Q2: Answer the following: (15 marks)

1- Evaluate the attempts of Darwinists to use cloning as evidence for evolution.

2- "Homology and evolution lost all significance against scientific findings". Explain with examples.

3- "Anatomical and physiological differences assure the invalidity of fish to be the ancestors of land-dwelling creatures". Discuss three of them in details.

4- Investigate the evolution of bacteria by adapting to conditions through antibiotics.

5- How can fossil record reject the "Tree of Life"? Demonstrate two examples.

Q3: Give the evolutionary term for the following: (14 marks)

1- A thesis believed that bacteria could come into existence from inanimate matter.

2- A process in which new species evolves from other existing.

3- An intermediate state between man and ape from just a skull!

4- Organs were inherited from ancestors without any function.

5- Soft-bodied animals' fossils of Precambrian era.

6- It is the creative force that selects strong characters & eliminates those weak.

7- It is based on building an evolutionary link between living things with similar structures, even in different groups of unrelated animals.

إنتهت الأسئلة مع أطيب الأمنيات بالتوفيق هناء عاطف

18) The double circulation appears in.....

a. Lamprey

b. Fish

c. Amphibian

19) The notochord arises from .....

a. Mesoderm layer

b. Ectoderm layer

c. Endoderm layer

20) In Agnatha, the vestibular apparatus have .....

a. One semicircular canal

b. Two semicircular canals

c. Three semicircular canals

Q2: Complete the following sentences: (10 marks)

1) The incus bone of the middle ear derive from the..... while the .....derive from the Meckel's cartilage of mandibular arch.

2) The endoskeleton includes; 1-..... which is composed of the skull,.....and sternum, 2- .....which is composed of limbs and .....

3) Amphioxus has..... heart but has .....to receive the blood from the vessels, and the job of contraction is distributed among.....and.....vessels.

4) Hemichordates is separated belong their own phylum due to .....and.....

2- In points give your clues about (three) only of the following **(six degrees)**

1-What are the responsibilities of the circulatory system of an insect.

2-The categories of hormone-producing cells in an insect's body.

3- The tainidia.

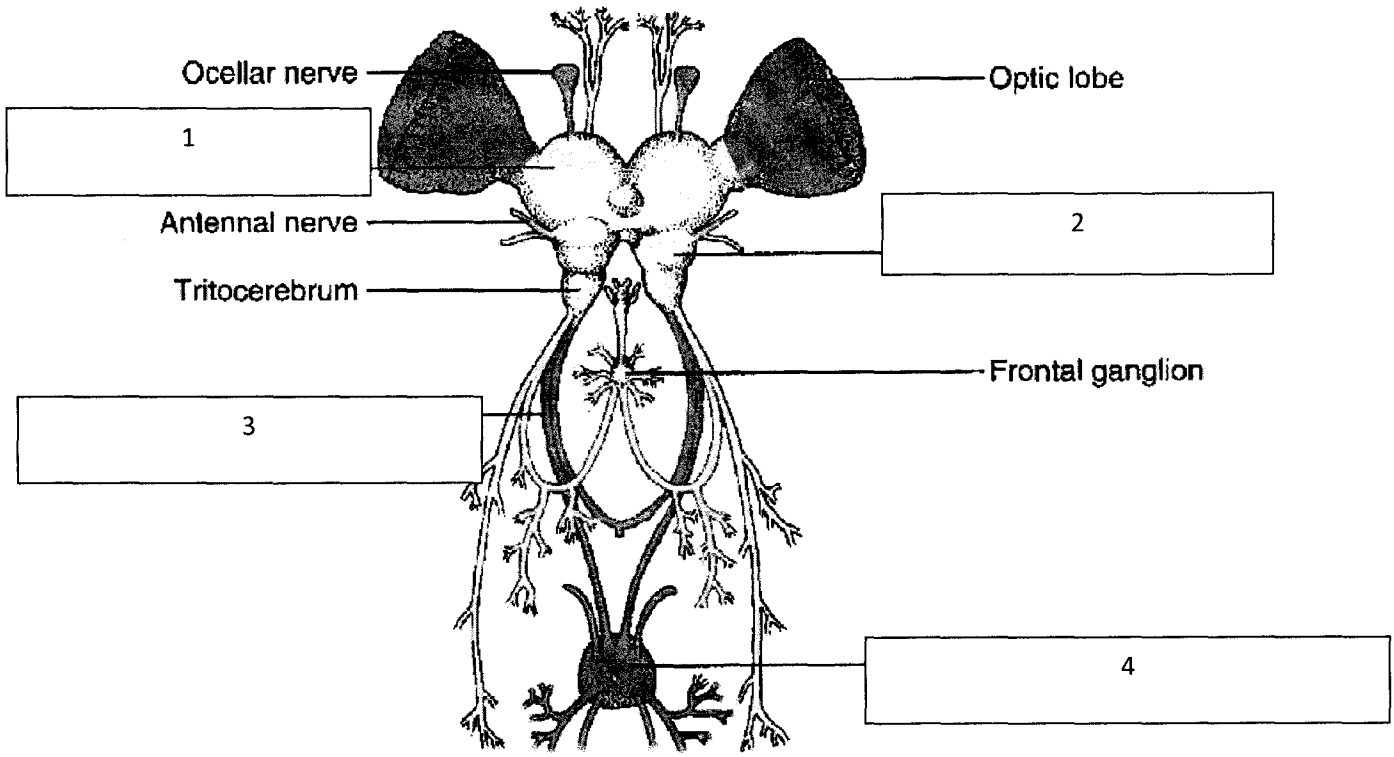
4-How could aquatic insects breathe in water.

3-With draw (only) describe the male reproductive system of an insect **(five degrees)**

4- Put the missing labels and the name of the first figure and explain the situation on the second one

(Four degrees)

A- First figure



س٣: أكتب المصطلح العلمى الدال على كل عبارة مما يأتى: (١٥ درجة):-

1- An organic compound secreted by some algae and fungi which gives a musty odor to water.
2- One of the limiting factors of corals responsible for the absence of reefs in the estuaries.
3- A substance secreted by corals which prevent dehydration.
4-Vertebrate animals very sensitive for acid rains.
5-An organic substance which may be leached from soil as a result of acid rains.
6- An area of the lake rich in nutrients.
7- A distinct physical structure in streams occurs in flatter portions of the water course.
8-A factor which affects the structure of the estuary.
9- A type of lakes that has chemical classification depending on microbial processes.
10- A group of organisms that live in symbiosis with corals.

س ٤: (١٥ درجة):- علل لما يأتي معطيا سببا واحدا لكل حالة:

1-There is rarely any stable vertical stratification of chemicals in the littoral zone of aquatic ecosystems.
2-Snails are severely affected by acid rains.
3-Human impact increases acid rains.
4-In some lakes eutrophication does not occur in spite of increasing nutrients.
5-Lakes having granite basin are not suitable for fish culture.
6-Rivers situated in arid regions have excess phosphate.
7-Death of a lot of animals as a result of eutrophication.
8-Some lakes are not heavily affected by acid rains.
9-Increasing of biodiversity in estuaries.
10- Increasing of biodiversity in streams.

With best wishes

4-A type of dispersion in which the position of each individual is independent of the other`s
5-An individual female gains two or more males.
6-The highest population that can be maintained by a particular environment.
7- A situation in which an animal defends an exclusive area not shared with rivals.
8-A type of competion in which individuals claim enough resources while denying others a share.
9-The role played by the organism.
10-A group of organisms feed on primary consumers.
11- Organisms which play a good role in the recycling of materials in the ecosystem
12-The struggle between different species for the same limited resources.
13-The first organisms to populate an area.
14- A biome in which plants consist of lichens, mosses and grasses.
15-A biome characterized by heavy rainfall and constant warmth.

C- Give one cause for each case of the following (10 marks)

1-Presence of life in some places in the absence of the sun.
2-Temperature has a bifold effect on the organisms.
3-Death of some animals as a result of thermal pollution.
4-Presence of certain organisms in the northern hemisphere.
5-Moisture plays a good role in the regulation of earth`s temperature.
6-Camel is well-adapted to live in the desert.
7-Some soil invertebrates, in summer, migrate downwards.
8-Limitation of population growth.
9-Some populations do not increase in numbers.
10-Populations cannot grow with their biotic potential.

D-What do you expect in the following cases (10 marks):

1- If a certain population grows with its biotic potential.
2- If two populations having the same niche live together in a closed habitat.
3- Constructing dams on the course of a river.
4- If the mean temperature of the globe increases with three degrees.
5- If some species in the food web disappear.
6- If overfishing occur in the Nile.
7- If we introduce a new species in a certain habitat.
8- If the primary consumers disappear in a certain ecosystem
9- If the temperature decreases in a certain pond or lake.
10-If the photoperiod changed in a certain ecosystem

Good Luck

15- The face of Golgi apparatus which receives the transfer vesicles from the rER is called:

a-Granular face b- Mature face c-Immatur face

16- Power house of the cell is:

a- Lysosomes b- Mitochondria c- ER

(2) Mention whether each of the following statements is true or false and correct the false one **(14 Marks)**

1- At the end of prophase stage the nuclear membrane and the nucleoli disappear.
2- Intermediate filament is 10 nm in diameter.
3- The position of the nucleolus in the nucleus is central.
4- The chromosome number in rabbit is 46.
5- Ribosomes are formed in the nucleolus.
6- Tatto marks are exogenous pigments.
7- Glial filaments are found in neurons.
8- Cells that produce large amounts of steroid hormones are expected to have a great many ribosomes.
9- Secretory granules of Golgi apparatus usually bud from cis face.

