



Chapter (1)

Biology and the scientific thinking

Choose the correct answer :

- 1- The scientist noticed in Uganda the presence eggs with lateral spines in the stools of patients .
a- Manson
b- Castellani
c- Harley
d- Sambon
- 2- The scientist gave Bilharzia worms this name .
a- Coubbold
b- Bach
c- Bilharz
d- Soliman Azmy
- 3- Bilharzia worms are
a- round
b- flat
c- cylindrical
d- ring
- 4- The body surface of male is covered with
a- warts
b- scales
c- spines
d- mucus
- 5- Bilhariza worm has openings .
a- 1
b- 2
c- 3
d- 4
- 6- The digestive canal of Bilharzia starts by and ends with no
a- genital opening
b- mouth opening
c- urinary opening
d- anus
- 7- The adult Bilharzia worms live in the branches of the which spread in the mesentery .
a- Urinary bladder
b- hepatic portal vein
c- pulmonary vein
d- rectum
- 8- The egg of schistoma haematobium has
a- lateral spine
b- terminal spine
c- medium spine
d- no spine
- 9- The egg of schistoma mansoni has spine.
a- lateral
b- terminal
c- mediunn
d- no spine

4- The Bilharzias is patient is suffering from bloody urine or bloody stool .

5- Formation of urinary stones in patients infected with schistosoma haematbium .

6- The infection with Bilharzia may occur or not by drinking contaminated water with cercaria .

7- In case canal water has to be used in drinking it must be boiled or at least kept stored for 48 hours .

8- The life cycle of bilharzias worm show an example of alternation of generation process .

***Compare between:-**

- Miracidium and cercaria .
- Bulinus snail and Biomphalaria snail .
- symptoms and complications of Bilharziasis .

***Draw a labeled diagram for :**

- 1- Bilharzia worm male and female .
- 2- Alimentary canal of Bilhazrzia .
- 3- The infective stage of Bilharzia .
- 4- The eggs of schistosoma .

***Write short notes on :**

- 1- Alternation of generation phenomenon .
- 2- The scientific method of thinking .

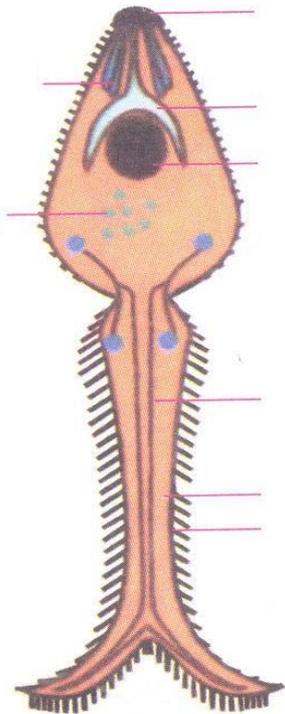
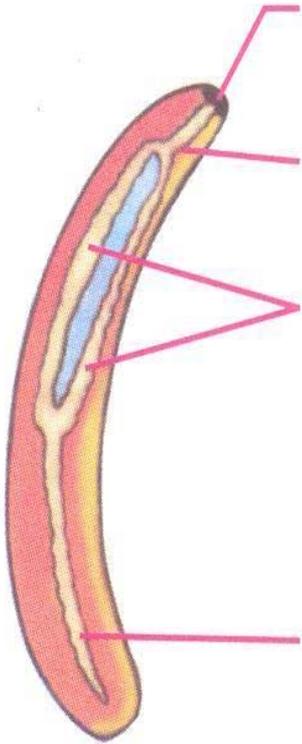
Write the scientific term:-

- 1- The infective stage of bilharzias worm {.....}
- 2- A method is used by the scientists in their researches {.....}

Complete the following table:-

p.o.c	Male Bilharzia ♂	Female Bilharzia ♀
Body		
Length		
Suckers		
Gynaecophoric groove		

- lable the following figures:-



Chapter (2)

Unit of structure of the living organism

I- Write the scientific term :

1- The unit of structure and function in all living organisms .

