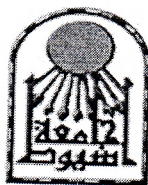


Assiut University
Faculty of science
Zoology Department



Third level
Cours number 321 Z
(Parasitology)
Time: 2 hours

June 2014

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

A Fill in the blanks:

(10 Degree)

- 1 The infective stage of *Plasmodium* sp. is and that of *Trypanosoma* sp. is
- 2 The intermediate host of *Heterophyes heterophyes* is.....and that of *Echinococcus granulosus* is.....
- 3 *Trichomonas hominis* lives in but *Trichomonas tenax* lives in
- 4 The mode of infection of malariasis is and that of trypanosomiasis is
- 5 The operculated eggs in Trematoda arewhereas in Cestoda are.....

B- Choose the one correct answer:

(5 marks)

- 1 The crustacean *Cyclops* is the first intermediate host of (*Schistosoma mansoni*- *Fasciola gigantica*, *Heterophyes heterophyes* –none of them)
- 2 *Schistosoma haematobium*, to complete its life cycle requires (one host- two hosts-three hosts, - None of them)
- 3 The insect vector of *Leishmania* is (mosquito -house fly - sand fly - none of them)
- 4 The following eggs are immediately infective when passed except (*Ascaris* - *Taenia solium* - *Enterobius* - none of them)
- 5 Auto-infection, may occur in (*Ascaris* sp. – *Taenia saginata* – *Hymenolepis nana* - *Taenia solium* - none of them)

C- Put a suitable (√)are (X) adjacent to the following (Write the answer only in your paper)

(10 marks)

- 1- Oocysts of *Toxoplasma gondii* are dizoic ()
- 2- Intermediate host is the host harbouring asexual forms of Protozoa ()

.....انظر خلفه.....

- 3- Infective stage of *Entamoeba coli* is quadrinucleated cyst. ()
- 4- Autoinfection occurs in *Strongyloides stercoralis*. ()
- 5- The infective stage of *Entamoeba gingivalis* is trophozoite. ()
- 6- Man act as the definitive host in *Echinococcus granulosus*. ()
- 7- The crithidial form have no undulating membrane. ()
- 8- Man is the definitive host in *Plasmodium* sp. ()
- 9- Chagas disease is caused by *Trypanosoma rhodesiense*. ()
- 10-Oocyst is the zygote after the formation of the cyst wall. ()

D- Answer the following question: (illustrating your answer with labeled drawings whenever possible) (25 marks)

- 1- In a table form differentiate between: *Fasciola gigantica*, *Schistosoma haematobium*, *Taenia saginata* and *Ancylostoma doudenale* in the following items: eggs - intermediate host - infective stage and mode of infection.
- 2-Give an account of each of the following:
Enterobius vermicularis - *Trichuris trichiura* - *Trichomonas vaginalis*.
- 3-Sexual cycle of *Plasmodium* sp. in stomach of mosquito.
- 4- Differentiate between:
 - a- Miracidium and Coracidium.
 - b- *Taenia* and *Hymenolepis nana* eggs.
- 5- Write briefly on the following:
 - a- Commensalism and Parasitism.
 - b- The sources of parasitic infection.

.....
Good luck

Prof. dr., Gamal H. Abed

(10 Marks)

- (10 Marks)**

- 1- One angstrom = $1/100000$ micron.
- 2- In light microscope, nose piece is attached to the bottom of the body tube.
- 3- Numerical aperture of a lens is the amount of light entering the lens.
- 4- For blood smear we can use Leishman stain.
- 5- In (TEM), the projector lens produces the first image of the object.
- 6- The property of metachromasia is displayed by the acidic stain such as toluidine blue.
- 7- Alcohol is scarcely miscible with paraffin wax.

(2)

(3) Write on three only of the following:

(15 Marks)

A- Embedding artifacts

B- Supravital staining

C- Cell and tissue culture

D-Affixations of sections on slides

(4) A- What is ment by tissue fixation. Give its significance and artifacts produced from it. (7.5 Marks)

B- Explain the principle and uses of the phase contrast microscope. (7.5 Marks)

Best wishes

Prof. Abdallah B. Mahmoud



(1)



جامعة أسيوط - كلية العلوم
قسم علم الحيوان

اختبار مادة البيئة المائية ٣٢٣ ح ٢٠١٤-٢٠١٥

الزمن: ساعتان.

أجب عن الأسئلة الآتية:

س ١: اختر الإجابة الصحيحة من بين الأقواس: (١٠ درجات):

- 1- Streams are classified as (**lentic – lotic - wetlands**) waters.
- 2-Very deep lakes may have chemical stratification that depends on (**microbial processes – temperature - both**).
- 3- Chemicals in lakes, streams, estuaries and wetlands may exist as (**simple molecules - complex combinations of organic and inorganic compounds- all**).
- 4-Fish are considered as (**nekton- zooplankton- both**).
- 5-Organisms found in marine habitat include (**Echinodermata-cephalopods-corals-all**).
- 6- The middle step in eutrophication of aquatic ecosystem is (**the increasing of minerals like phosphate and nitrite-algal bloom- formation of detritus**).
- 7- A low BOD means (**less of organic materials- lots of organic material- both**).
- 8- The burrowing aquatic organisms are considered (**epibenthic – infauna – both**).
- 9- The identity and quantity of minerals suspended in the lake are affected by (**the size of the lake – slope – both**).
- 10-Optimal reef development occurs where the mean annual temperature is about (**32:35- 30:35- 23:25**).