10-The microfilaments of the centriole and in the basal body of the cilia have a 9x3 arrangement.

11-The function of the rER includes lipid synthesis, Hcl formation.

12- Cell coat consists of glycolipids and phospholipids.

13- Lysosomes are produced by nucleus and cell membrane.

14- The sodium pump is an example of active transport.

(3) Write short notes on two of the following: **(10 Marks)**

A- Functions of microtubules.
B- Significance of mitosis.
C- Stored food.

(4) Answer two of the following: Provide your answer with drawings whenever possible **(10 Marks)**

A- Functions of the cell coat.
B- Types of secondary lysosomes.
C- Functions of Golgi apparatus.
D- Ultrastructure of cell membrane.

---------- **Best Wishes** ----------

Prof. Abdallah B.Mahmoud

11	Unicellular forms of blue green algae commonly reproduce by..... A) *Nannospores formation* B) *Fragmentation* C) Binary fission	( )
12	Division of motile cells is longitudinal and begins at the ânterior end in ..... A) *Euglena sp.* B) *Chlamydomonas sp.* C) Both of A and B	( )
13	The zygote germinates into a protonemal stage which gives rise to a mature plant in ..... A) *Chlamydomonas sp.* B) *Cladophera sp* C) *Chara sp.*	( )
14	*Closterium - Cosmarium - Desmidium - Euastrum- and Staurastrum are algal* genera belonges to ..... A) *Scytonematales* B) *Desmidiales* C) Chroococcales	( )
15	....character by Enclosure of the antheridia and oogonia by jackets of sterile cells A) Diatoms B) Chrococcales C) Chlorococcales D) Charales	( )
16	*Oscillatoria* sp are filamentous without heterocyst, while .....sp consider as filamentous with basal heterocyst. A) *Rivularia* sp. B*) Sytonema* sp. C*) Nostoc* sp. D) *Anabaena* sp.	( )
17	Photosynthetic pigments of .....consists of Chlorophyll a, c + fucoxanthin A) Chlorophyta B) Phaeophyta C) Cyanophyta D) Bacillariophyta	( )
18	Alginic acid:Alginates are the salts of alginic acid found in the cell wall of the ..... A) Chlorococcales *B)* Phaeophyta *C)* Xanthophyta D) Both of a,b,c	( )
19	Spiral shaped Chloroplasts are present in ..... *A) Mougeotia B) Zygnema C) Spirogyra* C) Oocystis	( )
20	The sole method of reproduction is by formation of autospores in ..... A) *Chlorella* B) *Chlamydomonas* C) *Euglena* D) *Spirogyra*	( )

12) The Articular (Ar) and Quadrate (Q) bones are ∴.....

a. Replace bones

b. Dermal bones

c. Dermal and replace bones

d. None of the above

13) .....is a homogenous structure to the placoid scale in cartilaginous fish

a. Bony scales

b. Mammalian teeth

c. Hair of mammals

14) Cyclostomes posses

a. Two nostrils

b. Medial nostrils

c. No nostrils

15) The alimentary canal of cartilaginous fish is characterized by presence .....

a. Spiral valve

b. No stomach

c. Salivary gland

16) Telencephalon is a part of .....

a. Hind brain

b. Mid brain

c. Fore brain

17) The lateral line system appears in.....

a. Fish and amphibian

b. Amphioxus

c. Terrestrial vertebrates

12-**Which of the following systems is not present in annelids?**
a.Respiratory system b. Nervous system c .Complete digestive system

13- **Which phyla has a polyp and a medusa form?**
a.Porifera b. Cnidaria c.Protozoa d. Ctenohora
14- **Four examples of parasitic nematodes are hookworms, filarial worms, _____, and _**

A)tapeworms, pinworms B) pinworms, trichina worms
C)trichina worms, ribbon worms D) ribbon worms, tapeworms

15- **-In a syconoid type of sponge, the choanocytes are located in the**
A) incurrent canals B) radial canals C) excurrent canalsD) spongocoel

Q2- Mention the scientific terms of the followings (10 marks) one mark for each point

1-Structure used in asexual reproduction, a hard spongin ball and spicules with some living cells .
2- The term that refers to trematode which depends on two or more hosts to complete its life cycle.
3- The class of Cnidaria which have a strobila in the life cycle of members class.
4- An extension of body wall of Polycheata used in swimming , gas exchange and burrowing.
5-Class of Cnidarians have notoriusly deadly neurotoxins.
6- Structures are found in many anemones, the edges of the septa are extended into thread like structures that contain nematocysts and gland cell.
7-A term that refers to Cnidaria and the Cnetophora.
8-The infective stage of *Fasciola* sp.
9-The free living class of Platyhelminthes,
10- Worm usually found in people in tropical countries and live in lymphatic system

Q3- Compelet the following statements (5 marks) one mark for each point

1 -The pores in the surface of a sponge that pass incoming water to the body are called _____ and the opening by which water passes out of the sponge is called the .....
2- Phylum Mesozoa is classified into two classes ..... and.....
3- The infective stage of *Plasmodium* sp is ..... while the infective stage of *Schistosoma* sp is.....
4- Scientific name of hookworm ..... while the scientific name of pork worm is.....
5 the cillatelta clade contains two classes are ..... and.....

Q4- Illustrate with labelling drawing four only of the following: 8 marks 2 for each

1- Life cycle of *Obelia* sp.
2- Body plane of Monagena animal
3- Structure of trophzoit of Apicomlexa
4- Structure of body wall of Trematoa
5- Stucture of nephridium unite

Q5 Answer the four only of the following:-(12mark) 3 mark for each point

A)Compare between Cindarea and Ctenophora
B)-Write short note on the types of larval stages of Phylum Nematoda
C)Explain the reproduction of phylum of Mesozoa
D)Explain the reproduction of polycheata
E) What are the common features of pesudocelomate phyla and listed these phyla

---------- **Good luck**

لجنة الممتحنين
أ.د/ أزهار حسين محمد

15- Heart Sound dup which is high pitched, resulted from of closure of the pulmonary and aortic valves (semilunar valves) at the onset of diastole and ventricular relaxation. ( )

16-The cortex of kidney contains some the renal corpuscles, proximal and distal convoluted tubules. ( )

17- Deficiency of vit B2 ribopoflavin leads to inflammation of angles of mouth and glossitis and dermatitis. ( )

18- Fatty acid oxidation (β-Oxidation) occurred in successive stages and in each stage, one molecule containing two carbon atoms is separated forming acetic acid. ( )

19- Copper is necessary for hemoglobin formation and it enters in the composition of hemoglobin. ( )

20-Thyroxine hormone secretion decrease urine volume by decreasing the water reabsorption from the profilterate. ( )

QII- Answer 5 questions only: (40 marks: 8 marks each)

1)- What are the types of simple and compound proteins mentioning examples as you studied?

2)- Explain the steps of Cardiac cycle with drawing ?

3)- Discuss the intestinal enzymes and their roles in digestion?.

4)- Draw and discuss the oxygen dissociation curve writing five comments?

5)- Compare between the following according to functions and deficiencies: Vitamin E, Potassium, iodine and Vitamin C.

6)- What are the biological significance of nutritional lipids? (6 items).

7)- Write on the steps of urine formation with drawing nephron unit of the kidney with its illustrations.

With my best wishes and great success,
Professor Dr. Mohamed Bassam Al-Salahy

7-The low molecular weight substance in ants venom is (histamine- formic acid-dopamine).

8-Rattlesnakes deliver their venom through two large hollow fangs in the (upper jaw-lower jaw-both upper and lower jaws).

9- Ancrod, as anticoagulant derived from (venom of the Malaysian pit viper, saliva of bats, saliva of leeches).

10-The pain caused by a sting of wasp is caused mainly by large amounts of (serotonin, kinin, protease, all are correct).

III- Write short notes on THREE ONLY of the following. (15 marks)

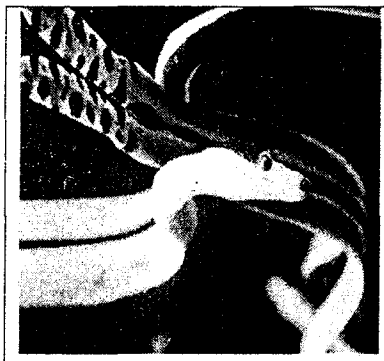
a- How to make antivenom?.

b- Bees and ants venoms.

c- Epibatidine toxicity

d- Venmous snakes in the Middle East countries.