.....

2- The largest and most obvious organelle in the cell .

.....

4- A very clear fluid which is more or less Jelly like contains some nucleic acids and protein fibrils .

.....

5- The point at which two chromatids are connected together .

.....

6- Kinds of cells that are produced from the gonads of higher plants and animals contain half the number of chromosomes (n) haploid .

.....

7- The centers for protein synthesis in the cell .

.....

8 - The centers of energy production .

.....

9- An organelle plays an important role during the cell division of the animal cell .

.....

10- Tiny bodies contain a group of digestive enzymes .

.....

11- It's the result of multiplication of the power of eye piece x power of objective piece .

.....

12- Ductless glands produce hormones and secrete them to the blood stream .

.....

13- Glands have ducts that carry their secretions .

.....

14- Glands which have the structure of both exocrine and endocrine glands .

.....

15- A tissue transmits the external stimuli to the nervous system .

.....

16- A tissue has the ability to contract and relax .

.....

17- A tissue includes blood and lymph .

.....

18- A cell division occurs in the somatic cells .

.....

II- Give reason for :

1- Amoeba dies after removing the nucleus from it .

.....

2- The endoplasmic reticulum may appears rough or smooth .

.....

3- The number of mitochondria is higher in active cells .

.....

4- A comb anion cell is attached to the sieve tube .

.....

5- The bone tissue is hard while cartilages is flexible .

.....

III- What happens if?

1- The cell lost all its mitochondria and ribosome .

.....

2- The inner cabbage leaves were exposed to light .

.....

3- Crossing over did not occur in the first meiotic division .

.....

4- No chlorenchyma tissue in the plant .

.....

V- Compare between :

1- The three types of muscles .

.....

2- Bones and cartilages .

.....

3- Xylem and phloem .

.....

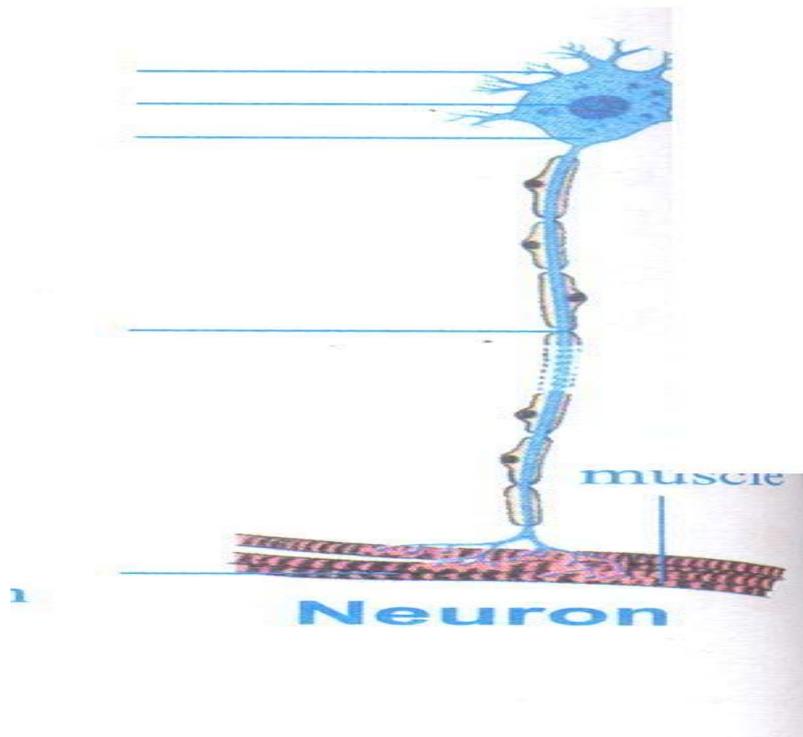
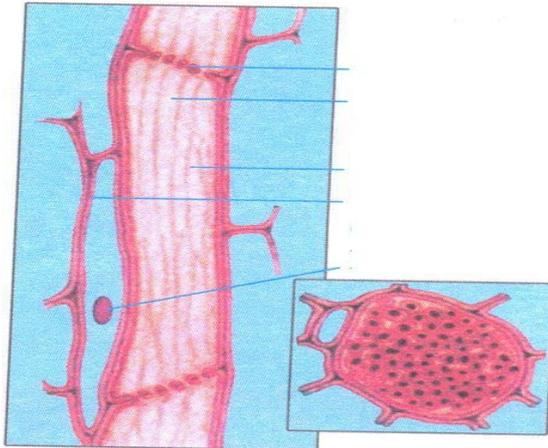
4- Meiotic and mitotic division .

