Assiut University
Faculty of Science
Zoology Departmnt
Time: two hours
~~Second~~ First term Final Exam 2018/1019
Course title: healthy feeding. (URO13)

Answer these questions:-

First part:

Q1- Answer by √ or X for these sentences:(17 marks: one mark each):-

1)- Vitamin K is essential for synthesis and activation of some blood clotting factors, and its deficiency leads to Prolonged clotting time. ....( )

2)-Haemolytic disease of newborn is due to a reaction between the RH factor which acts as an antigen in the RBCs of the foetus and corresponding agglutinating antibodies which reach the foetal blood from the maternal circulation. ....( )

3)-Lycopene from tomatoes is used as artificial coloring agent to improve the overall attractiveness of some food. ....( )

4)- The renin enzyme has ability to coagulate milk in stomach of children and all animals to give a time to complete digestion of milk protein (casein) by gastric pepsin enzyme . ... ( )

5)- Artificial food dyes (coloring agents) used as food additives such as caramelized sugar derived from burning sugar and Carmine derived from the cochineal insect. .... ( )

6)- Vitamin B2 deficiency leads to inflammation of angles of mouth, scaled nose .... ( )

7)-Leptin secreted from adipocytes, while ghrelin secreted from stomach ....( )

8)-Basal metabolic rate decreased with increasing body temperature. ....( )

9)-Sodium nitrite is used not only as an antimicrobial, but also to fix the color of meat by interaction with meat pigments. ... ... ( )

10- One of the symptoms of potassium deficiency is the muscle weakness, ...( )

11)- Iron deficiency leads to delay blood clotting time and dry skin. ... .( )

12)-Lack of storage of intrinsic factor in the liver as in the case of liver cirrhosis leads to megaloblastic anemia. .... ( )

13)-Injection of excess vitamin D leads to the deposition of calcium salts in soft tissues such as kidney, and ureter. ... . ( )

14)- Mucus content of saliva works to neutralize the acid or alkali which may found in foods ....( )
15)-Albumin Globulin, glycerol and Gelatin are simple proteins ( )
16)- The lack of RBCs is the only cause of anemia. ..... ( )
17)- Vermiform Appendix is found at the right side of the body and it did not play any role in food digestion in human. ....( )

Q2: Second part: Answer only Three questions of the following:- 33 marks,: 11 marks each.

1):-

a- Calculate the basal metabolic rate required to man (95kg body weight) and women (100 kg body weight)?

b-What are the physiological effects of ghrelin? 6 items

2):-

a-What are the Causes of Obesity? 6 items

b- In table, Compare between the following according to functions and deficiencies: calcium, vitamin C and Vitamin D.

3):-

a-What are the biological significance of dietary proteins? 5 items

b-What are the Disadvantages of additives? 5 items

4):-

a- Identify anemia and What are the causes of megaloplastic anemia anemia? 4 items

b-Mention the functions of dietary fibers in intestine? 6 items

With my best wishes and great success,

Professor Dr. Mohamed Bassam Al-Salahy

Assiut University
Faculty of Science
Zoology Department

Time: 2 hour
Level: First
Course Code: 100Z

First Semester General Zoology Exam (05/01/ 2019)

Answer the following questions: (50 marks)

I: Choose the best single correct answer (10 marks)