IV- Write a comment on the following figures. (15 marks)



A

B

C

Good Luck!

Dr. Hossam El-Din M Omar, Prof. of Physiology

Assiut University
Faculty of science
Zoology Department

Final exam.(Summer term)
Course number 324 Z
(Protozoa & Parasitology)
Time: 2 hours
June 2017

Answer the following question (Write the answer only in your paper)

A- Fill in the blanks: (10 Marks)

1- *Paramecium* sp. Lives in ..... and feeds mainly on ..... it reproduce asexually by..... and sexually by.....

2- *The intermediate host of Schistosoma haematobium is* ..... *whereas in S. mansoni is* .....

3- *Trichomonas tenax* lives in .....but *Trichomonas vaginalis* lives in.....

2- The final host of *Toxoplasma gondii* is .....but the intermediate host is .....

B- Choose the one correct answer: (5 marks)

1- *Lymnaea trancatula* is intermediate host of (*Schistosoma haematobium, S. mansoni- Fasciola gigantica- Heterphyes heterophyes* –none of them)

2- *Taenia saginata*, to complete its life cycle requires (one host- two hosts- three hosts, - None of them)

3- The insect vector of *Trypanosoma gambiense* is (mosquito- house fly – sand fly- none of them)

4- Man acts as a final host in (*Taenia saginata – Echinococcus granuloses* – Cysticercosis - none of them)

5- Auto-infection, could be propagated by (*Ascaris* sp. – *Encylostoma* sp.- *Enterobius vermicularis* - none of them)

c- Put a suitable(√) or (X) adjacent to the following: (15 marks)

1- Redia stage is absent in *Schistosoma* sp ( )

2- Metacercaria are encysted cercariae without tails ( )

3- Defintive host, is the host harbouring sexual forms of Protozoa ( )

4- Infective stage of *Trichomonas hominis* is trophozoite ( )

5- Some cercariae may have both penetration & cystogenous glands ( )

Assiut University
Faculty of Science
Zoology Department

Third level year Exam (Zoology)
Course name: Vertebrate 1
Course code: (232-Z)
Time: 2 hours

Answer the Four following questions

First question: Choose the correct answer of the following.

(20 marks)

1) In Amphioxus, the velar tentacles and wheel organ are considered as .....

a. Chemoreceptor organ
b. Mechanoreceptor organ
c. Mechano- and chemoreceptor organ

2) In cyclostomes, the oral gland secretes .....

a. Poison
b. Anticoagulant
c. mucous

3) liver appears well developed in .....

a. Amphioxus
b. Cyclostomes
c. Hemichordates

4) Columella arises from.....

a. Mandibular arch
b. Branchial arch
c. Hyomandibula

5) The pituitary organ .....

a. Increase the efficiency of the smell in cartilaginous fish

Assiut University	Exam for Science Students	Subject: Animal Behavior
Faculty of Science	1st semester	Code: 313-Z
Zoology Department	Academic year: 2016/2017	Time: Two hours

Answer the following questions:

Total marks: 50

Q1: State whether the underlined words make the following statements true or false and then, correct the false ones: (10 marks)

1) The difficulty of comparing between two very close large quantities is due to numerical distance effect.
2) Although cats normally use their mouth to open doors, when a cat watched a child opening a door with his hand, it started to open the door using its foreleg; this behavior represents a case of rational imitation.
3) Parrots have a good vocal system and they can understand human spoken language.
4) If you want to teach your dog to do something, the best technique could be trial and error learning.
5) The ability of an animal to be aware of itself is examined using the mirror test.
6) Among the factors suggesting the existence of human pheromones is the menstrual synchrony in women.
7) Habituation and insight learning are both found in vertebrate species.
8) Vomeronasal organ is believed to receive pheromone signals in birds.
9) The Clever-Hans effect is delaying maturation in female rats due to pheromone exposure.
10) A high fluctuating asymmetry is an indicator of good genotype.

Q2. Answer four only of the following: (22 marks)

a) Innate behaviors are not intelligent and cannot be improved by experience – why are they important?
b) Mention the main types of learning in animals and write an account on **one only** of them.
c) When a female goose spots two different-sized eggs outside the nest, she will retrieve the larger egg first. Do you think this behavior is adaptive? Explain why?
d) Mention five of the animal species that are capable of self-awareness. What is the difference between awareness of self and awareness of others?
e) "Ethological principles can improve the experiments of operant conditioning". Explain this statement.

Q3. Write a brief account on four only of the following: (18 marks)

a) Evidence supporting the existence of human pheromones
b) Examples of animals' ability to perform deliberate deception
c) Signaler pheromones
d) Allelochemicals
e) Theory of mind

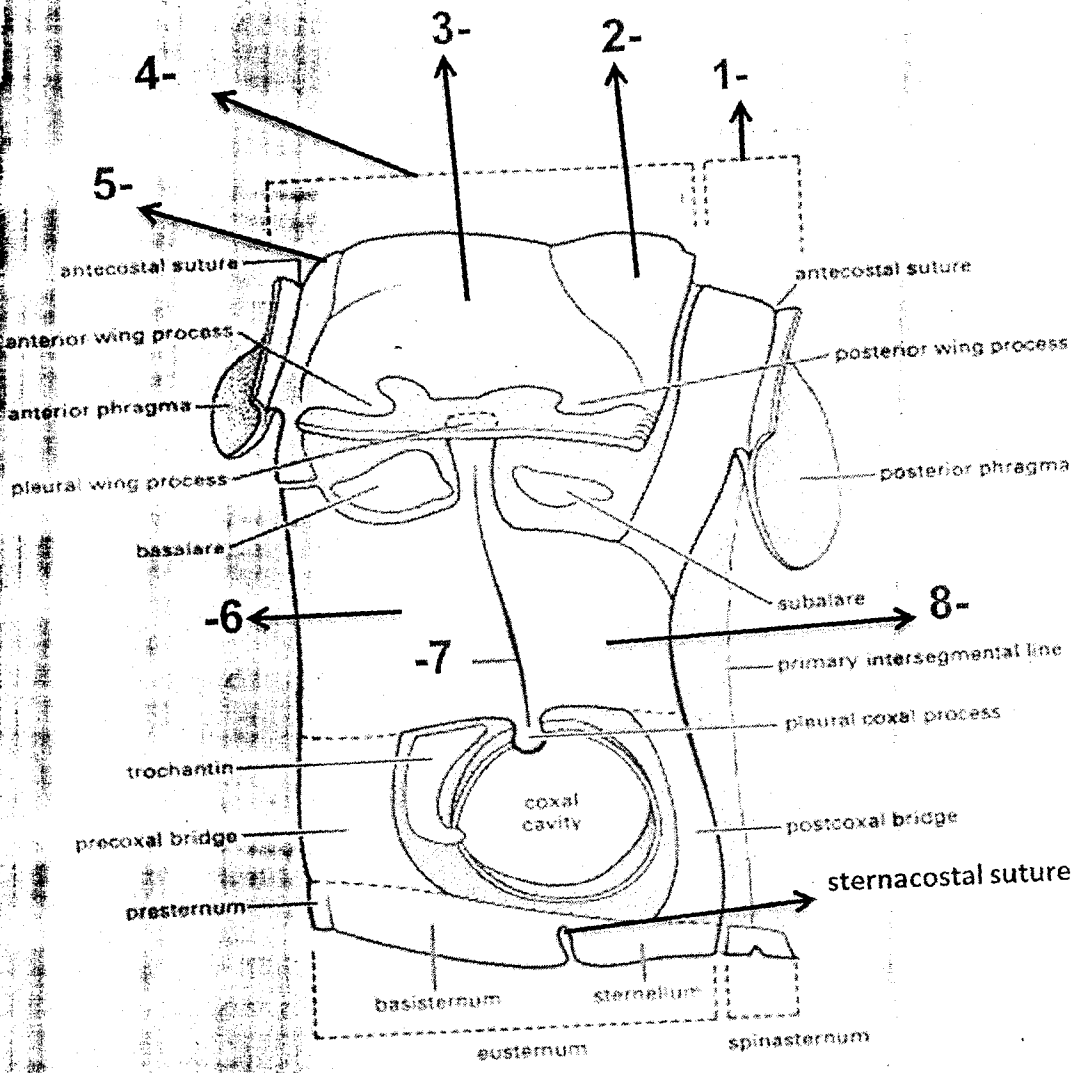
End of questions

Good luck

Examiner: *Prof. Dr. Medhat M. Sadek*

3- This figure shows: ..... (2.25 Marks)

.....