(2)

س ٢: ضع الرقم المناسب من فقرات العمود (A) أمام ما يناسبه من فقرات العمود B (١٥ درجة):-

A	B
1- Recycling of nutrients	+ Acts as toxicants or as growth stimulators ().
2-Marine ecosystem	+ Are common nutrients needed in large quantities for cell development ().
3- The profundal zone	+ Are important nursery areas for fish and birds ().
4- Freshwater ecosystem	+ Have swift unidirectional water flow ().
5-Lentic water	+ Are stronger swimming animals ().
6- Biological interactions	+ It means the increase of nutrients in aquatic habitat ().
7-The pelagic zone	+ Measures the rate of oxygen consumption by a sample of water ().
8- Humic acid	+ Generates 32% of the world's net primary production ().
9-BOD	+ Is one of the functions of aquatic ecosystem ().
10- Eutrophication	+ Is the bottom or deep water ().
11- Nekton	+ Generates nearly 3% of the world's net primary production ().
12-Streams and Rivers	+ Is the slow moving water ().
13- Estuaries	+ Is considered as a factor that determines any aquatic structure ().
14- CO ₂ - NO ₃ - SIO ₂	+ Is the open water of the lake ().
15- Cu- Zn	+ Belongs to the refractory compounds in natural waters ().

(3)

3- أكتب المصطلح العلمي لكل مما يلي: (15 marks):

- 1- An inorganic substance can act either toxicants or as growth stimulators.
- 2- Compounds that decompose very slowly.
- 3- Compounds able to change the ionic state of metals that otherwise be toxic.
- 4- The areas where the soil is saturated or inundated for at least part of the time.
- 5- The portion of the lake where the rate of temperature change with depth is the greatest.
- 6- Weakly swimming animals.
- 7- Organisms which burrow beneath the mud surface.
- 8- The chemical material used by plants and animals that inhibit the growth of their competitors.
- 9- One of the limiting factors of corals that restricts their distribution in the tropical areas.
- 10- One of the limiting factors of corals that restricts their distribution in a certain depth.

4- ناقش أسباب ما يلي واقترح بعض الحلول لمنع حدوثها: (10 marks):

- 1- Acid rains in some countries.
- 2- Eutrophication in aquatic habitat.

With best wishes

Answer the following questions: (50 marks)

Q1- Choose the correct answer from the given between brackets in *ten only* of the following:
(10 marks)

- 1) The animals that understand spoken language include (mammals only – mammals and some other vertebrates - vertebrates and invertebrates).
- 2) Reflection and empathy is among the characters of (fishes – love birds – chimpanzees).
- 3) The neural center for self recognition in humans and great apes is located in the (right prefrontal cortex – left prefrontal cortex – left hemisphere).
- 4) Having a theory of mind can be judged using (Wada test – false-belief test – Thorndike test).
- 5) The marine animals that can recognize themselves in a mirror are (sharks – whales – dolphins).
- 6) The two effects that are opposite to each other are (Bruce effect and Lee-Boot effect – Bruce effect and Whitten effect – Whitten effect and Lee-Boot effect).
- 7) Among features that could be adaptive in human females is (high waist-to-hip ratio – low fluctuating asymmetry – low sensitivity to pheromones).
- 8) A mother's ability to recognize her baby depending on his/her odor is mediated by a (primer pheromone – releaser pheromone – signaler pheromone).
- 9) Mirror test is an experimental procedure used to distinguish between (intelligent and stupid animals – self-aware and self-non-aware animals – apes and monkeys).
- 10) Some non-human animal species can (decide to commit suicide – recognize patterns – improve their innate behavior).
- 11) An important feature of insight learning is that it is (widespread in the animal kingdom – found only in some higher vertebrates – age sensitive).

Q2- Compare between the following: (12 marks)

- a) Ethology and comparative psychology b) Habituation and resensitization
- c) Deliberate deception and natural deception in animals.

Q3- Write short accounts on *three only* of the following: (18 marks)

- a) Vandenberg effect b) Glands that secrete human semiochemicals
- c) Imprinting d) Kairomones and synomones
- e) The ability of honey bees to perform mathematical extrapolation.

Q4- Answer *one only* of the following: (10 marks)

- a) Discuss the similarities between humans and animals in the way they process numbers.
- b) Illustrate how animals learn by association.

————— End of questions —————

————— Good luck —————

Examiner:

Prof. Dr. Medhat M. Sadek