



Tanta University
Faculty of Science
Zoology Department

Subject:- comparative anatomy
Code:-ZO4240

Time:-2 hours

Fourth year chemistry-zoology

Date:-9-6-2018

Part one.....(.50 point)

First question.....(15 point)

1-Identify the following

Dermal papilla-pulp cavity-basal plate-velvet-uropygial gland?

2- compare by drawing between

Hoof-Nail-and Claw?

Second question.....(20 point)

1-complete the following

a-)Many lizards possess rows of.....along the underside of hind limb

b-) In birds there are two types of glandsand.....

2- Explain by drawing only

The development of the cycloid scales (Bony scales)?

Third question.....(15 point)

1-Compare between the mucus glands and the poisonous glands in toad?

2-Mention the role of the integument glands of reptilian?

Part two.....(.50 point)

Question (1):.....(10 points)

Compare **with drawing** between anapsid and diapsid skulls.?

Question (2): with drawing illustrate:.....(30point)

a. Roofing bones of generalized dermatocranium?

b. Ethmoid ossification centers of bony fishes and tetrapods?


c. Secondary palate and its function?

Question (3):..... (10 points)

Discuss **with drawing** the developmental stages of the chondrocranium?

Best wishes

Atteyat selim Abeer Alum Eldeen

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
	EXAMINATION FOR LEVEL THREE STUDENTS OF SPECIAL ZOOLOGY			
	COURSE TITLE:	Physiology 1		COURSE CODE: ZO3242
DATE:	JUNE, 2018	SECOND TERM	150 POINTS	TIME ALLOWED: THREE HOURS

Part I.....

1. What is the function of: (20 points)

- a) Hexose monophosphate shunt. b) Liver glycogen.

(20 points)

2. Explain these facts:

- a) Krebs' cycle is the meeting points of carbohydrate, protein and fat metabolism.
b) Cori Cycle involves the utilization of lactate to produce glucose.

3. Compare between:

(20 points)

- a) Aerobic and anaerobic oxidation.
b) Type I and type II of Diabetes mellitus.

4. Calculate the net energy gained from oxidation of fatty acid containing 14 carbon atoms with details. (15 points)

Part II.....

1. Compare between the feeding methods in: (20 points)

Hydra, amphioxus, whales, snakes and cestodes.

2. There are two basic forms of motility in the human digestive system. (15 points)


- a) Explain the two forms.
b) Discuss the differences between propulsive movements and mixing movements.

3. What are the functions of: (20 points)

Secretin – trypsin – enterogastrone – HCl – lysozyme - renin.

4. Explain the absorption of carbohydrates, proteins, and fats through the small intestine. (20 points)

EXAMINERS	DR. ZEINAB ATTIA	DR. HALA ABDELAZEEM
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
	EXAMINATION FOR THIRD YEAR STUDENTS OF SPECIAL ZOOLOGY			
	COURSE TITLE:	MOLECULAR EMBRYOLOGY		COURSE CODE: ZO 3212
DATE:	JUNE, 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Answer the following questions

First Question:

(Total 25 marks)

- 1- Explain **in detail** the technique for generating transgenic cows (For milk production)?

Second question:

(Total 25 marks)

- 1- The nuclear transfere technique has been applied to several mammalian species, explain an experiment has been carried out with sheep?
- 2- Explain an experiment showing that gene expression changes upon new cytoplasmic environment

Third question:

(Total 25 marks)

- 1- Explain an experiment showing that oocyte cytoplasm can re-program nuclei from kidney cells to express oocyte-specific proteins?
- 2- Most blastomere cells (2, 4, 8, 16 stage) are able to form a range of structures. Give an example for only one stage?.

Fourth question:

(Total 25 marks)

- 1- How the researchers can establish transgenic mice by DNA microinjection?
- 2- The inner cell mass (ICM) cells within the human blastocyst have the potential to differentiate into different cell types (Explain).

With Best Wishes

EXAMINERS	PROF. FOUAD AFIFI ABOU-ZAID
	PROF. NABIL KMAL EL-FEKY



COURSE TITLE:	Parasitology		COURSE CODE: ZO3202
DATE:	MAY 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150
			TIME ALLOWED: 2 HOURS

Answer the following question

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I- In table compare between: (25 marks)

- 1- Traumatic and foreign body reaction as parasitic damage in the host.
- 2- Case fatality rate and incidence of infection.
- 3- Carrier and reservoir host.
- 4- Monostome and echinostome morphological types of trematode
- 5- The mode of transmission in *Clonorchis sinensis* and *Dicrocoelium dendriticum* infection.
- 6- The diagnosis of *Dipylidium caninum* and *Echinococcus granulosus*
- 7- The two subclass of cestoides (cestodera and eucestoda) referring to the shape of the body and larval stage.
- 8- The mode of action in niclosamide and praziquantel as anthelmintic drugs.