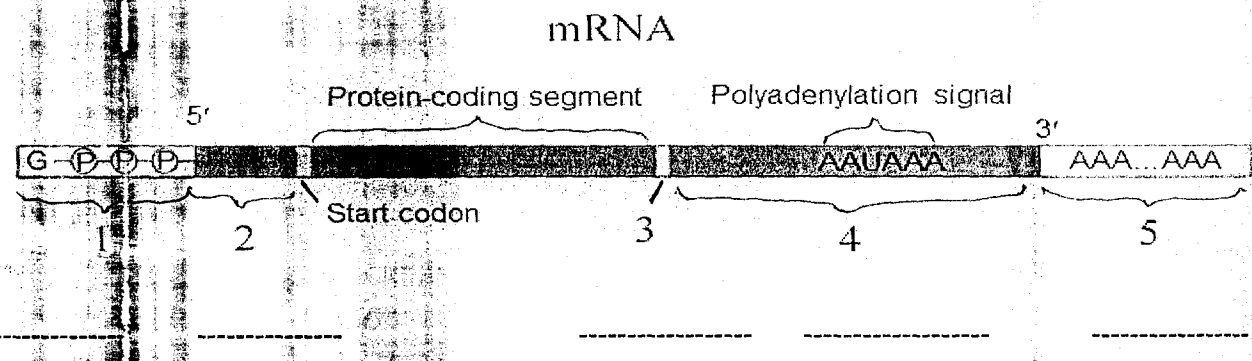
III- **Write the scientific term(s) that summarize the following sentences,** *(10 marks, one mark for ea*

1- The cellular structure where splicing takes place.(.....)
2- 50 to 250 adenine nucleotides is added to the 3′ end of mRNA. (.....)
3- A special group of enzymes pairs up the proper tRNA molecules with their corresponding amino acids.(.....)
4- 20-25 special sequence at mRNA in the 5 end is found in mRNA that will be translated upon RER.(.....)
5- Formation of a protein molecule as complex of more than one polypeptide chain. (.....)
6- Coding for more than one polypeptide chain in prokaryotes by the newly synthesized mRNA
7- A short circular DNA found in bacteria. (.....)
8- A DNA polymerase that can withstand the temperature cycle of PCR. (.....)
9- Enzymes that cut DNA at a special sequence. (.....)
10- A plasmid vector which is specialized for expression of the transgene in the target cell. (.....)

IV- **Complete the following sentences with the best word(s).** *(5 marks, one mark for each)*

1- Degradation of proteins marked with ubiquitin occurs at a special cellular structureknown as.....
2- .....forms a peptide bond between the amino acid in the P site, and the newly arrived aminoacyltRNA in the A site in the Ribosome.
3- In DNA, a.....consists of a nitrogen base linked to deoxyribose sugar
4- .....is a secondary structure of the nucleic acids and also known as hair pin.
5- Prokaryotic mRNA contains a special sequence known as.....to show the ribosomes where to start translating.

V- **Complete the missing labels of the following diagram.** *(5 marks, one mark for each)*



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(الأسئلة في صفحات)

ZOOLOGY DEPARTMENT
FACULTY OF SCIENCE
ASSIUT UNIVERSITY
General Entomology (Z 240)

قسم علم الحيوان
كلية العلوم – جامعة أسيوط
Semester exam
11th Jan. 2017
Time Allowed: 2 hours

Part I: Insect Morphology (25 Marks)

Answer the Following Questions

I- Mark (√) for the correct answers and (X) for the incorrect: (5 marks)

1- In chewing mouth parts both glossa and paraglossa attached to postmentum. ( )
2- The shape of insect antennae is due to modification in the scape segment. ( )
3- Differentiation of body segments into regions is called tagmina. ( )
4- The endoskeletal attachment with cranium is the tentorium. ( )
5- The abdomen of the adult insect is specialized for only digestion. ( )
6- Mosquitoes detect sound with their antennae. ( )
7- The changing of the body form throughout development is known as metamorphosis. ( )
8- In hypognathous, the long axis of the head and the long axis of the body are at right angle. (.....)
9- Male genetalia of insect lies on the 7th abdominal segent. ( )
10- There are two lateral pleura for each abdominal segment. ( )

II- Complete the following sentences: (5.5 marks)

1- Hypopharynx splits the preoral cavity into dorsal ..... chamber and ventral ..... chamber.
2- Trichoid sensillum is composed of ..... cell, ... cell, and ..... cell.
3- Insect leg can attach to thoracic segments through ..... articulation and ..... articulation.
4- Insect ovipositors take two forms ..... and .....
5- Insect head capsule is composed of 6 fused segments; the 3rd is called ..... segment that bears a pair of fused ganglia called .....
6- Haustellate mouth parts include the following types:
(a) ..... (b) ..... (c) .....

5-Identify the followings :- Choose (2) (2-Marks)

1- Eosinophilic. 2-Basophilic 3- Masson Trichrome

6-Match the correct answers :- Choose (10) (10 Marks)

1-Vital stain	A - in vitro
2- Tissue culture	B- inside the body.
3- Supravital stain.	C- Stain for macrophages..
4- Indian ink	D- Specific substrate.
5- Enzymes react with	E- Phase contrast microscope.
6- Feulgen reaction.	F- Deoxyribose sugar.
7- Hydrolysis with HCL	G- Carbohydrates.
8- Periodic acid oxidizes	H- DNA.
9- Neutral stain	I- Contains acid and basic dyes
10- Aldehyde fuchsin.	J- Physical factors.
11- Sulphated polysaccharides	K- Metachromatic.
12- Size of the dyes particles	L - Elastic fibers.

Good luck Dr Hanem S Abdel-Tawab

7- Insect wing have 3 margins which are:

(a) ..... (b) ..... (c) .....

8- The structure that found at the end of tarsus is called ....., it takes a pair of ..... and a median lobe called .....

9- Halter wing of *Diptera* exist at ..... thoracic sgment.

10- The 11th abdominal segment is represented dorsal tergum called ....., and a pair of ventral plate called .....

11- Insect coloration may be due to:

(a) ..... (b) ..... (c) .....

III- Choose the correct answer: (5 marks)

1- Pterothorax bears:

(a) Only wings. **(b)** Only legs. **(c)** Wings and legs. **(d)** Spiracles.

2- The sclerite lies below the frons and above the labrum is:

(a) Gena. **(b)** Trochanter. **(c)** Furca. **(d)** Clypeus.

3- The layer of the integument lies between the wax layer and the cement layer is:

(a) Exocuticle. **(b)** Endocuticle. **(c)** Cuticular layer. **(d)** Non of the previous

4- The ovipositor of female insects usually lies on the abdominal segments number:

(a) 6 and 7. **(b)** 7 and 8. **(c)** 8 and 9. **(d)** 9 and 10.

5- The newly formed exoskeleton hardens and sclerotized gradually from:

(a) Outside to inside. **(b)** Inside to outside. **(c)** All layers harden together.

6- In insect wing venation, the 1st vein is called:

(a) Media. **(b)** Radius. **(c)** Costa. **(d)** Cubitus.

7- Larval stage is found the following type of metamorphosis:

(a) Complete. **(b)** Incomplete. **(c)** Hemimetabola. **(d)** Paurometabola.

8- The dorsal sclerite of each body segment of insects is called:

(a) Sternite. **(b)** Tergite. **(c)** Pleurite. **(d)** Non of the previous.

9- Terminalia exist at abdominal segment number:

(a) 8-11. **(b)** 1-10. **(c)** 2-7. **(d)** 8-9.

d) Non of the above

3. The diapsid skull is diverged from

a) Anapsidian skull

b) Synapsidian

c) Parapsidian skull

d) All of the above

4. Head movement of reptiles is allowed by

a) The cervical vertebrae

b) The neck region

c) The trunk region

d) The 2 nd cervical vertebra

5. reptilian head carried off the ground by

a) The trunk region

b) The neck

c) bones

d) muscles

6. name one of the following has common features with birds

a) Snakes

b) Gecko

c) Crocodile

d) Armadillo

7. reptiles jaw bears teeth which are

a) Epidermal

b) True

c) Thecodont

d) Dermal

8. Which of the following is not true in bird skin

a) Is dry

b) Has feather

Assiut University
Faculty of Science
Zoology Departmnt
Final Exam 2016/1017, second level

Second Level
First term
Time: two hours
2172

Course title: Physiology1

Answer these questions:

QI- Answer by √ or X for these sentences:- (10 marks: 0.5 each)

1-Wax of honey bees is esters of fatty acids with long-chain alcohols (Mercil) combined with Palmitic acid and this wax is digestible in animals. ( )

2- Secretin hormone secreted from stomach, stimulates gastric juice secretion. ( )

3- Free radicals combine with some important molecules in the cells causing destructive effect on the cells. Vitamin C and E act as free radical scavenger. ( )

4-Excess intake of vitamin D leads to the deposition of calcium salts in soft tissues such as kidney and ureter. ( )

5-Vitamin B12 deficiency leads to make the bone marrow become overcrowded with mature RBCs waiting synthesis of DNA required to RBCs maturation. ( )

6- Secondary transport carry out by the help of electrochemical potential difference created by pumping ions out of the cell which used as a source of energy . protein carrier is found. ( )

7- About 1/3 the amount of excess water in the body is eliminated by the lungs through expiration. ( )

8-The Vitamines are oxidized and participate in the energy production in the body ..... ( )

9-Vitamin B_6 participates in epithelial glycoprotein synthesis and this maintains the mucosa of urogenital tract, respiratory tract, gastrointestinal tract, the cornea and the skin. ( )

10- Some digestive juices participate in resistance of microbes which may leak with foods. ( )

11-Hemolytic Jaundice shows increased blood unconjugated bilirubin and shows pale color of stool with increased stercobilin.( )

12-Vitamin A deficiency leads to reduction in visual purple and xerophathalmia. ( )

13-transamination means that amino group NH2 is transferred from one amino acid to keto acid forming a new type of essential amino acids. ( )

14- The rate of enzyme reaction is increased with the increase of substrate concentration till a certain point at which any increase in the substrate concentration will cause no further increase in the rate of enzyme reaction. ( )

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Assiut University
Faculty of Science
Zoology Department

Third level year Exam (Zoology)
Course name: Vertebrate 1
Course code: (232-Z)
Time: 2 hours

Answer the Four following questions

First question: Choose the correct answer of the following.