1. **Movement of molecules from high to low concentration through the lipid bilayer of the cell membrane is known as……**
   a) Simple passive diffusion b) Facilitated passive diffusion c) Active transport d) Cell coat
2. **Nephridia are excretory units of phylum……**
   a) Nematoda b) Annelida c) Platyhelminthes d) Porifera
3. **Epithelial tissues are distinguished from connective, muscular, or nervous tissues by……**
   a) Large extracellular matrix b) Contractility c) Basement membrane d) Vascularity
4. **Nematodes are characterized by absence of circulatory and respiratory systems and are considered……..animals.**
   a) Acoelomate b) Pseudocoelomate c) Coelomate d) Diploblastic
5. **Which one of the following is Not related to protozoa?**
   a) Unicellular b) Contractile vacuoles c) Formed of tissues and organs d) Eukaryotes
6. **The cellular organelle that responsible for protein synthesis is……**
   a) Mitochondrion b) Rough endoplasmic reticulum c) Lysosome d) SER
7. **Neurons that transmit sensory information (impulses) to the CNS are called……**
   a) Motor neurons b) Sensory neurons c) Interneurons d) Neuroglia
8. **The hormone that initiates uterine contraction during childbirth and milk release in mothers is called…..**
   a) Calcitonin b) Oxytocin c) Growth hormone d) TSH
9. **…… egg has little yolk distributed uniformly through the egg cytoplasm.**
   a) Centrolecithal b) Telolecithal c) Isolecithal d) Both b and c
10. **The cleavage stage ends with the formation of ……**
    a) Gastrula b) Morula c) Organs d) Blastula

II: Complete the following sentences (10 marks)

1. The biological clock of animals is regulated by……..hormone which is produced by ……..gland.
2. Blood is a type of ……..tissues while the endocrine glands are belonging to……tissues.
3. The hard exoskeleton is a characteristic of phylum ……
4. ……are composed of membranous vesicles that function in storage, modification, and packaging of proteins
5. Dense regular connective tissue forms ……which attaches bone to bone while……attaches muscle to bone
6. The first group of animals in which the nervous system started to appear is……..
7. The function of cnidocytes is……..while flame cell function is……
8. The mitochondria belong to ……organelles of the cytoplasm.
9. The cell coat of the cell membrane is composed of……and ……..
10. The function of the nucleolus is to synthesize……while SER synthesize……..
11. The first name of the epithelial tissue refers to……..while the second name refers to……
12. Gametogenesis is defined as……..and the purpose of this process is……..

III: Write the scientific name for each of the following descriptions (5 marks)

1. The phenomenon by which organisms maintain balanced internal environment (.....)
2. A system for giving each organism a two-word Latin name that consists of the genus name followed by the species name (.....)
3. A cartilage found in intervertebral disc and it has excess of collagen fibers (.....)
4. The epithelial tissue that lines the urinary bladder (.....)
5. Network of fibers that provide structural support to the cell extending throughout the cytoplasm (.....)

IV: Answer FIVE only of the following (15 marks)

(1) Explain the characteristics of connective tissues.

(2) Write the differences between vertebrates and invertebrates.

(3) Write three differences only between phylum Annelida and Platyhelminthes.

(4) Explain in details the functions of the cell membrane.

(5) Explain names and functions of the hormones involved in glucose and calcium homeostasis.

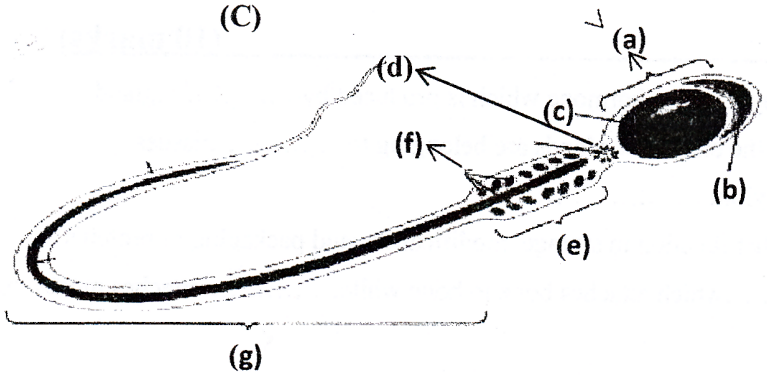
(6) Briefly, explain the basic characteristics of animal classification scheme.