II-Complete the following: (35 marks , 3.5 marks each)

- 1- Opportunistic parasite is the parasite that exist in and flare up in patients, example
- 2- Parasites undergo some degree of modification to be able to live and develop successfully in their hosts, including.....,.....,.....
- 3- Turbellarians have aepidermis where few members live as in body tissues or cavities of..... while Aspidogastreans are morphologically characterized by the presence ofand have life cycle.
- 4- Female genitalia in digenea encloses Mehils' gland, which is responsible of,..... and the uterus, which in some species ends with a muscular portion called.....
- 5- Digenetic cercaria provide with..... orglands or both , after release from the intermediate host, they follow one of the following ways.....,.....,.....
- 6- *Diphyllbothrium* is known as, the infection is caused by....., where the infective stage is
- 7- The disease that is caused by *Echinococcus granulosus* calledand the infected organ in man could be,.....,.....
- 8- The main source of human infection in *Clonorchis sinensis* is and heavy infections are characterized by,.....
- 9- The mode of release of cestode eggs by getting out from the genital pore is called
- 10-..... is the larval stage of cestode with cavity and without bladder, while..... has cavity and bladder.

III- Choose the correct answer: (20 marks, 2 each)

- 1) What is the correct order of development in the trematode life-cycle?
 - a. egg, miracidium, cercaria, redia, sporocyst, adult
 - b. egg, redia, sporocyst, cercaria, miracidium, adult
 - c. egg, cercaria, miracidium, redia, sporocyst, adult
 - d. egg, miracidium, sporocyst, redia, cercaria, adult
- 2) Monocytosis results from
 - a. Stimulation of the reticulo-endothelial system.
 - b. Early invasion by eosinophils.
 - c. Results only from blood sucking parasites.
- 3) Host specificity of most aspidogastreans is very low.
 - a. True because they can infect a wide range of hosts.
 - b. False because they infect only one species of host.
 - c. True because they infect only mammals.
- 4) Trematode body wall is characterized by the presence of :
 - a. Spines, microtriches, and epicuticle

- b. Spines, vesicles and inclusion bodies.
c. Microtriches, vesicles and vertical muscles .
- 5) A successful results in the control of schistosomiasis is achieving by:
a. Determining factors affect the prevalence rate include humans, water and snail factors.
b. Determining signs, symptoms of the disease and the history of living in an endemic areas.
c. All the above .
- 6) Humans become infected with *Echinococcus granulosus* when they:
a. Ingest eggs from the feces of an infected dog
b. Ingest the multilocular hydatid cyst in the liver of an infected rodent
c. Ingest the cysticercus in the liver of an infected cow
- 7) A is **not** a stage in the life cycle of a pseudophyllidean tapeworm?
a. pleurocercoid
b. Proceroid
c. strobilocercus
- 8) Hand collection of snails on pastures is a control measure for
a. *Schistosoma mansoni*.
b. *Dicrocoelium dendriticum*
c. *Clonorchis sinensis*
- 9) The larva of Monogenea is called
a. lycophore
b. Oncomiracidium ciliated larva
c. Miracidium
- 10) The intermediate hosts of *Clonorchis sinensis* include
a. Copepods and fish
b. Snails and fish
c. Bird and cats

IV- Put true (✓) or false () and correct the whole false statement(s): (35 marks)

- 1- The main ill effects of schistosomiasis result from the cercaria in liver which leads to anemia
- 2- The holostome type is characterized by enlarged posterior acetabulum and post testicular ovary .
- 3- The parenchyma in trematode is responsible for movement of the body wall.
- 4- In trematode, sperms travel down the vitelline ducts reach mehli's gland where fertilization occurs.
- 5- Antigenic mimicry is the encystment of the small parasites to shield itself from the host reaction.
- 6- Oncosphere is free swimming embryos from pseudophyllidea, which is characterized by lateral spine.
- 7- Foxes are the definitive hosts for *Dipylidium caninum*, and hydatid cyst is its infective stage.
- 8- *Echinococcus granulosus* parasite is known to be able to cause a B12 deficiency
- 9- *Clonorchis sinensis* is commonly known as the lancet fluke, where ants is the first intermediate host .
- 10- Herbal medicines are very effective in curing diseases but also have many side effects

V- 1) Answer the following (20 marks)


By mean of fully labelled drawing illustrate the life cycle of *Ancylostoma duodenale*

2) Mention the following: (15marks)