(20 marks)

1) In Amphioxus, the velar tentacles and wheel organ are considered as .....

a. Chemoreceptor organ
b. Mechanoreceptor organ
c. Mechano- and chemoreceptor organ

2) In cyclostomes, the oral gland secretes .....

a. Poison
b. Anticoagulant
c. mucous

3) liver appears well developed in .....

a. Amphioxus
b. Cyclostomes
c. Hemichordates

4) Columella arises from.....

a. Mandibular arch
b. Branchial arch
c. Hyomandibula

5) The pituitary organ .....

a. Increase the efficiency of the smell in cartilaginous fish

Assiut University
Faculty of science
Zoology Department

Final exam.(Summer term)
Course number 324 Z
(Protozoa & Parasitology)
Time: 2 hours
June 2017

Answer the following question (Write the answer only in your paper)

A- Fill in the blanks: (10 Marks)

1- *Paramecium* sp. Lives in ..... and feeds mainly on ..... it reproduce asexually by..... and sexually by.....

2- *The intermediate host of Schistosoma haematobium is* ..... *whereas in S. mansoni is* .....

3- *Trichomonas tenax* lives in .....but *Trichomonas vaginalis* lives in.....

2- The final host of *Toxoplasma gondii* is .....but the intermediate host is .....

B- Choose the one correct answer: (5 marks)

1- *Lymnaea trancatula* is intermediate host of (*Schistosoma haematobium*, *S. mansoni- Fasciola gigantica- Heterphyes heterophyes* –none of them)

2- *Taenia saginata*, to complete its life cycle requires (one host- two hosts- three hosts, - None of them)

3- The insect vector of *Trypanosoma gambiense* is (mosquito- house fly – sand fly- none of them)

4- Man acts as a final host in (*Taenia saginata – Echinococcus granuloses* – Cysticercosis - none of them)

5- Auto-infection, could be propagated by (*Ascaris* sp. – *Encylostoma* sp.- *Enterobius vermicularis* - none of them)

c- Put a suitable(√) or (X) adjacent to the following: (15 marks)

1- Redia stage is absent in *Schistosoma* sp ( )

2- Metacercaria are encysted cercariae without tails ( )

3- Defintive host, is the host harbouring sexual forms of Protozoa ( )

4- Infective stage of *Trichomonas hominis* is trophozoite ( )

5- Some cercariae may have both penetration & cystogenous glands ( )

Faculty of Science **Assiut University**

Dept. of Zoology
Exam of Animal Ecology Code No. 225Z
Credit hour system 2nd level. Year 2016-2017

Answer the following questions:

A- Write the suitable number from Column A in B: (15 marks)

1-The population	Is the ability of the organism to reproduce successfully..... ( ).
2-The community	Is the relation in which an individual male gains two or more females..... ( ).
3- The ecosystem	Is the maximum rate at which a population can increase under ideal conditions.....( ).
4- Light	It refers to the quantity of water vapor present in the air.....( ).
5- Recycling of materials	Include birds and mammals..... ( )
6-The limiting factor	Are those that sometimes regulate their body temperature and sometimes do not..... ( ).
7-Range of tolerance	Are those which are active during day time.....( ).
8-Diurnal animals	The range of the environmental conditions within which the organism can tolerate..... ( ).
9-Heterotherms	Include all the members of a species in a given area. ( ).
10- Homeotherms	Includes all the populations in a given area..... ( ).
11-Absolute humidity	are the end of succession..... ( ).
12-Biotic potential	Is the basic unit studied in ecology..... ( ).
13-Climax communities	Affects reproduction in deer and goats..... ( )
14-Polygyny	Is considered as an important requirement for a stable ecosystem ..... ( )
15- Fitness	Determines the types of organisms which may exist in that environment..... ( )

B- Write the scientific term of the following: (15 marks)

1-Animals that feed on plants.

2- Animals feed on the remains of animals they did not kill.

3-A relationship in which both organisms benefit from each other.

اقلب الصفحة من فضلك

Assiut University
Faculty of science
Department of Zoology

The Second Level
General Entomology (240Z)
Time: 2 hours

PART II – INTERNAL ANATOMY

1-Complete only ten points from the following (ten degrees)

1-A ..... is a chemical signal sent from cells in one part of an organism to cells in another part (or parts) of the same individual

2 - The ..... usually covers the nerve cord; it separates the perivisceral sinus from the perineural sinus

3-Prothoracicotropic hormone (PTTH for short) is a peptide hormone secreted by the .....

4- In most insects, the ..... is subdivided into three functional regions: foregut (stomodeum), midgut (mesenteron), and hindgut (proctodeum).

5--About 90% of insect ..... is plasma: a watery fluid -- usually clear, but sometimes greenish or yellowish in color.

6-It is a complex network of tubes (called a .....) that delivers oxygen-containing air to every cell of the body.

7-Air enters the insect's body through valve-like openings in the exoskeleton. These openings (called .....) which are located laterally along the thorax and abdomen of most insects

8-The ..... provides a thin, moist interface for the exchange of gasses between atmospheric air and a living cell.

9-..... is a respiratory pigment that facilitates the capture of oxygen molecules.

10-..... is a form of asexual reproduction in which new individuals develop from an unfertilized egg (virgin birth).

11-All insects have sense organs that allow them to see, smell, taste, hear, and touch their environment. Those are called .....

Botany and Microbiology Department	Faculty of Science
Final exam first semester	Assiut university
Phycology (273B)	***Time allowed 2 hours,***
Second level	***(2016-2017)***

Answer the following questions.

Question no 1:

Choose the right answer for the following questions. Put the symbol of correct answer in the corresponding brackets. (20marks)

1	*Cyclotella, Melosira* , are algal genera belongs to ..... A) Diatoms B) Chlorophyta C) Cyanophyta D)Euglenophyta	( )
2	The male sex organ called globule in .... sp. A) *Euglena sp.* B) *Chara* sp C) *Oedogonium* sp.	( )
3	The sole method of reproduction is by formation of autospores in ..... A) *Phacus sp.* B) *Chlorella sp.* C) *Microcystis* sp. D) *Cosmarium* sp.	( )
4	The scalariform and the lateral conjugations are occur in ..... A) *Desmidiales* B) *Chlorococcales* C) Characeae D) *Spirogyra* sp.	( )
5	The zygote is the only diploid phase in the life cycle of ..... A) *Chara sp.* B) *Cladophera sp* C) Both of A and B	( )
6	Biflagellate and spiral-shaped nature of the antherozoids are present in ..... A) *Volvox sp.* B) *Chlamydomonas sp.* C) *Chara* sp. D) *Hydrodictyon*	( )
7	..... Is a macroscopic non-motile coenobium consisting of a network of pentagons or hexagon cells A) *Hydrodictyon sp.* B) *Cladophera sp* C) *Oocystis* sp. D) *Pandorina* sp	( )
8	Photosynthetic product is glycogen in ..... A) Cyanophyta B) *Chlorophyta sp* C) Diatoms D) Charophyta	( )
9	False branching (pseudobranching) have been observed in ..... A) *Scytonema* sp B) *Spirogyra sp* C) *Euglena* sp	( )
10	Genera of ..... show Gliding movement and Tip revolving movement A) *Chlorophyta* B) *Euglenophyta* C) Xanthophyta D) Oscillatoriaceae	( )

b. Increase the efficiency of the smell in cyclostomes

c. Increase the efficiency of the smell in amphibian

6) The horny scale of lamprey develops from.....

a. Endoderm

b. Mesoderm and ectoderm

c. Ectoderm

7) Chordates include.....

a. Three subphyla

b. Four subphyla

c. Two subphyla

8) The conus arteiosus is considered as a chamber of heart in.....

a. Bony fish

b. Amphibian

c. Cartilaginous Fish

9) Retina of eye develops from.....

a. Mesoderm

b. Ectoderm

c. Endoderm

10) Amphioxus's skin.....

a. Is moistly by goblet gland

b. have exoskeletal structures

c. Has many glands

11) Hatschek's pit like .....

a. Pituitary gland in vertebrates

b. Pineal glands in vertebrates

c. Thyroid gland in vertebrates

VI- **Write short notes about.** *(10 marks, 5 marks for each)*

a- Methods of gene delivery

b- Types of point mutations

Best wishes

Course coordinator and Examiner

Prof.Abo bakrEltayeb

Faculty of Science	B.Sc. Zoology Program Course : Animal venoms (219Z) Marks: 50 Date of Exam: 17/1/2017 Time: 2 Hours	Assiut University

I-Complete the following sentences. (10 marks)

1- Adverse effects is dependent on .....