V: Answer the following (10 marks)

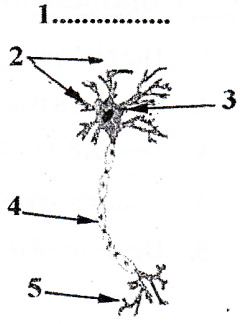
(A) Write about the different types of simple epithelial tissue **(with drawing).**

(B) Compare between different types of muscles **(with drawing).**

(C)



(d)



(C) Identify the diagram, write labels from **(a)** to **(g)** and mention the function of label **(b)** and **(f)** only.

(D) Identify the diagram **(1)**, write labels from **2** to **5** and mention the function of this structure.

End of the Questions

With our best wishes

Drs. Safaa, Mona, Ahmed and Ali

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Assiut University
Faculty of Science
Zoology Department

Summer Semester General Zoology Exam (30/08/2018)

Time: 2 hour
Level: First
Course Code: 100Z

PART I: Cytology and physiology (15 marks)

(A) Mention only the function of FIVE of the following

1. Nucleolus
2. Protein molecules of plasma membrane
3. Parathyroid gland
4. Lysosomes
5. Tubulin protein
6. Luteinizing hormone
7. Insulin hormone

(B) Write with drawing short on FIVE of the following

1. Selective permeability of cell membrane
2. Facilitated passive transport
3. Homeostasis
4. Glucose homeostasis
5. Hypothyroidism
6. Epinephrine

PART II: Histology (15 marks)

(A) Compare between the following with labeled draw:

1- Epithelial and connective tissues according to (origin, function and types)
2- Types of cartilage
3- Types of muscles
4- Types of neurons according to function

PART III: Embryology and taxonomy (20 marks)

(A) Choose the best single correct answer (15 marks)

1. Free living Platyhelminthes forms belong to the class
a) Cestoda b) Trematoda c) Turbellaria d) Nematoda

2. Most of the sponges are
a) Solitary b) Colonial c) Fresh water forms d) Cold water inhabitants

3. Most common method of reproduction in sponges is
a) Binary fission b) Budding c) Multiple fission d) Sexual reproduction

4. Which of the following applies to all members of kingdom protista
a) Eukaryotic b) Heterortophic c) Motile d) Coelomate

5. Defensive organelles in phylum Cnidaria are
a) Trichocysts b) Oocysts c) Sporocysts d) Nematocysts

6. Sea anemone is
a) Diploblastic, radial symmetrical animal b) Diploblastic, bilateral symmetrical animal
c) Triploblastic, radial symmetrical animal d) Triploblastic, bilateral symmetrical animal

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7. **Digestion in sponges is**
   a) Intracellular b) Intercellular c) both a and b d) Extracellular
8. **An important character which Platyhelminthes share with the cnidarians is**
   a) Diploblastic condition b) Single cavity communicating with the exterior
   c) Three germ layers and no coelom d) Presence of complicated reproductive system
9. **Which of these protozoa is unlikely to have a contractile vacuole**
   a) Plasmodium b) Paramecium c) Euglena d) Amoeba
10. **Cuticle in *Ascaris* is an adaptation for**
    a) Parasitism b) Growth c) Reproduction d) Locomotion
11. **In helminthes, flame cells are component of their**
    a) Reproductive system b) Excretory system c) Nervous system d) Respiratory system
12. **An important character which Platyhelminthes share with the cnidarians is**
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13. **Which of these protozoa is unlikely to have a contractile vacuole**
    a) Plasmodium b) Paramecium c) Euglena d) Amoeba
14. **The first invertebrates to develop a true nervous system are**
    a) Flat worms b) Sponges c) Hydrozoans d) Annelids
15. **Respiration of *Ascaris* is**
    a) Cutaneous b) Aerobic c) Anaerobic d) both b and c

(B) <u>Define the following</u> <u>(5 marks)

1. Gastrulation
2. Animal symmetry
3. Species
4. Binomial nomenclature
5. Coelom

..... GOOD LUCK .....

Dr/ Sara S. Abdel-Hakeem