.....

VI- Draw :

- L.S and T. s in phloem tissue .
- The nerve cell

VII- label the following figures:-



Chapter (3)
Man and the Environment

I- Give reasons for :

1- Desertification is one of the serious problems facing Egypt .

.....

2- Ozone is double edged weapon .

.....

3- CO₂ increases the earth's temperature .

.....

4- Europeans who feed on meat and milk of cows were found to contain about of the amount of radiation found in the bodies of Japanese who feed on rice .

.....

5- The most suitable sources of energy that can be utilized in Egypt are solar and wind energy .

.....

6- Emigration is not the right solution for population problem in Egypt .

.....

II- Define the following :

1- Pollution

.....

2- Pollutant

.....

3- Drought

.....

4- Desertification

.....

III-Compare between:-

- selection – Grading up – Hybridisation
- positive sides and negative sides of the high dam.
- The stages of human population growth

V- Match:-

A	B
1- cadmium particles 2- soot {carbon} 3- lead particles	1- High percentage of pneumonia cases 2- Affect the nervous system 3- Heart diseases

VI- How can you control the following?

- 1- Sound pollution
-
- 2- Soil pollution.....
-

Chapter (4)

Variation of living organisms and their classification

I- Complete the following statements:-

- 1- is to put living organisms into group according to their and differences.
- 2- Was the first scientist who classified living organisms on scientific bases.
- 3- is the basic unit of classification.
- 4- Carl Linnaeus classification is known as

II- What's meant by:

- 1- Binomial system of nomenclature.
- 2- Species.
- 3- Oviparous
- 4- Viviparous.
- 5- Taxonomy.

- Name the five kingdoms of the recent system of classification.

Compare between the old and the recent system of classification.

Old system	Recent system
1-	1-
2-	2-
3-	3-

Kingdom Monera – kingdom protista(Give one word):-

- 1- Unicellular organisms in which the nuclear membrane and cytoplasmic organelles are absent [.....]
- 2- Living organisms which have the characters of both plants and animals. [.....]

III- Classify each the following:-

- | | |
|---------------|-----------|
| - Bacteria | - Nostoc |
| - Plasmodium | - Euglena |
| - Trypanosoma | - Amoeba |
| - Paramecium | - Diatoms |

Compare between

- The four classes of phylum protozoa according to the way of movement.
- Monera and protista

Give Reason for:-

- 1- Protista is more developed than Monaria.
- 2- Diatoms have an economic importance.
- 3- trypanosome is a parasite.

Write the disease that is caused by the following:-

- Trypanosoma
- Plasmodium

Kingdom Fungi:-

***Complete the following :-**

- 1- is a unicellular fungus while a multi cell dam fungus.
- 2- Multicellular fungi are composed of threads called.....
- 3- and are fungi that belong to phylum as comycetes.
- 4- Fungi can live in , , or damp soil.
- 5- fungi can live as which obtain their food from living organisms or as which obtain their food from decayed matter.
- 6- Fungi have to , so they can not make their own food.
- 7- is used in production of aritibiotic such as penicillin.
- 8- Species are edible and are rich in protein compounds.
- 9- Rhizopus is used commercially to produce
- 10- Bread mould belongs to phylum kingdom

*** Give reasons for :-**

- 1- All fungi are heterotrophic.
- 2- Agaricus is a saprophyte.
- 3- Fungi can live only as parasite or saprophytes.

