



Systematic Zoology (الورقة الاولى)

Model (A)

Question 1: Choose the correct answer: (1 mark for each)

- Hydra* has a great ability of due to the presence of a large number of interstitial cells.
A. Movement B. Regeneration C. Reproduction D. Defense
- Animals differ from plants in
A. Contain centrioles B. Lack cell walls C. Nutrition D. All of them
- is a marine cnidarian which is dimorphic.
A. *Hydra* B. *Aurelia* C. Box jellies D. *Obelia*
- Platyhelminthes are
A. Triploblastic & Pseudocoelomates C. Triploblastic & Acoelomates
B. Diploblastic & Pseudocoelomates D. Diploblastic & Acoelomates
- Parasites consist of a single "cell-like unit" which is morphologically and functionally complete it described as
A. Helminths B. Protozoa C. Carrier D. Tse-Tse fly
- Which parasite lives in human blood.
A. *Entamoeba* sp. B. *Trypanosoma* C. *Lieshmania* sp. D. B&C
- The genus *Trypanosoma* contains many parasitic species it causes.....
A. Sleeping sickness B. Trypanosomiasis C. Amoebiasis D. A&B
- Cilia is the mean of movement in.....
A. *Amoeba* B. *Trypanosoma* C. *Protozoa* D. *Paramecium*

Question 2: True or False: (1 mark for each)

- Trematodes species inhabit terrestrial, marine, and freshwater environments and are found in almost all moist habitats. ()
- Taenia solium* is transmitted to human through eating undercooked beef. ()
- The body of bilateral symmetrical organisms consists of two germ layers. ()
- The coordination between Cnidarians' cells is maintained by polarized nervous system in the form of a network. ()
- The sponges are intermediate between Protozoa and Metazoa. ()
- The organisms are known by different names in different countries and language of the world this represent what known as Scientific name. ()
- Euglena* is a mobile photosynthetic and photosensitive cell. ()
- The life cycle of *Trypanosoma* involves blood sucking insect known as sand fly. ()
- The organ of locomotion in *Paramecium* is the pseudopodia. ()
- Paramecium* swims rapidly in water by means of coordinated movement known as ciliary movement. ()

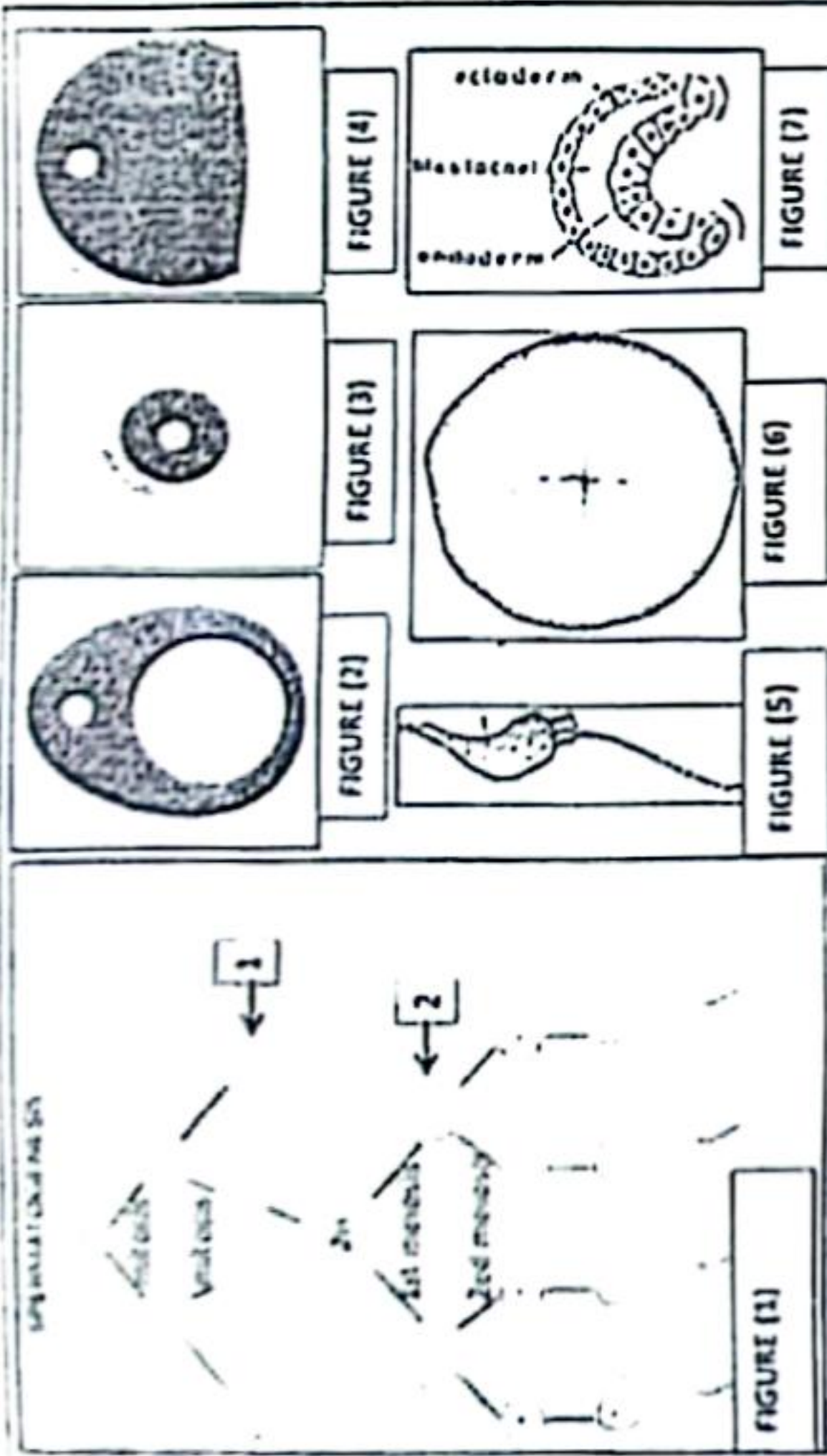
Question 3: Write on: (3 marks for each)