- a-Types of muscle layers in nematoda
- b- Structure and functions of pseudocoelom
- c-Digestive system and digestion in nematoda
- d-Types of females and ovaries in nematoda
- e-Sense organs of nematodes

Best wishes

Examiners:	Prof. Said Noor El Din	Prof. Mostafa El Mehalawy
	Prof. Nahla A. Radwan	Dr . Samar F. Harras

	Tanta University Faculty Of Science Department Of Zoology			
	Final exam for level (3) students of Special Zoology			
	Course Title:	Invertebrate Pathology		Course Code: ZO 3210
Date:	24/5/ 2018	Term: Second	Marks:100	Time Allowed : 2 Hours

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Part I (50 Marks)

(A)- Complete:

(6 Marks)

- 1- Study invertebrate diseases toand.....
- 2- From the clinical signs of Taura Syndrome Virus disease in infected animal is.....
- 3-.....disease is accompanied by the gross signs of yellowing of the cephalothorax
- 4- is a genus of Cirripedia that is a parasitic castrator of crab
- 5- Indirect transmission caused via

(B)-In a table compare between white spot disease and black shell disease of shrimp concerning the causative agent, symptoms, treatment and prevention method
(8 Marks)

(C) - Write short notes on the following

(6 Marks)

- 1) - How to detect the crustacean diseases (Three diagnoses only)
- 2) - Suggest three practices for managing (preventing) animal diseases

(D) - What is the meaning of the following

(6 Marks)

- a) Infectious disease
- b) Direct transmission of the disease

(E) - Put √ or X and correct the wrong one (s)

(10 Marks)

- 1- The immune response of crustaceans is temperature dependent ()
- 2- Effective vaccines for viruses within the Yellow head are available ()
- 3- Water temperatures below ~30°C being favorable to WSD outbreaks ()
- 4- White spot syndrome virus is a risk to human health ()
- 5- Crustaceans have innate immune system with adaptive memory ()

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(F)- Give reasons for the following:

(3 Marks)

1- Shrimp Vibriosis Known as the Sea Gull Syndrome

(G) - Choose the correct answer:

(5 Marks)

1- Granular and semi-granular haemocytes have the ability of producing

- a) melanin b) guanine c) a and b

2- Outbreaks of Myonecrosis may follow stressful events such as sudden change in....

- a) Salinity b) temperature c) both a and b

3-Aflatoxin is produced by

- a) Bacteria b) Fungus c) Virus

4- Cotton shrimp disease is caused by

- a) Protozoan b) bacteria c) worms

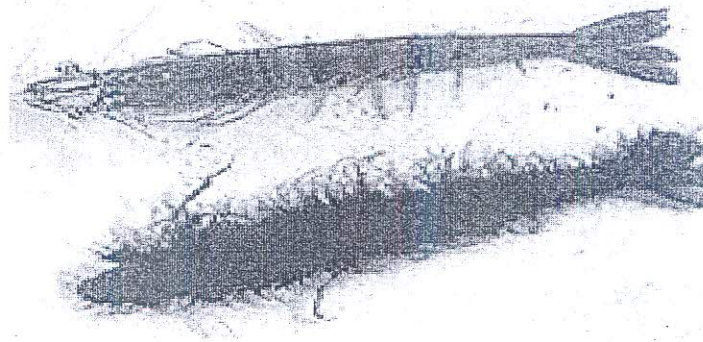
5- Infected larvae with luminous bacteria exhibit when observed in total darkness

- a) Bright red colour b) greenish luminescence c) purple luminescence

(H)-From the adjacent figure

answer the following: (6Marks)

- 1- The name of the disease
- 2- The causative agent
- 3- The symptoms
- 4- Preventive methods



Part II (50 Marks)

A) Complete the following: (20 marks, 2 marks each)

- 1- Disease affected by three factors;,....., and.....
- 2-Gross observation of any Oyster disease is.....
- 3-Herpes like virus is astrandvirus, which could be detected by.... and
- 4-Cryptosporidiosis is a disease caused by....which infect bothand....

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5- gill necrosis virus is a type oflike virus withstranded DNA that infectof mollusca withappearance on it, and could be detected by....

6- Hepatitis E virus is a.....strand transmitted byroute and could be detected by.....

7- PCR steps include three stages, the first is.....with temperature....°C, then.....with temperature.....°C and the last one is.....with temperature....°C.

8-Hematopathology is a branch ofpathology, which mean.....

9-Dermoid disease is a disease caused byparasite, which could be mistaken with....because it has.....and its infective stage is.....

10- Bivalved mollusca are vulnerable to disease because of.....

