





**I- Answer the following questions. Illustrate your answer with labeled drawings**

(40 marks)

- 1- Compare of the urinogenital system between a dog fish and petromyzon.
- 2- Describe the brain structure of *Tilapia nilotica*.
- 3- Explain the circulatory system of petromyzon.
- 4- Write briefly on:  
Feeding mechanism of *Amphioxus* - general characters of *Chondrichthyes*
- 5- Sketch & label of:  
*Balanoglossus* - Larva of ascidia.

**II- Complete each statement:-**

(20 marks)

- 1- Give the formal name of the group commonly known as tunicates.....
- 2- The blood in amphioxus is.....
- 3- Cartilaginous fishes do not have.....
- 4- The fish heart has.....
- 5- A collection chamber that reduces the resistance of blood flow into the heart of a fish is called.....
- 6- Jawless vertebrate are members of .....
- 7- A fish is characterized by the presence of.....,.....,.....
- 8- .....is a dark red flattened structure which is closely connected to the pyloric limb of the stomach.
- 9- Gills of *tilapia* on each side are covered with a.....
- 10- The urinary bladder and kidneys make up ..... of a fish.

**III- Define these vocabulary terms in your own words: (10 marks)**

Craniate - Notochord- Typhlosole- Lamphidrin – endostyle

End of exam



**Kafra EL Shekh University**

**Faculty of Science**

**Zoology Department**

**First term Exam 2017 - 2018**

**Anatomy and Physiology**

**2<sup>nd</sup> level of Zoology**

**Time allowed: 2 hours**

**Total Degree: 100 marks "70 Written 10 Oral 20 Practical"**

**I) Supply the missing words: 20marks**

1. Atresia is .....
2. Plasma cells in lungs secrete ..... and the mast cells contain ..... and .....
3. .... and ..... are powerful stimulants of gastric secretion.
4. Unconditioned salivation induced by ..... which stimulates .....
5. Mastication includes .....
6. Protein of Hb is qualitatively more important than plasma protein because ..... and.....
7. The alveolar wall is made up of single layer of cells called pneumocytes which is made of two types: Type 1 is: ..... & Type 2 is:.....

**II) MCQ: 10 marks**

1. After the expulsion of the ovum from the follicle the remaining granulosa cells change to (epithelial – lutein – interstitial) cells.
2. Mucous cells contain translucent granules the precursor of (mucin – amylase – lipase).
3. The usual motile and fertile sperms are capable of (flagellated – ciliated – straight) movement.
4. Many changes in the skin of males are due to deposition of (protein – fats – vitamins) in the skin.
5. Exposure of the blood to high  $PCO_2$  at the tissue facilitates (unloading of  $O_2Hb$  – loading of  $O_2Hb$  – unloading of  $O_2Hb$  and Shifts the  $O_2Hb$  dissociation curve to the right)

**III) write in short: 20 marks**

1. The phagocytosis, Digestive and storage functions of the liver.
2. Air conditioning.
3. Co-Operativity.
4. Hormonal factors that stimulate spermatogenesis.

**IV) Explain: 20 MARKS**

1. Bronchi
2. The humoral effect on the secretion of pancreatic juice.
3. The luteal phase of the ovarian cycle.
4. By illustration only the transport of  $CO_2$  in the blood.



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**Answer the following question ( 70 degree )**

**Q: 1 .Complete the following spaces. (14.degree)**

1-Nematomorpha, or the horsehair worms, are -----living as adult and ----- in arthropods .  
Body wall in Nematomorpha with----- cuticle and Digestive system is-----

2-Nemertea similar to phylum-----, Triploblastica and ----- symmetry .  
Digestive tract in Nemertea is -----and have a long ----- which lays within the -----  
Excretory organs in Nemertea are -----and Reproduction through----- and-----

3-Phylum Rotifera are -----animals, mainly found in-----, rarely in -----Anterior end with a -----organ called -----helps in ----- and -----  
Locomotion in Rotifera by-----and reproduction of rotifers can be -----and by -----

4-The Parapodium serve as -----consists of -----dorsal -----and a ventral -----both supported by 2 long stiff internal -----known as dorsal and ventral -----

**Q: 2 .MULTIPLE CHOICE QUESTIONS: CHOOSE THE BEST ANSWER (1. Point each)**

1- The clitellum of an earthworm

A. contains the heart.

B. is associated with reproduction.

C. is necessary for movement.

2- Segmented worms are known as

A-nematodes.

B. planarians.

C. annelids

D. arthropods