velvet

➤ **Question 2: Complete the following sentences: (5 marks)**

1. Produce thin, watery fluids, it not associated with hair follicles, and functional before puberty is (.....)
2. The skull which has a single pair of temporal openings bordered by a temporal bar formed by squamosal and postorbital bones called (.....)
3. The feathers arranged along the surface of the body on a distinctive tract, which termed (.....)
4. The structure which include braincase plus associated sensory capsules called (.....)
5. The removal of extensive sections of superficial epidermis in Ophidia called (.....)

9. The occipital and sphenoid bones are part of the.....
 a) Chondrocranium b) Splanchnocranium c) Dermatocranium
10. the intervertebral cartilage between vertebra differentiated from
 a) intercentrum b) pleurocentrum c) interhaemal arches
11. Our sweat glands are derived from.....
 a) Apocrine glands b) Eccrine glands c) None of all above
12. Which of the following have Metautostylic Jaw suspension?
 a) Bird b) Mammals c) Fish
13.centra are most common in turtles that retract their necks and in cervical vertebrae of.....
 a) Heterocoelous- birds b) Amphicoelous- Fish c) Procoelous- reptile
14. Which mammalian has mammary gland without nipple?
 a) Placental mammals b) Marsupials c) Monotreme
15. Which of the following is epidermal derivative?
 a) Antler b) Ramphoceaca c) Scales of Osteichthyes
16. The vertebral column is differentiated into several regions in...
 a) Fish b) Aquatic tetrapod c) All tetrapod
17. is a fluffy feather important in insulation
 a) Contour feathers b) Filoplume c) Down feathers
18. The splanchnocranium does not contribute to the adult jaws or to their suspension in
 a) Reptile b) Fish c) Mammals
19. Which of the following does not form a part of the secondary palate?
 a) Palatine b) Vomer c) Pterygoid



Assiut University
Faculty of Science
Zoology Department



Course name: Comparative
anatomy of vertebrate
Course code: (432-Z)
Time: two hours

Answer the following questions (50 marks)

(الأسئلة في 6 صفحات)

➤ **Question 1: Choose the correct answer of the following (25 marks):**

1. The mouth is neither defined nor supported by jaws in.....
Gnathostomata b) Agnathans c) cyclostomata
2. The skin of hagfishes includes additional epidermal cell called
a) sacciform cell b) thread cells c) goblet cell
3. A uniepidermal layer exist in the skin of.....
a) Amphibia b) Cephalochordate c) Hag fish
4. Exoskeletal structures of birds presented by.....
a) Feather and horny scales b) Ramphoceaca and claws c) (a & b)
5. The upper temporal arch of a diapsidian skull composed of
a) Postorbital and squamosal b) Jugal and quadrate
c) Postfrontal and parietal
6. Which of the following structures does not contain dentin?
a) Ganoid scale b) Placoid scale c) Cosmoid scale
7. Avian skull is derived from
a) Anapsidian skull b) Synapsidian skull c) Diapsidian skull
8. Which of the following is an epidermal in origin?
a) Bony scale b) Horny scale c) Mammalian teeth

Q2. Write short notes on only two of the following:

8 Marks

Illustrates your answers by drawing if possible.

- 1- The structure of the sperm.
- 2- Twins in humans.
- 2- Account the different types of ova, giving example for each.

II. Evolution

Q3: Choose the correct answer:

(13 marks)

- 1- If gene flow occurred, the population must be (same- different - both).
- 2- Darwin and Wallace were based on (cloning technology - bottle necklace - natural selection).
- 3- Metamorphosis is a complex (preadaptation – natural selection - preplanning) process.
- 4- (mutation- spontaneous generation- homology) claims that non-living organisms come from living.
- 5- "The inheritance of acquired traits" was established by (Darwin - Wallace - Lamarck).
- 6- People's death & abnormalities in Hiroshima is due to (homology– cloning- no one).
- 7- The Precambrian fossils revealed (soft – solid – no) creatures.
- 8- Burgess Shale's fossils proved that most phyla appeared (suddenly- gradually- synchronically).
- 9- Dolly's technique was based on (cloning – analogy – natural selection).
- 10- Progeria syndrome is evidence of (natural election – metamorphosis -no correct answer).
- 11- Turtles of Galapagos are examples of. (mutation - variation - both).
- 12- (Piltdown – Nebraska – Java) man is a reconstructed skull with Orangutan's lower jaw!
- 13- The bacterial resistance against antibiotics is due to (immunity - mutation- speciation).