B) Put true(√) or false(X) and correct the wrong ones: (15 marks, 3 marks each)

1- MSX is a disease caused by *Martellia sp.*

2- Bonamiosis is a disease infect oyster velar larva due to viral infection.

3- Biopsy means remove part of alive human's injured part to create several analysis.

4- Hepatitis E is a disease related to hemocytes of oyster and it called microcell disease.

5- General pathology divided into three branches; Clinical, anatomical, and molecular.

C) Make a simple definition to the following: (15 marks, 3 marks each)

1-Cytopathology 2-Autopsy 3-Fecal-oral route 4-retrovirus 5-QX disease.

Examiners:	Prof. Mona El-Gamal	Prof. Wesam Salama
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Good Luck



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF ZOOLOGY

EXAMINATION FOR JUNIORS (THIRD YEAR) STUDENTS OF CHEMISTRY / ZOOLOGY

COURSE TITLE: ANIMAL ECOLOGY AND BEHAVIOR COURSE CODE: ZO 3244

DATE: 3, JUNE, 2018 TERM: SECOND TOTAL ASSESSMENT MARK: 150 TIME ALLOWED: 2 HOURS

Part (I) : Animal Ecology (Total 75 marks) الامتحان في ثلاث صفحات

I) Answer the following questions (Total 43 marks)

- A) Compare between each two of the following
Natality and mortality – Fecundity and fertility – r- selection and k- selection. (8 marks)
- B) Define: population – community – ecosystem- species diversity. (10 marks)
- C) Write short notes on: types of food chains - Demographic transition Stages. (10 marks)
- D) In the stationary phase of population growth there are four different patterns of population fluctuation. Explain it with drawing. (10 marks)
- E) Given that $R_0 = 3$ and $N_0 = 10$, what is N_4 ? (5 marks)

II) Choose the correct answer (Total 32 marks, 2marks each)

- Which level of the food chain has the most energy?

- A) Primary consumer B) secondary consumer C) producer

- Which of the following shows a correct food chain path way?

- A) secondary consumer to primary consumer to producer
B) producer to primary consumer to secondary consumer
C) neither of these

3- Which of the following two organisms are producers?

- A) Plants and phytoplankton B) Plants and consumers
C) Consumers and phytoplankton D) Phytoplankton and herbivores

- What is a consumer that feeds directly upon a producer?

- A) carnivore B) first-order consumer
C) second-order consumer D) third-order consumer

- The difference between the logistic and the exponential curves is the inclusion of
a limiting factor that takes into account

- A) r B) K C) t.

- The total amount of energy fixed by green plants, not including respiratory losses, is known as

- A) net productivity. B) lost energy.
C) chemoautotrophic energy. D) gross productivity.

- Continued high birth rates and rapidly declining death rates describe which stage of the demographic cycle?

- A) Stage 1 B) Stage 2 C) Stage 3 D) Stage 4

- 8- A population pyramid with a wide base narrowing as the age cohorts progress indicates:
 A) decline. B) rapid growth C) slow growth. D) stability.
- 9- Logistic term becomes negative when $N > K$, then population size and it is positive when $N < K$, then population size
- A) Decrease / increase B) increase / decrease
 B) C) both equal D) zero/ increase
- 10- When members of a population move out of a given area, it is called
- A) Survivorship B) immigration
 C) mortality D) emigration
- 11 - If the distribution of individuals over an area is uniform
- A) The variance may be much larger than mean.
 B) The variance will be quite small and smaller than the mean.
 C) The variance should be equal to the mean.
- 12-The percentage of dominant species is.....
- A) 10-20% B) 20-30% C) 1-5% D) 30% or more
- 13- If a nation has 2% annual growth rate, its population will double in years.
- A) 25 B) 35 C) 50 D) 40
- 14- The survivorship curve of most vertebrates such as fish shows.....
- A) rapid mortality at early ages. B) constant mortality during life.
 C) rapid mortality at later ages. D) none of the above.
- 15- To determine the intrinsic rate (r) of natural increase it is necessary to consider ____.
- A) the rate of immigration B) the birth rate
 C) the death rate D) both B and C
- 16- A population in which most of the organisms survive well past the midpoint and die near the very end of the life span have a ____ survivorship curve.
- A) Type I B) Type II C) Type III

Part (II) Animal behavior

(Total 75 marks)

Answer the following questions:

1. Choose from between the brackets the correct answer: (Total: 5 Marks, 1 each)

- A) Movement whose direction is dependent on the comparison intensities of stimulation on bilateral sense organs called (klenotaxes..... tropotaxes.... telotaxes)
- B) Hygienic bees are example for (territorial.... social.... genetic control of behavior).
- C) The distinctive property of cultural behavior, is inherited by (imprinting maturation imitation)
- D) Experience influences the development of behavior in (perceptual sharpening supernormal stimulus stimulus filtering).
- E) The poppy attract insects by responding to (infrared rays ultra violet rays visual senses).