2-..... are responsible for more envenomations than any marine animals.

3-.....and ..... are the most common routes by which workplace chemicals enter the body.

4- The major neurotoxin component of blue-ringed octopus venom was originally known as .....and later was found to be identical to .....

5- Antivenom treatment may cause an allergic reaction due to.....

6-..... was isolated from sponge *Cymbastela cantharell* inhibit the protein synthesis in eukaryotic target cells.

7- The neurotoxins produced by *C. geographus*, are small peptides contain .....

8-***Synanceia*** is a venomous fish have potent neurotoxins secreted by .....

9- ET 743, which comes from sea squirt, is being tested for treatment of .....

10- Coelenterates have a highly developed stinging unit..... that can penetrate human skin

II- Choose the correct answer (10 marks)

1-The change from normal state could be (local vs systemic-reversible vs. irreversible- immediate vs. delayed- all the previous are correct).

2- Organs of biotransformation includes (liver- lung- kidney- all are correct).

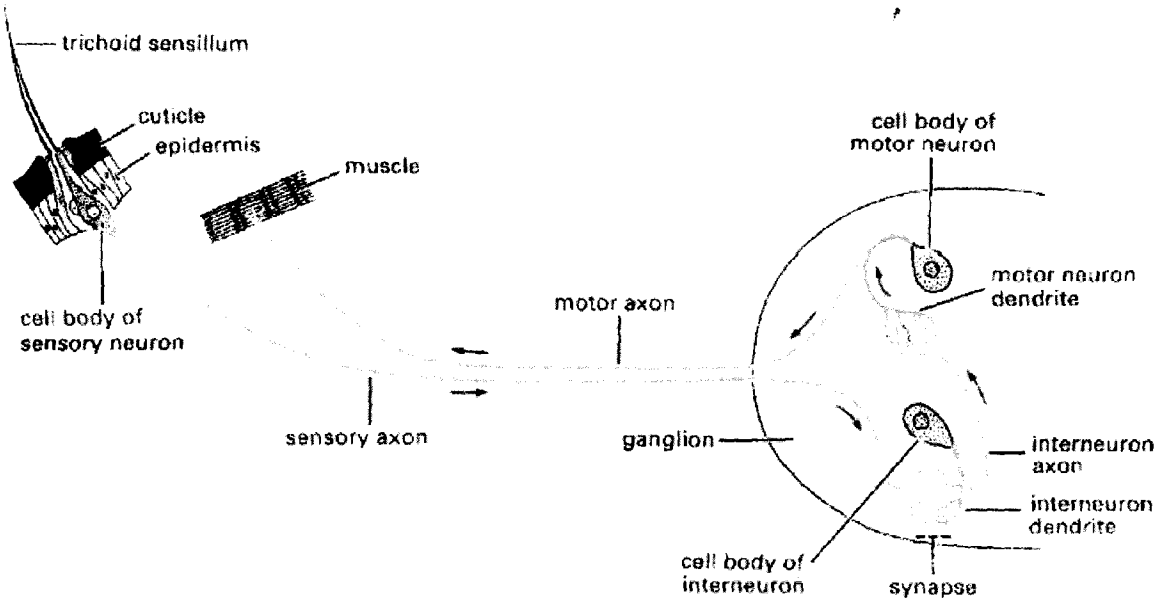
3- Local anesthetics can (alternate receptor-ligand interaction- membrane function- cellular energy mechanism).

4-(Girolline- Lasconolides- Anabaseine) was isolated from sponge *Cymbastela cantharell.*

5- Snake venoms have about (15-20-25) enzymes.

6- The toxins of cobra and coral snakes are (neurotoxic-haematotoxins- myotoxins).

See Next Page



B- Second figure

Good luck

Professor Azza Awad

c) Has oily gland

d) Has claws

9. Urodaeum performs

a) Excretion

b) Reproduction

c) Osmoregulation

d) Maintenance of the body temperature

10. Accessory cranial nerves in amniotes are

e) Optic and olfactory

f) Trigeminal and auditory

a) Spinal accessory and hypoglossal

Question 3: **(10 pt.)**

- **Compare between the Reptilian and Avian arterial system.**

Question4: **(10 pt.)**

- **Describe two items only from the following**

a) Air sacs

b) Human heart

c) Reptilian lower jaw

Question5: **(10 pt.)**

- **Mention the following;**

A. Characters of flightless birds

B. Characters of egg laying mammals

(الله ولي التوفيق)

Assiut University, Faculty of Science
Zoology Dept., Zool. & Zool-chem programs
Time allowed: 2hr
50 marks

final exam, 15-01-2017
1st semester, 2016-2017
Molecular biology (311 Z)

I- **Choose the best answer.** *(10 marks, one mark for each)*

1- The linker between adjacent nucleosomes are..... base pair
a- 166 b- 48 c- 66 d- 148
2- The most common form of DNA in cells is....
a- B form b- A form c- z form d- bulge loop
3- In DNA replication the nucleotides required for building new DNA are found as.....
a-deoxyribonucleoside triphosphates b- deoxyribonucleosidediphosphates
c-deoxyribonucleoside monophosphates d- none of the mentioned
4- In prokaryotes the enzymes that removes Okazaki fragments is called....
a- Polymerase I b- Polymerase II c- Polymerase III d- primase
5- Telomeres form a T-loop with some proteins to protect itself from .....activity.
a- endonuclease b- exonuclease c- polymerase d- telomerase
6- Most human somatic cells lack telomerase activity, so they have.....
a- Telomere shortening b- Senescence c- end-to-end chromosome fusion d- all the mentioned
7- In transcription,..... unwinds a short stretch of double helical DNA
a- Helicase b- DNA polymerase c- RNA polymerase d- Topoisomerase
8- RNA..... in Eukaryotes makes tRNAs
a- polymerase I b- polymerase II c- polymerase III d- polymerase IV
9- During transcription, preinitiation complex is formed of.....
a- RNA polymerase b- transcription factors c- promoters d- a and b
10- Getting more than one protein product out of the same gene is known as.....
a- Translation b- splicing c- alternative splicing d- post-transcriptional modification

II- **Put (√) beside the right sentences and (x) beside the wrong sentences.** *(10 marks, one mark for each)*

1- RNA is more resistant to be damaged by Ultra violet compared with DNA ( )
2- B form of DNA is left handed helix ( )
3- Histone is not present in prokaryotes ( )
4- During DNA replication, primers is made by DNA primase ( )
5- Okazaki fragments in Eukaryotes are longer than that in prokaryotes ( )
6- The newly synthetized DNA strand always extended in 5'-to-3' direction ( )
7- The noncoding DNA sequence is called exons ( )
8- Eukaryotic Promoter GGCCAATCT lies upstream of the gene ( )
9- Transcription factors are proteins that bind to DNA near the start of transcription ( )
10- The hnRNAs contain onlyexonic sequences ( )

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Assiut University

Faculty of science

Department of Zoology

Final Exam of Microtechniques (317Z)/2hour

First Semester/ January/ 20/ 2017

Time: 2 hours

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1 - Compare between the followings: (20 Marks)

(A)Light and electron microscope.

(B) Paraffin techniques advantage and disadvantage characters.

2- Answers the followings: choose only 2 :- (10marks)

A) Character of good fixative.

B) Factors affecting fixation.

C) Gluataraldehyde

3-Choose the correct answers from the followings:- (3 Marks)

1-Preservation of the shape, structure, relationship and chemical constituents of the cells and tissues after death.(fixative –fixation – aim of fixation).

2- Substance which will preserve after death the shape, structure, relationship and chemical constituents of the tissues and cells.(fixative –fixation – aim of fixation).

3- Prevention of autolysis and bacterial decay means (aim of fixation- fixative –fixation)

4-impregination in ard wax at (50----60------54).

4-Put true (T)or False(F) for the followings choose 10 :- (5 Marks)

1-Chemical union between dye and stained substance through salt linkages, hydrogen bonds, or others. Which involved in most staining reactions.T

2- Color will vary not only with specific stains used, but also with the conditions that exist during preparation of the slide.

3- Litmus Saffron represents natural dyes.

4- Coal tar dyes such as haematoxylin.

5- Cationic stain usually positively charged.

6- Haemtoxylin is negatively charged.

7-EM slides are glass.

8-Anionic stain negatively charged.

9- Smear technique is carrying on section.

10-Whole mount can be used in EM.