Q4: Answer only four of the following:

(12 marks)

- 1- Compare the distribution of animals by Haeckel's claim & fossil record.
- 2- Explain why aquatic animals can't live on land.
- 3- Demonstrate why *Archaeopteryx* can't be a transitional form between birds & reptiles.
- 4- Can mutations produce new species? Illustrate with examples.
- 5- "Cloning techniques disproved the evolution concept". Discuss in detail.



University: Assiut

Introduction to embryology & evolution

Faculty: Science

Code: 418 Z

Total degree = 50

Department: Zoology

Time: 2 hrs.

Final exam. 2025

Note: Questions are in 2 pages

I. Introduction to Embryology:

Q1. Put False (F) or true (T) and correct the false:

17 marks

1. The wall of the yolk sac is made up of splanchnopleure.
2. kidney cells have haploid number of chromosomes.
3. Parthenogenesis means the development of eggs after fertilization.
4. In the late gastrula of Amphioxus, the notochord is found underneath the neural tube.
5. Spermatogenesis is the change of the spermatid to sperm.
6. Dorsal root ganglia of spinal nerves are derivatives of the neural crest
7. Cleavage in protostome animals is spiral and determinate.
8. The lining of the alimentary canal arises from the ectoderm.
9. In oogenesis the second maturation division occurs before fertilization.
10. The allantois grows from the floor of the hind gut.
11. The retina of the eye is made up of the neural crest.
12. Internal fertilization occurs in Amphibia.
13. The epimere consisted of dermatome, myotome and sclerotome.
14. Fertilization cone helps to prevent entry of new sperms into the ovum.
15. The somatopleure consisted of endoderm and mesoderm.
16. The primary oocyte gives rise to four mature ova.
17. The inner cell mass is a pluripotent stem cells.

Look behind please



Q1: Fill the following sentences:

(25 marks)

- 1)is the first line of defense and does not generate lasting protective immunity.
- 2) MHC class I is expressed on the surface ofwhile MHC class II is expressed on the surface of.....
- 3) Primary mediators of mast cell areand.....while the secondary mediators of mast cell areand.....
- 4) The progenitor stem cells are classified into three types: and.....
- 5) The presence ofon the surface of B cells discriminates between naïve, memory and plasma cells.
- 6)Class of lymphocytes important in non-specific defense against viral infections and tumor cells.
- 7) Based on the type of constant region of the heavy chains.....are classified intoclasses:.....,.....and.....
- 8) is a material from pathogen that induces an immune response.
- 9) type of adaptive immunity results from an infection by a parasite.
- 10) Allergen is.....
- 11) T helper cells express $CD3^+$ and $CD4^+$, while T cytotoxic expressand and macrophage express.....

Q2: Definition of the following:

(9 marks)

- | | |
|-------------------------|-----------------|
| A- Cytokines | B- Chemotaxis |
| C-Immunological synapse | D-Allergen |
| E-Plasma cell | F-Degranulation |

Q3: Discuss using diagram the different complement system pathways.

(7 marks)

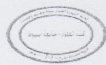
Q4: Answer three of the following items:

(9 marks)

- A- In a table compare between the different classes of antibodies.
- B- Compare between TCR and BCR structures.
- C- Compare between passive and active immunity.
- D- Process of phagocytosis

GOOD LUCK

Dr. Leila Hassan
Lecturer of Immunology



Assiut University Faculty of Science Department of Zoology	Final exam of Experimental Embryology (Z 438) for Zoology students	May, 27th, 2025 Time: 2 hours Total marks: 50
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Answer the following questions using labeled drawings when it is possible:

- 1- Discuss the effects of only ONE of the following compounds on the embryos and show how it exerts its action: Propofol – Azithromycin - Bisphenol - Tobacco and areca nut extract (10 marks)
 - 2- Discuss the significance and different stages of cell migration during embryonic development. (10 marks)
 - 3- Explain and draw the different stages of amphibian limb regeneration. (10 marks)
 - 4- A) Describe the biochemical respecification during metamorphosis. (5 marks)
B) Differentiate between various types of induction with examples. (5 marks)
 - 5 A) Choose the right answer (5 marks)
 - i- If a tumor with unlimited growth becomes malignant, it may be
a) carcinomatous (b) sarcomatous (c) both (d) none
 - ii- Cells which undergo abnormal and uncontrolled growth at the cost of remaining cells are called
a) teratoma cells b) cancer cells c) malignant cells d) neoplastic cells
 - iii- Which of the following is considered as totipotent stem cells?
a) Cells of inner mass b) Cells of morula c) liver cells d) neurons
 - iv- Among legal considerations animals should be correctly
a) fed b) housed c) handled d) all
 - v- Destructive metabolic phase in regeneration is
a) catabolic (b) anabolic (c) respiratory (d) excretory
 - B) State true or false: (5 marks)
 - i- Growth inhibiting substance increases the regeneration in hydra.
 - ii- Normal morphogenesis result in the formation of a terata
 - iii- Marcello Malpighi is a co-discoverer of sperm.
 - iv- Epigenesis theory now is not 100% wrong.
 - v- Some kinds of stem cells are haploid cells.
- End of questionsBest of Luck

Dr. Reda A. Ali
Prof. Experimental Embryology

في إحدى العشائر كان تكرار الجاميطات لموقعين جينين في الجيل الحالي كالآتي $AB = 0.7$, $ab = 0.3$ فإن (مرتبط بالنقاط من 13-15)

13. التكرار المتوقع للتركيب الوراثي $AaBb$ في الجيل التالي يكون
- a) 0.49 b) 0.21 c) 0.42 d) 0.09
14. قيمة مؤشر الإتزان (D) في الجيل الحالي تكون
- a) 0.49 b) 0.21 c) 0.42 d) 0.09
15. قيمة مؤشر الإتزان (D) في الجيل التالي تكون
- a) 0.105 b) 0.20 c) 0.12 d) صفر

السؤال الثالث:- اجب عن جميع النقاط التالية. (25 درجة)

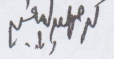
- 1- في عشيرة من الماشية كانت تكرارات الأفراد الخليطة 100% احسب التكرار الأليلي في العشيرة بعد خمسة أجيال من الانتخاب ضد الأفراد المتنحية الأصلية علما بأن شدة الانتخاب ضد الأفراد المتنحية الأصلية تساوي واحد. (5 درجات)
- 2- إذا كان تكرار الأليل A في العشيرة الأصلية هو 0.4 وفي العشيرة المهاجرة 0.8 ونسبة الأفراد المهاجرة 0.2 احسب التكرار الأليلي بعد عشرة أجيال من الهجرة المستمرة. (5 درجات)
- 3- إذا كان تكرار الأليل السائد A لأحد الأليلات المرتبطة بالجنس في الإناث هو 0.8 وفي الذكور 0.2 احسب التكرار الأليلي في الذكور والإناث وكذلك تكرارات التراكيب الوراثية بعد جيل من التزاوج العشوائي. (5 درجات)
- 4- في العشيرة التالية احسب قيمة f العشائرية واذكر نوع التزاوج القائم في العشيرة. (5 درجات)

التركيب الوراثي	AA	Aa	aa
الاعداد المشاهدة	32	52	16

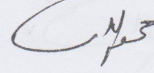
- 5- في عشيرة متزنة يظهر على 36% من الرجال صفة الصلع احسب نسبة الصلع المتوقعة بين نساء هذه العشيرة. (5 درجات)

انتهت الاسئلة
تمنياتي لكم بالتوفيق

امضاء المراجع الداخلي



امضاء لجنة الممتحنين



في القواقع يوجد 3 اليلات خاصة بلون الهيكل الخارجي حيث ان الاليل B خاص باللون البني ، الاليل P خاص باللون القرنفلي والاليل y خاص باللون الأصفر فإذا كان اتجاه السيادة $B > P > y$ وكانت الاعداد المشاهدة كالتالي:

البني 173 ، القرمزي 433 والأصفر 115 وبافتراض أن العشيرة متزنة فإن. (مرتبط بالنقاط من 4-6)

4. يكون تكرار الاليل B هو
 a) 0.399 b) 0.473 c) 0.213 d) 0.128
5. يكون تكرار الاليل P هو
 a) 0.399 b) 0.473 c) 0.213 d) 0.128
6. يكون تكرار الاليل y هو
 a) 0.399 b) 0.473 c) 0.213 d) 0.128