2. Fill in the blanks with the appropriate words

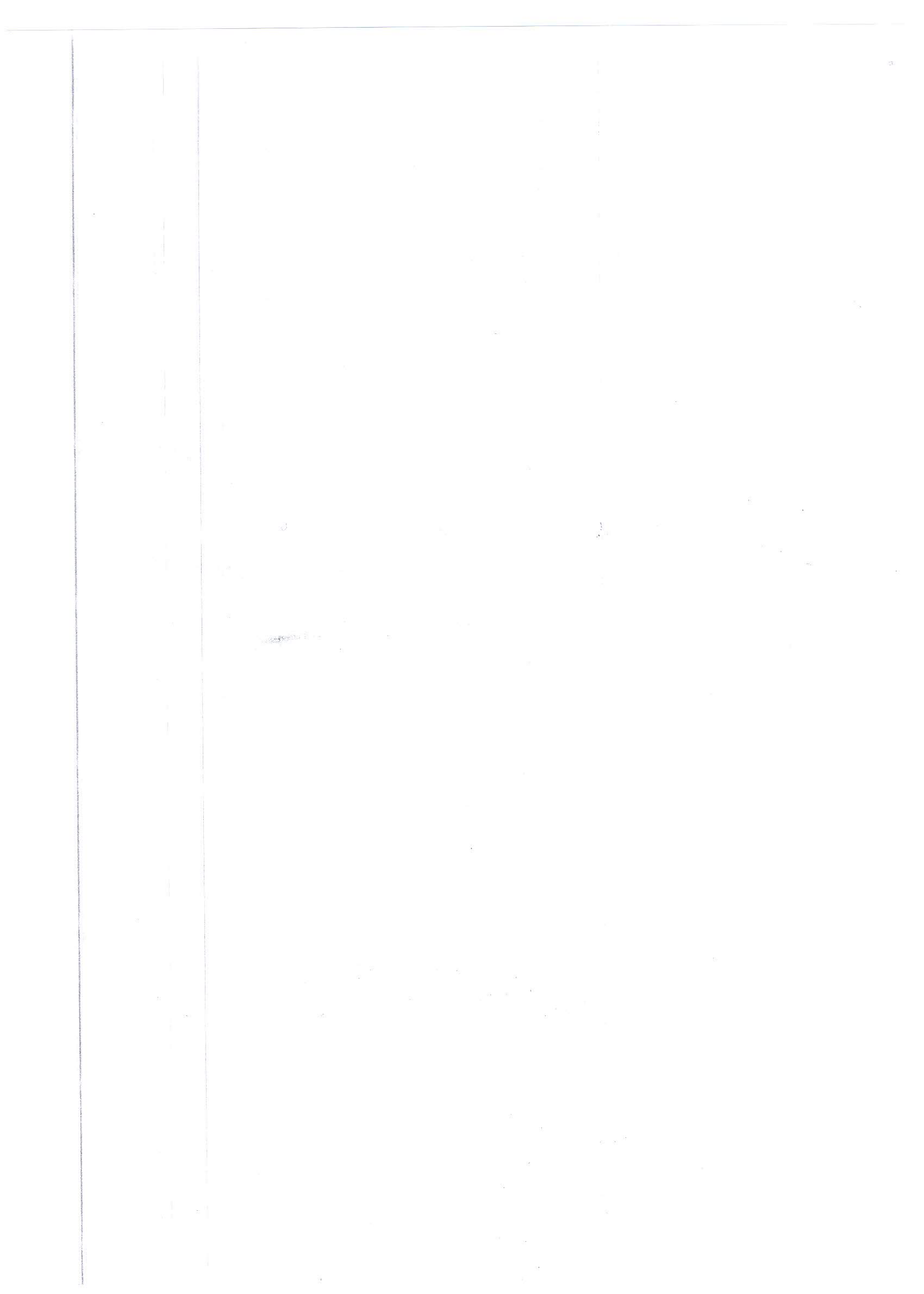
(Total:10 Marks, 2 each)