11- Cell fractionation used in PCR techniques

Q4: Describe just two of the following with a clear drawing (10 marks)

A- Phylogeny of the circulatory system of amphibian

B- The structure of vertebrate's eye and the pineal eye

C- The basic structure of vertebrate's brain and the lamprey's brain

4. ***Trichogramma*** **spp. is the most widely augmented egg parasitoid in the world.**
   a) True b) False
5. **If a single female lays many eggs in one oviposition bout, the term is known as.....**
   a) Superparasitism b) Multiparasitism c) Gregarious d) Polyembryony
6. **When the female is a primary parasitoid of homopterans, but the male is an obligate parasitoid of a completely different host, the term is called...**
   a) Heterotrophic b) Heteronomous c) Multiparasitism d) Superparasitism
7. **The secondary parasitoid is known as superparsitism.**
   a) True b) False
8. **.....is the most common parasitoid family of order Diptera**
   a) Tachanidae b) Trichogrammatidae c) Braconidae d) Phoridae
9. **Egg-pupal parasitoids are usually.....**
   a) Idiobiont b) Koinbiont c) Common in Scelionidae d) Gregarious
10. **In .....,unmated females produce both male and female progeny.**
    a) Arrhenotoky b) Deuterotoky d) Thelyotoky d) Both a and b

Q3: (I) Answer SIX only of the following :- (15marks)

A) What are the characteristics of insect parasitoids? Explain how it differs from the true parasites?
B) Explain sex allocation and Hamilton's local mate competition.
C) How does a seclionid parasitoid discriminate between parasitized and unparasitized host.
D) How does a solitary egg endoparasitoid differ from a gregarious larval / pupal ectoparasitoid?
E) What is autoparasitism? Why would this trait make a parasitoid difficult to rear in a laboratory colony?
F) If one had two parasitoid species to select from for a classical biological control introduction program, and one was proovigenic and the other was synovigenic, which would most likely be the best to introduce all other factors being equal? Why?
G) Explain host- location in parasitoid host interaction

(II) Define Five only of the following (5 marks)

Host feeding, Self-host discrimination, Cleptoparasitism, Polyembryony, Phoresy and Haplodiploidy phenomena

End of questions

With our best wishes

By Drs. Ahmed Moustafa and Ali Mohamed Ali

University: Assiut **Evolution / Code: 213**

Faculty: Science **Time: 2 hr / Total degree: 50**

Department: Zoology **Final exam. Jan. 2017**

Note: Questions are in TWO pages

Q1: Put (√) or (X) and correct the mistakes if present: **(21 marks)**

1- Pineal gland is important to human. ( )

2- Finches of Galapagos are examples of variation. ( )

3- Natural selection can't give rise to new species. ( )

4- Darwin based his theory on observations on Galapagos. ( )

5- Born frogs with crippled legs are due to evolution. ( )

6- Lamarkism was based on cloning technology. ( )

7- Evolution is the creation of genetically identical organisms. ( )

8- Darwin's coincidental variations can explain diversity in animals. ( )

9- Living beings evolved gradually by spontaneous generation. ( )

10- Analogous structures are defects in the inheritance mechanism of living organisms. ( )

11- If gene flow is occurred populations will be same species. ( )

12- Burgess Shale's fossils represent indicators for Cambrian explosion. ( )

13- Variation can't lead to "macro-evolution". ( )

14- Scientific experiments denied spontaneous generation. ( )

15- Darwin and Wallace assumed natural selection to be the basic mechanism of evolution. ( )

Follow behind please

Question no 2:

Write a short notes with drawing if it possible on five points only from the following (15 marks)

1. Amylum star
2. Polyhedral cell
3. Autogamy and auxospore
4. Haplobiontic
5. Plurilocular sporangium
6. Primary protonema
7. Autogamy and Nucule

س٢: ضع الرقم المناسب من فقرات العمود (A) أمام ما يناسبه من فقرات العمود B) (١٥ درجة):-

A	B
1- Attenuate floods	+ are provided in lakes by bacterial and fungal decomposition ( )
2-Marine ecosystem	+ Are common nutrients needed in large quantities for cell development ( ).
3-Euryhaline organisms	+ Is the place where the river meets the sea ( ).
4- Light	+ Have fast unidirectional water flow ( ).
5-Ponds and Lakes	+ Are stronger swimming organisms ( ).
6- Biological activity	+ Is the end product of eutrophication ( ).
7-The intertidal zone	+ Gives a good indication of eutrophication ( ).
8- Humic acid	+Has an average salinity of 35‰ ( ).
9-BOD	+ Is one of the functions of aquatic ecosystem ( ).
10- Detritus	+ are salt tolerant ( ).
11- Nekton	+ Considered as abiotic characteristic of aquatic ecosystem ( ).
12-Streams and Rivers	- Considered as lentic waters ( ).
13- The Estuary	+ Is considered as a factor that determines any aquatic structure ( ).
14-SIO_2-SO_4-Fe	+ Is the area between high and low tide ( ).
15- Acetate and glycolate	+ considered as a refractory compound in natural waters ( ).

5) The circulatory system of cyclostomes hasn't ….…….. portal system, while in fish the circulatory system have……and……

6) The……cover the body of cartilaginous fish which are originated from……layer while the bony scales cover the body of ……which are originated from……

7) The fins of Amphioxus ……..while the cartilaginous fish possess ……fins.

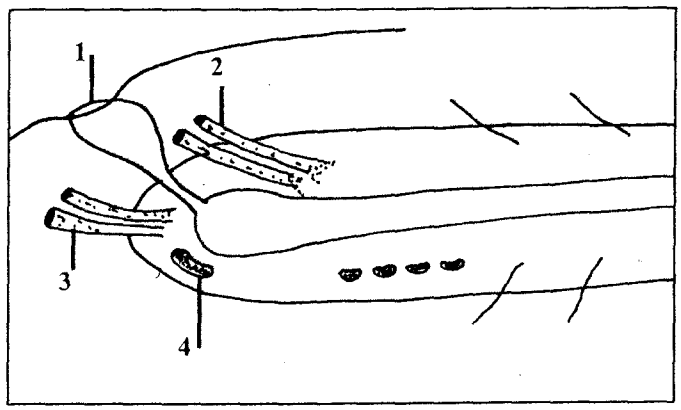
8) The bony fish have……gills which are covered by……...

9) The cerebellum is present in……., but is apparently …… in cyclostomes.

10) The brain and spinal cord are wrapped in meninges consist of three layers: ……, ……, and ……., while in fish wrap by……layer.

Q3: Identify the following graphics and writ the data (10 marks)

A-……



Assiut University
Faculty of Science
Department of Zoology

The Second level
Cytology (210Z)
Time: Two hours

January, 2017

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(1) Choose the correct answer: **(16 Marks)**

1- The two chromatids are connected with each other at the:

a- Spindle fiber b- Centromere c- Satellite

2- DNA replication takes place during:

a- G1 phase b- S phase c- Prophase

3- Eukaryotic chromosome is made of:

a- DNA b- DNA + Proteins c- DNA + Lipid

4- A well organized nucleus with distinct nuclear membrane is absent in:

a- Bacterial cell b- Eukaryotic cells c-Protozoan cells

5- A chromosome in which the centromere is median in position is:

a- Acrocentric b-Submetacentric c-Metacentric

6- Correct sequences of stages in cell cycle is:

a- G1, G2, S.M. b- G1, S, G2, M. c-M, S, G1, G2

7- Centrioles are related to:

a- Cell division b- Protein synthesis c-DNA synthesis

8- The phase of cell cycle which lasts for longer duration:

a- G1 b-S c- M

9- The lipid bilayer of the cell membrane is made up of:

a- Phospholipids and cholesterol b- Phospholipid only c- Phosphoproteins

10-Lysosomal enzymes are synthesized and segregated in:

a- rER b- sER c- Golgi apparatus

11-What is the term for the general process that brings things into the cell?

a- Endocytosis b- Pinocytosis c- Active transport

12- Pancreatic acinar cells are expected to be rich in:

a- Lysosomes b- Mitochondria c- rER

13- Cells that engulf and digest foreign bacterial cells could be expected to have lots of:

a- Nuclei b- Ribosomes c Lysosomes

14- The Golgi is formed of:

a- Cisternae and vesicles b- Tubules of smooth membrane c- rER

جامعة أسيوط - كلية العلوم
قسم علم الحيوان
اختبار مادة البيئة المائية ٢٠١٦-٢٠١٧
الزمن: ساعاتان.

أجب عن الأسئلة الآتية:

س١: اختـــر الإجابة الصحيحة من بين الأقواس:(5 درجات):

1- The chemical factors in the aquatic ecosystem include (nutrients- chemosynthetic bacteria – waves –heat - all).
2-(Euryhaline – Stenohaline – both) are salt intolerant species.
3- The marine ecosystem covers about (71% - 97% - 79%) of the earth`s surface.
4-The freshwater ecosystem generates about (3% - 41%- 14%) of the net primary production.
5- (Streams – rivers - all) are classified under lotic waters.
6- (The limnetic zone – the littoral zone – the intertidal zone- all) is the open water of the lake.
7- (The epilimnion – the metalimnion – the hypolimnion) is the deepest portion of the lake.
8- In lakes; there is rarely any stable vertical stratification of chemical constituents in the (pelagic zone – intertidal zone – littoral zone).
9-(Zooplankton – phytoplankton -all) are the weakly swimming organisms.
10-Rivers in semiarid climates tend to have excess (nitrates – phosphates –all).