*** Relate each of the following organisms to their kingdom and phyla.**

- | | |
|----------------|-------------|
| 1- Sacaromyces | 2- Agaricus |
| 3- Penicillin | 4- Rhizopus |

Kingdom plantae

*** Compare between**

- Gymnosperm and Angiosperm.
- Subclass monocot and dicot.

*** Write the scientific term:-**

- 1- Are non vascular plants which have no root like, stem like and leaf like.
- 2- Tracheophyte which has no seeds and form flowers.
- 3- They are marine sea weeds, the body is in the form of simple or branched filaments containing red or pink pigments.

Correct the wrong sentences if it presents:-

- 1- the leaves of monocot plants have pinnate venation. ()
- 2- the body of tracheophyta is differentiated into root, stem and leaves . ()
- 3- Flowers are either trimorous or to tramerous in dicotyledonous plants. ()
- 4- Some bryophyte are erect such as Riccia while others are flat such as fun aria. ()
- 5- A dianthus is a seed plant. ()
- 6- Rice plant produces seeds with one cotyledon. ()
- 7- Pinus belongs to class angiospermae. ()

*** Classify each of the following :-**

- 1- Polysiphonia
- 2- Saragassum
- 3- Spirogyra
- 4- adiantum
- 5- Cactus

Kingdom animals

I- Complete the following :-

- 1- Sponge is an Animal which belongs to phylum
- 2- Sponges have or exoskeleton in the form of or
- 3- Coelentrates have tentacles supplied with
- 4-, and are the three classes of phylum platyhelminthes.
- 5- Ascaris and ankylostoma are examples of worms.
- 6- The Ring worms have Circulatory system, And system.
- 7- The body of crustacean is covered with and respire by.....
- 8-, And are the three main parts of the insects body.
- 9- The cockroach respire by while scorpion respire by and
- 10- are considered the most developed invertebrates.
- 11- In chordate, the red blood cells contain Contain a except in
- 12- Brittle star belongs to phylum Class
- 13- spend their embryonic stages in mate and the adult stage on
- 14- The lizard skin is covered with but frogs have skin.
- 15- Both and Are cold blooded animals.
- 16- Mouth is Bolti fish but it is..... in shark.
- 17- are animals which have jointed legs.

* Compare between:

- 1- Prototheria , metatheria and eutheria.
- 2- Chondrichthyes and osteichthyes.
- 3- Insecta and Arachnida.
- 4- Lagomorpha and rodentia.

* Give reasons for :-

- 1- Tadpole larva is completely different from the adult frog.
- 2- Birds are adapted for flying.
- 3- Mother kangaroo has a pouch in her abdomen .
- 4- Duck-billed platypus is a link between mammals and birds.
- 5- Order primates are the most highly developed mammals.

*** Write the scientific term:-**

- 1- Are chordates which spend their embryonic stage in water and their adult stages on land .
- 3- Are animals which have internal skeleton in the form of notochord.
- 4- Are mammals which give birth to incompletely developed youngs.

*** Classify each of the following:-**

- Chimpanzee
- Bat
- Rabbit
- Dolphin.....
- hawk
- Armadillo
- Kangaroo
- penguin
- salamander
- Bori
- Dog fish
- octopus
- butterfly
- spider
- crab
- Nereis
- Anklystoma
- Fasciola
- Hydra
- sponge.....

Viruses

*** Give reasons for:-**

- 1- Viruses are borderline between living organisms and nor living things.
- 2- Viruses are obligate parasites.
- 3- Viruses are highly specific.