- A) The animal alters its rate of movement, in random direction according to the intensity of stimulus in.....which subdivided into and
- B) The hormonal system in Barbary dove is influenced by a sequence of hormones,,,,
- C) A study of gastropod *Pleurobranchia* gives an example for
- D) The principle by which the sensory system of an animal responds to some stimuli in the environment but not to others called,one method we can find out what stimuli an animal responding to is
- E) The two kinds of behavioral responses which can become imprinted are and
3. The ability to see and recognize shapes is a complex part of vision in animal. Explain with example
(10 Marks)
4. Courtship on guppies *Poecilia reticulata* gives an example for how motivation affect behavioral choises. Discuss!!!!
(10 Marks)
5. Demonstrate with experiment the advantage gained by associative learning in animal. (10 Marks)
6. Illustrate using examples, how aggregation can benefit the individuals that comprise them.
(10 Marks)
7. Adaptive behavior is indeed an essential part of animal equipment for survival. Using examples, discuss the statement.
(10 Marks)
8. Illustrate with examples the territorial behavior in insects.
(10 Marks)

With our Best Wishes

Examiners: Prof. Dr./ Lamiaa Sharra

Prof. Dr. / Hala Adel-lateif.



	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY		
	FINAL EXAMINATION FOR (THIRD YEAR) STUDENTS OF CHEMISTRY- ENTOMOLOGY		
	COURSE TITLE:	Forensic Entomology	COURSE CODE: EN 3242
DATE:	22 /5/ 2018	TOTAL ASSESSMENT MARKS:150 MARKS	TIME ALLOWED: 2 HOURS

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Part I (Total Marks: 60 marks)

1-Fill in the blanks with the appropriate words (Total: 20 Marks, 2 Mark each)

- a-Concerns with the pest infestations in buildings or gardens that may be the basis of litigation between private parties and service providers.
- b-where the body temperature decreases and the skin color reddens which is generally evident of death at about 2 h postmortem
- c- The first insects to arrive at remains in the fresh stage are usually.....
- d-is often used in litigation over infestation or contamination of commercially distributed foods by insects.
- e-Deal with arthropod involvement in violent crimes such as murder, suicide and rape
- f- Insects can also be of help in establishing whether the corpse has been moved after death, by.....
- g-may be used to prove the use of drugs or poison by the victim by detecting the presence of the drugs or poison in the arthropods' body.
- h-after few hours of death the color changes from red to purple as oxygen gradually dissociates from the hemoglobin of the red blood cells.
- i-By 24h of death, muscle fibers was stiffened of the due to the breakdown of glycogen and the accumulation of lactic acid.
- j- The additional stage of the corpse decay in water is.....

2- Indicate whether the following statements are true (T) or false (F) (Total: 20 Marks, 2 Marks each)

- a- As soon as death occurs, cells start dying and enzymes start digesting the cells inside out in a process called apolysis ()
- b- volatile molecules called apeneumones escaping from the decomposing body attract insects. ()
- c- putative sulfur-based compounds are responsible for initially attracting the flies to the decomposing carcass. ()
- d- The egg laying of the flies are induced by ammonium-rich compounds present on the carrion. ()
- e- The insect decomposers that consume the soft tissues of fresh carcasses are generally coleopteran. ()
- f- First colonizers of the carrion are Calliphoridae and Sarcophagidae. ()
- g- Adventive species are those insects which feed only on decomposing tissues of the body and body parts, like Diptera and Coleoptera. ()
- h- No marked differences were noted in arthropod fauna present or the duration of the stages of decomposition between burnt and control carcasses. ()
- i- The post-decay stage begins when most of the Diptera larvae migrate away from remains in order to pupate is the Post-decay stage. ()
- j- The blow fly maggots can delay pupation if conditions are sub-optimal. ()

3-Discuss the determination of postmortem time (from entomological view)
(5 Marks)

4-What do you know about Jean Pierre Megnin (1894) and Dr. Bergeret d'Arbois (1850) and their roles in forensic entomology.
(5Marks)

5- Mention the second wave of carrion decomposers.
(5 Marks)

6- Discuss the variables affecting insect succession pattern .
(5Marks)

Second part: write a short notes on the following (60 marks)

- 1- Factors affecting of insect development. (12 marks)
- 2- Define the accumulate heat, and how to calculate the ADD for insect according to temperature. (12 marks)
- 3- Discuss how the body moved after the death. (12 marks)
- 4- Mention the procedure of death scene. (12 marks)
- 5- Write short notes on the role of forensic Entomology in the contraband trafficking and in detection of drugs and toxins. (12 marks)

Third part: Read the following Case history involving forensic entomology, then answer the following:


A ferry skipper had been condemned to life imprisonment for the murder of a postmaster, whose knifed body had been found one evening in September on the ferry. The ferry skipper had arrived at 1800 on that day, and the body of the murdered postmaster had been found some hours later. The autopsy was performed the next day at 1600. Masses of yellowish fly eggs and numerous newly hatched larvae of 1 to 2 mm in length was present, and the finding was recorded in the autopsy report. No attention was paid to this observation at the trial, however. On assumed evidence, the ferry skipper was condemned to life imprisonment in spite of his swearing that he was innocent. Eight years later the case was reopened. At the new trial, Dr. Mihalyi pointed out that no sarcophagous flies are active in Hungary after 1800 in the month of September. He also recalled some of his experiments indicating that, at a temperature of 26 degrees Celsius, the yellowish eggs of *Lucilia caesar* (L.) hatch after 13 hours, those of *L. sericata* hatch after 10-11 hours, and those of *Phormia terranova* 14-16 hours after oviposition. These data, applied to the case of the ferry skipper, led to the conclusion that it was not possible that the eggs could have hatched if they had been laid during the day the autopsy was performed, and that they must have been laid during the previous day *before* 1800 since the flies are not active after this time. Dr. Mihalyi's data on oviposition was verified and, on the basis of this and other evidence, the ferry skipper was released from prison.

1. Mention the insects that have been identified in this case and mention its classes? (5 marks)
2. Discuss the role of metrological data in this case? (5 marks)
3. Do you think that insects played the primary role in the releasing of the ferry skipper from the prison? (5 marks)
4. If you are the forensic entomologist in this case or other cases, what are the measures /information that should be taken in consideration when you start your investigation? (5 marks)
5. Briefly discuss the stages of decomposition in vertebrate animals? (10 marks)

Good luck☺!

Examiners	Prof. Dr. Saied Naiem	Prof. Dr. Mervat Abou Seada
	Dr. Yahya Al Naggar	

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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF ZOOLOGY			
	EXAMINATION FOR JUNIORS (THIRD YEAR) STUDENTS OF CHEMISTRY / ENTOMOLOGY			
COURSE TITLE	MEDICAL AND VETERINARY ENTOMOLOGY		COURSE CODE: EN 3240	
DATE:	JUNE, 2018	TERM: SECOND	TOTAL ASSESSMENT MARKS:150	TIME ALLOWED: 2 HOURS

PLEASE NOTE THE EXAM IN TWO (2) PAGES

- ANSWER THE FOLLOWING QUESTIONS

The First Question..... (22 Marks, 2 Each)

Fill in the blanks with the appropriate words

- 1) The causative organism of murine typhus is.....and it is transmitted to humans by.....
- 2) *Wohlfartia magnifica* causes.....in man and domestic animals.
- 3) Preventive measures against *Chrysomya bezziana* infestation in domestic animals include.....
- 4) The presence of bed bugs in a dwelling can be recognized from.....
- 5) The kissing bugs are attracted to their hosts by.....
- 6) *Tabanus* adult female inflicts a deep painful wound because the mouthparts are.....
- 7) Female mosquitoes are referred to as endophilic or exophilic depending on.....
- 8) Culicine larvae differ from those of *Anopheles* by.....
- 9) The house fly is incriminated as the vector of the causative organism of
- 10) The larvae of the black fly breed in.....

The Second Question..... (20 Marks, 2 Each)

Choose from between the brackets the correct answer and rewrite it in your answer booklet

- 1) The vector of *Yersinia pestis* is (*Xenopsylla cheopis*---*Ctenocephalides canis*--*Pulex irritans*)
- 2) Adult sand flies are active only during (the colder months---warmer months—all seasons) of the year.
- 3) Long-range attraction of black fly female is initiated by (visual stimuli-- host odor---- carbon dioxide).
- 4) (Bed bugs--- fleas----Cockroaches) harbor the food poisoning organism, *Salmonella*
- 5) *Hypoderma lineatum* is a parasite of (sheep---cattle----horses).
- 6) *Pediculus humanus humanus* is the vector of (*Rickettsia prowazekii*—*Rickettsia typhi*---*Yersinia pestis*).
- 7) The louse, *Phthirus pubis*, (transmits tuberculosis to man---is not known to transmit diseases to man---transmits *Salmonella* infections to man).
- 8) Tertiary facultative flies (are unable to initiate myiasis but which participate once an animal has been infested-----initiate myiasis----. become involved in myiasis at late stage when the host animal is almost dead).
- 9) (*Tabanus* — *Chrysops* — *Simulium*) is the vector of *Loa loa*, anthrax, tularemia and *Trypanosoma evansi*.
- 10) Fumigation is a control method against (sand fly — house fly — bed bug).