Assiut University

Faculty of Science

Zoology Department

Third year Exam (Zoology)

Course name: Vertebrate 2

Course code: (330-Z)

Time: two hours

Answer the Five following questions

Question 1: (10 pt)

- **List only, no commentary needed**

1. Importance of studying vertebrates due to……..……

……

2. Amniota includes……

3. The embryonic membranes develop from ……,while the egg shell develops from…….. …… ……..……

4. The anapsid skull is characteristic of……..

5. The two characters that define a mammal……

……

Question 2: (10 pt)

- **Choose the single response that is the correct answer of the following.**

1. The stem of reptiles

a) Archosauria

b) Archaeopteryx

c) Cotylosauria

d) Salposuchus

2. The amniotic kidney is

a) Pronephros

b) Mesonephros

c) Metanephros

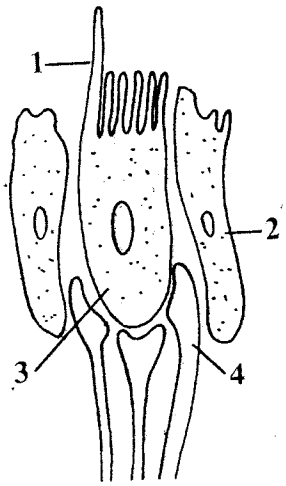
Question no 3

Answer one from the following points (15 marks)

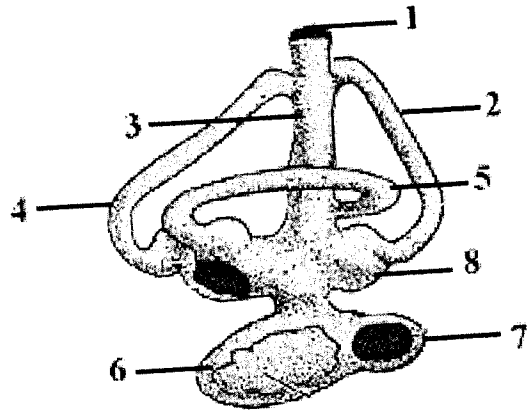
A) -Write an account on the morphology of *Batrachospermum,* systematic positions and its graphic representation of its life cycle

B) –Illustrate the mode of reproduction in *Ectocarpes* , referring to its alteration of generation .

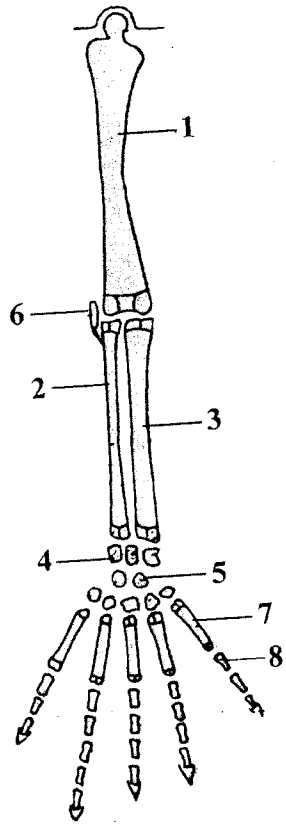
B-.....



C-.....



D-.....



10- Insects use their simple eyes for:

(a) Color detection. **(b)** Light detection. **(c)** Magnifying images. **(d)** Tasting food.

IV- Write short notes on TWO only of the following: (5 Marks)

1- The ecdysis (molting) process.

2- Functions of the integument.

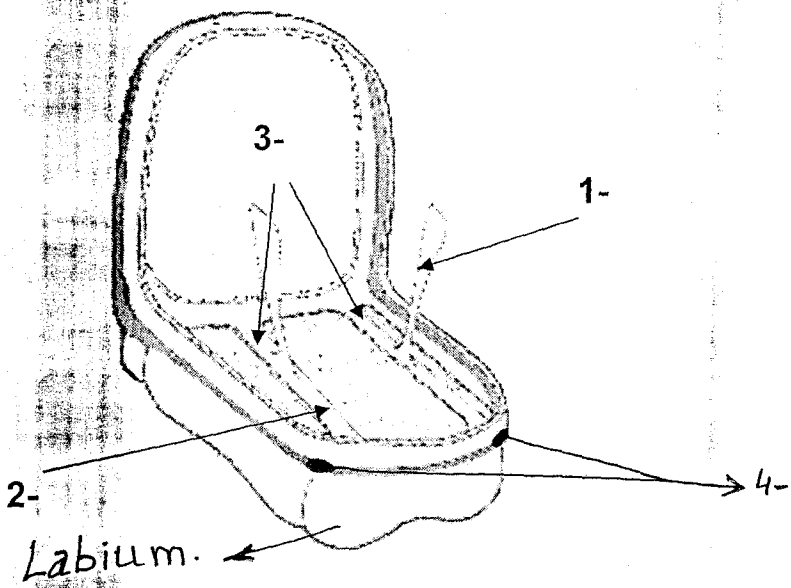
3- The benefits of insects.

V- Identify the following figures and write down the missing labels:

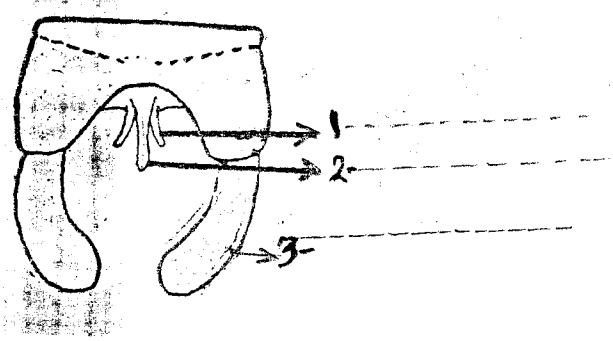
(4.5 Marks)

1- This figure shows: ..... **(1.25 Marks)**

.....



2- This figure shows: ..... **(1 Mark)**



6 - Infection of *Taenia solium* occurs through ingestion of larval forms in undercooked beef. ( )

7 - Infective stage of *Giardia lamblia* is trophozoite ( )

8 - Infective stage of *Ascaris* sp is cysticercoid larvae ( )

9 - The insect vectors of *Plasmodium* sp is male anopheles ( )

10- *Amoeba proteus* lives in human intestine ( )

11- Chagas disease is caused by *Trypanosoma rhodesiense* ( )

12- Oocyst is the zygote after the formation of the cyst wall ( )

13- Infective stage of *Fasciola hepatica* is cercariae ( )

14- Infective stage of *Entamoeba coli* is quadrinucleated cysts ( )

15- Zoonoses, are the diseases transmissible between man and other animals ( )

Write briefly on five only of the following: (20 marks)

(illustrating your answer with labeled drawings whenever possible)

1- Encystment in *Amoeba* sp.,

2- Nutrition and reproduction in Protozoa

3-Commensalism and Parasitism

4- Entamoeba histolytica trophozoites

5-Infective stage, mode of infection and habitat of the parasites.
Enterobius vermicularis – Fasciola gigantica – Balantidium coli

6-Sexual cycle of *Plasmoidium* sp. in stomach of mosquito

.....

Good luck

Prof. dr., Gamal H Abed

Assiut University
Faculty of Science
Zoology Department

First Semester Final Exam for Parasitoid Course
05/01/2017

Time: 2 hour
Level: Third
Course Code: 351Z

Answer the following questions (50 marks)

Q1: Write briefly on:- (20 marks)

A- Ankyrin repeat containing genes in polydnavirus and their application in pest management (give an example).
B- Origin, characteristics and roles in host immunosuppression of teratocytes.
C- Two differences between bracovirus and ichnovirus (with drawings).
D- Protein tyrosine phosphatases of polydnavirus.
E- Polydnavirus noncoding RNAs.

Q2: (I) Complete the following sentences (5 marks)

A- Polydnavirus genome is made up of ..... and they can be transmitted by .....
B- Proteins produced by the larvae of *Chelonus inanitus* parasitoid larvae can be considered as ..... in host regulation.
C- ....., and ..... are two strategies to use products from parasitoid origin in pest management.
D- Chitinase from *Toxoneuron nigriceps* teratocytes functions in .....
E- The size range of venom proteins in parasitoids is .....

(II) Choose the best correct answer:- (5 marks)

1. **.....involves releasing large numbers of natural enemies for immediate reduction of a damaging pest population.**
   a) Inoculative BC b) Inunndative BC c) Conservation d) Importation
2. **Modification of the environment or existing practices to protect and enhance a specific natural enemy is known as.....**
   a) Inoculative BC b) Inunndative BC c) Conservation d) Importation
3. **When the adult parasitoid attacks the host egg, and the parasitoid progeny emerge from the pupa, the parasitoid is called.....**
   a) Egg parasitoid b) Pupal parasitoid c) Both a and b d) Egg-pupal parasitoid

Please see the next page