في إحدى العشائر وجدت الاعداد التالية لمجاميع الدم كما يوضح الجدول التالي. (مرتبط بالنقاط من 7-12)

A	B	AB	O
480	80	40	500

7. تكرار الاليل $\bar{p}$ يكون
 a) 0.3772 b) 0.7742 c) 0.6742 d) 0.5742
8. تكرار الاليل $\bar{q}$ يكون
 a) 0.256 b) 0.056 c) 0.156 d) 0.560
9. تكرار الاليل $\bar{P}$ يكون
 a) 0.5738 b) 0.1738 c) 0.3738 d) 0.2738
10. الاعداد المتوقعة لأفراد مجموعة اندم AB هو
 a) 34.73 b) 33.73 c) 32.73 d) 35.73
11. الاعداد المتوقعة لأفراد مجموعة الدم A الأصلية هو
 a) 83.46 b) 82.46 c) 81.46 d) 80.46
12. الاعداد المتوقعة لأفراد مجموعة الدم B هو
 a) 83.511 b) 84.511 c) 85.511 d) 86.511

انظر خلف الصفحة

امضاء المراجع الداخلي

محمد

امضاء لجنة الممتحنين

محمد

	إمتحان الفصل الدراسي الثاني للعام الجامعي 2024-2025 كلية العلوم	
القسم الذي يقدم المقرر: الوراثة كود المقرر (402) وراثه العشائر	المستوي الرابع (ساعات معتمدة) كلية العلوم لجنة الممتحنين: - أ.د/ محمود ابوالسعود الراوي	الشعبة: التكنولوجيا الحيوية الزمن : ساعتين

ملحوظة الامتحان مكون من ثلاث صفحات (اجب عن جميع الاسئلة الآتية)

السؤال الأول: قم بعمل جدول في ورقة الإجابة ثم ضع علامة ✓ امام رقم الإجابة الصحيحة وعلامة X امام رقم الإجابة الخاطئة : - (10 درجات)

1. تتزن العشيرة بعد جيل واحد من التزاوج العشوائي في حالة موقع جسي واحد مكون من زوجين من الأليلات
2. تصل تكرارات الأفراد الخليطة الي اعلي قيمة لها عندما يكون الفرق بين P و q اعلي ما يمكن
3. يستخدم اختبار لاختبار الفرق بين عشيرتين في التكرار الأليلي
4. عند تقدير التكرار الأليلي للأليلات المتعددة في حالة وجود خليط من السيادة التامة والغالبة فإن قيمة $D = 1 - p - q - r$
5. تزيد قيمة F الخاصة بالتربية الداخلية لفرد معين كلما نقص عدد السوالف المشتركة بين اباء هذا الفرد
6. يستخدم معامل التربية الداخلية العشائري f كمعيار لقياس مدى انحراف العشيرة عن التزاوج العشوائي
7. الانتخاب ضد الأفراد المتنحية بصلاحية صفر لا يغير من التكرارات الأليلية في العشيرة
8. عشيرة تكرر الأليل المتنحي بها 0.6 فإن تكرار الأفراد الخليطة بعد جيل من التزاوج العشوائي هو 48%
9. في حالة الأليلات المرتبطة بالجنس فإن تكرار الأليل A عند الإتران يساوي $P = \frac{p+r}{3}$
10. دائما يكون تكرار الصفات السائدة المرتبطة بالجنس في الذكور اعلي من الاناث

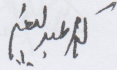
السؤال الثاني: في ورقة الإجابة قم بعمل جدول ثم ضع رقم العبارة وضع امامها حرف الإجابة الصحيحة: - (15 درجة)

في عشيرة من الأغنام كان تكرار التركيب الوراثي Aa يساوي واحد صحيح فإن (مرتبط بالنقاط من 1-3)

1. تكرار الأليل A يكون
 a) 1 b) 0.75 c) 0.5 d) 0.25
2. تكرار التركيب الوراثي aa عند الإتران يكون
 a) 1 b) 0.75 c) 0.5 d) 0.25
3. قانون هاردي- واينبرج لإختبار إتران العشيرة هو
 a) $2H = 4DR$ b) $H = 4DR$ c) $4H = DR$ d) $H = \sqrt{4DR}$

انظر خلف الصفحة

امضاء المراجع الداخلي



امضاء لجنة الممتحنين