The Third Question..... (40 Marks, 2 Each)

- 1) Both males and females of Simuliidae are blood sucking of worm-blooded animals ()
- 2) Members of the Psychodinae are annoying in the house. ()
- 3) *Cimex hemipterus* occur in the tropical region. ()
- 4) The final host, or the definitive host, is the one in which the parasite reaches sexual maturity. ()
- 5) Facultative parasites are free-living insects that may live for a certain period in the vertebrate host. ()
- 6) Propagative transmission: Where the pathogen undergoes a certain cycle inside the body of the insect vector and at the same time increase in number. ()
- 7) The eggs of *Aedes* are laid in a batch but not attached to each other. ()
- 8) The cockroach, *Periplaneta americana*, is a potential transport for *trypanosoma cruzi* infecting man. ()
- 9) Tse tse fly is a nocturnal insect. ()
- 10) Gambian sleeping sickness transmitted by *Glossina morsitans* ()
- 11) The reservoir host for Rhodesian sleeping sickness is man ()
- 12) Nagana is a human disease transmitted by horse fly ()

- 13) *Loa loa* is a bacterial disease, transmitted by Tse tse fly ()
- 14) *Chrysomya bezziana* causes myiasis in cattle ()
- 15) The infective stage of *Loa loa* disease is metacyclic stage ()
- 16) *Oestrus ovis* is a facultative parasite of sheep and goats. ()
- 17) *Tabanus* is a vector of *Wuchereria bancrofti*. ()
- 18) The developmental cycle of *Plasmodium* includes the asexual multiplication in the female *Anopheles* mosquito. ()
- 19) Simuliids are indophilic and indophagic. ()
- 20) Female *Hypoderma lineatum* deposits its eggs singly on the shaft of hairs of the cattle rump and upper parts of the hind legs. ()

The Fourth Question..... (18 Marks)

- 1) What are the control measures against (9 Marks, 3 Each)
 - a) Mosquitoes. b) Triatomines c) Black fly.
- 2) Give a short note on mode of infection of the following diseases: (9 Marks, 3 Each)
 - a) Yellow fever b) Elephantiasis c) Chagas' disease.

The Fifth Question..... (50 Marks)

- A. Enumerate the factors accounting for the potency of ticks in the spread of diseases of man and animals and then explain only TWO disorders caused by ticks to their hosts(20 Marks)
- B. Discuss scabies infestation, transmission and pathogenesis (10 Marks)
- C. Choose the correct choice and rewrite it in your answer paper(20 Marks, 2 Marks each)
 - 1) Haller's organ of ticks is
 - a) A sensory pit on tarsi of first pair of legs b) A sensory pit on palps of first pair of legs
 - c) A sensory pit on tarsi of second pair of legs d) A sensory pit on palps of second pair of legs
 - 2) Argasid tick adults have a genital aperture.....
 - a) Between coxa IV b) Between coxa II c) Between coxa I. d) Haven't genital opening
 - 3) Number of plates found in Ixodid ticks are.....
 - a) One ventral, two anals and one laterals). b) One ventral, one anal and two laterals
 - c) Two anals and two laterals d) Two ventrals and two laterals
 - 4) Acariasis is caused by
 - a) Tick infestation b) Tick and mite infestation c) Mite infestation d) All of these
 - 5) Starting with the egg and ending with the adult, the correct order of mite development is.....
 - a. Egg, Larva, Deutonymph, Protonymph, Tritonymph, Adult
 - b. Egg, Larva, Tritonymph, Protonymph, Deutonymph, Adult
 - c. Egg, Larva, Deutonymph, Tritonymph, Protonymph, Adult
 - d. Egg, Larva, Protonymph, Deutonymph, Tritonymph, Adult
 - 6) Rocky Mountain spotted fever is
 - a) A rickettsial disease transmitted by hard ticks b) A bacterial disease transmitted by soft ticks
 - c) A protozoan disease transmitted by mites d) A viral disease transmitted by hard ticks
 - 7) Soft Ticks are vectors of.....
 - a) Borreliosis b) Anaplasmosis c) Tick-borne relapsing fever d) Babesiosis
 - 8) Vectors of bovine and human babesiosis are.....
 - a) Psoroptid mites b) Ixodid ticks c) Argasid ticks d) Sarcoptid mites
 - 9) In the three-host ixodid tick life cycle
 - a) Larva on small rodents, nymph on larger mammal and adult on another large mammal.
 - b) Larva on larger mammal, nymph on small rodents and adult on another large mammal.
 - c) Larva on small rodents, nymph on larger mammal, adult on the same large mammal.
 - d) Larva on large mammal, nymph on another larger mammal, adult on small rodents.
 - 10) Rotation of pastures has been used in the control of the
 - a) Argasid ticks b) Multihost ixodid ticks c) One-host ixodid tick d) All of these

BEST WISHES

EXAMINERS	PROF. IBRAHIM MOHAMED BAKR	DR. MOHAMED SOLIMAN
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