- Briefly write on the general characters of Kingdom Animalia.
- Compare between the three major classes classified under Phylum Platyhelminthes.
- Compare between *Entamoeba histolytica* and *Entamoeba coli*
- Illustrate the process of phagocytosis in *Amoeba* with a diagram and comment

Best wishes.

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Choose the correct answer (15 points, 1 mark each)

9. In figure 1, the label 1 points to.....
 a. primordial germ cells b. spermatogonia c. secondary spermatocyte

10. In figure 1, the label 2 points to.....
 a. primordial germ cells b. spermatogonia c. secondary spermatocyte

11. In figure 2, the ovum belongs to
 a. Amphioxus b. load c. chick

12. In figure 3, the ovum belongs to
 a. Amphioxus b. load c. chick

13. In figure 4, the ovum belongs to
 a. Amphioxus b. load c. chick

14. Figure 5 refers to the sperm of
 a. Amphibians b. reptiles c. mammals

15. Figure 6 describes the cleavage of chick
 a. first b. second c. third

16. Figure 7 expresses the gastrula of.....
 a. Amphioxus b. load c. chick

17. Which of the following best describes the structure of the plasma membrane?

- a) A single layer of carbohydrates with embedded lipids
- b) A phospholipid bilayer with embedded proteins
- c) A protein bilayer surrounded by lipids
- d) A rigid cell wall made of cellulose

18. Microvilli are found mainly on the _____ surface of epithelial cells (e.g., in the small intestine and kidney tubules).

- a. Apical b. Lateral c. Anterior d. Posterior

19. Each centriole is composed of:
 a) 9 sets of microtubule doublets b) 9 sets of microtubule triplets
 c) 9 pairs of actin filaments d) A random arrangement of microtubules
20. Which statement best describes a key difference between peroxisomes and lysosomes?
 a) Peroxisomes contain digestive enzymes for intracellular digestion, while lysosomes synthesize proteins
 b) Lysosomes detoxify hydrogen peroxide, while peroxisomes degrade macromolecules
 c) Peroxisomes are involved in detoxification and fatty acid oxidation, while lysosomes contain hydrolytic enzymes for digestion
 d) Lysosomes produce ATP, while peroxisomes store calcium
21. Which statement best describes a difference between microtubules and actin filaments?
 a) Microtubules are thinner than actin filaments
 b) Actin filaments are hollow structures, while microtubules are solid
 c) Microtubules are involved in chromosome movement and intracellular transport, while actin filaments are involved in cell shape and muscle contraction
 d) Actin filaments form the mitotic spindle, while microtubules form microvilli
22. Which of the following is a primary function of the Golgi apparatus?
 a) Modifying, sorting, and packaging proteins and lipids b) Protein synthesis
 c) Energy production d) Detoxification of harmful substances
23. Where does glycolysis take place in a eukaryotic cell?
 a) Nucleus b) Endoplasmic reticulum c) Mitochondria d) Cytoplasm
- Mark as true or false (15 points, 1 mark each)
11. Cleavage in load is meroblastic ()
 12. In organogenesis stage, Sclerotome gives internal skeleton of amphioxus ()
 13. In gastrulation of chick, the hypoblast gives the endoderm later ()
 14. The beginning of blastocoel appears firstly in 8 blastomeres stage in load ()
 15. Neural tube gives skin epidermis, hair, nails, sense organs ()
 16. In honey bees, fertilization will produce workers and queens ()
 17. Blastula of amphioxus is multilayered ()
 18. The nucleolus is a membranous organelle that manufactures the ribosomes ()
 19. RER is well developed in pancreatic acinar cells. ()
 20. Outer mitochondrial membrane extends inwards forming cristae. ()
 21. Euchromatin is predominant in metabolically active cells as nerve cell ()
 22. SER help in drug detoxification in liver cells ()
 23. Golgi apparatus exists in all vertebrate cells in the form of an individual stack refer to as dictyosome ()
 24. Ribosome is a major site of synthesis of carbohydrates. ()
 25. A cell is the molecular unit of heredity of a living organism ()