Chapter (5)
Interaction Among Living Organisms
And Their Relation To man

I- Write the scientific term:-

- 1- Is a food relation between a prey and a predator. [.....]
- 2- Is a food relation between two living organisms, in which one of them benefits and other is neither benefited nor harmed. [.....]
- 3- Is a food relation between two living organisms in which both of them get benefits. [.....]
- 4- Is a relationship between two organisms in which one of them is harmed (host) and the other gets benefits (parasite). [.....]
- 5- Is a food relation in which living organism feeds on a dead matter causing decay. [.....]
- 6- A sequence of living organisms in which each organism provides food for the next organism. [.....]
- 7- The succession of food consumption. [.....]
- 8- Is an inter connected food chains. [.....]
- 9- The unit of studying environment. [.....]
- 10- The amount of heat required to raise the temperature of one liter of water one degree centigrade. [.....]

II- Give reasons for:-

- 1- Leguminous plants are known as "green fertilizers".
- 2- Insectivorous plants feed on insects.
- 3- Termites (white ants) feed on cellulose although they can digest it.
- 4- Food chain does not represent energy flow in nature as food web does.
- 5- The introducing of a living organism from a balanced habitat will disturb the natural balance.
- 6- Corals flourish in shallow clear water.
- 7- Parasitism is less common in plant kingdom.
- 8- Sometimes pyramids of numbers do not provide a real presentation for energy flow in nature.
- 9- The pyramid of energy is a good representation for energy flow.

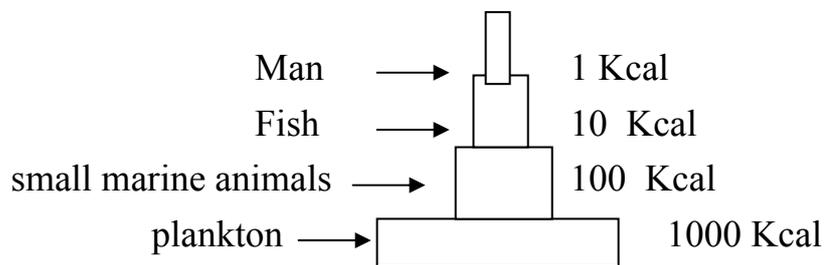
III- Compare between:-

- 1- Facultative and obligate parasites.
- 2- Photo – autotrophs and chemo – autotrophs organism.
- 3- Normal green plants and Insectivorous plants

V-What happened when:-

- 1. Rabbits were introduced to Hawaii island.
- 2- Hyacinth was introduced to Egypt in the 19th century.
- 3- American farmers have killed hawks.

*** Look at the diagram and answer the following:-**



- 4) The previous diagram represent a.....
- b) This diagram is considered the best representation for because

Chapter (6)
Change in living organisms

I- Write the scientific term:-

1. The space between the deepest part in an ocean and the highest part on a mountain where life exists. [.....]
2. A gradual change that continues through a long period of time. [.....]
3. A change that makes the organ pore capable of carrying out its function. [.....]
4. Are the remains or traces of living organisms. . [.....]
5. Is the trans formation of the solid parts of the living organism into a mineral substance. [.....]

*** Compare between the explanations of both Lamarck and Darwin of the tallness of the giraffe's neck and write the criticism that faced both of them.**

*** Give reasons for:-**

1. Cepaea nemoralis snail is an example of natural selection.
2. The lung fish represents one of the steps of evolution from fish to the first land vertebrates(amphibians).
3. The animals of the British Islands resemble those of Europe despite their separation.
4. The differences between the animals of south America and these of Africa despite the resemblance in the climate of both countries.
5. The Archaeopteryx represents an intermediate link between reptiles and birds.

Compare between:-

Moulds	Casts
1-	1-
2-	2-

Evolution	Improvement
1-	1-
2-	2-
.....	

How do the following organisms get rid of the nitrogenous wastes?

1- Fish and aquatic animals

.....
.....

2- Frogs and mammals

.....
.....

3- Reptiles and insects

.....
.....