



# Question

## Write the scientific term:

### Write the scientific term for the following sentences:

- 1) To put living organisms into groups according to the similarities and differences to facilitate their identification and study. (**Taxonomy**)
- 2) John Ray used it as a base for his classification. (**species**)
- 3) A scientific principle in taxonomy which is still applied till now. (**natural taxonomy**)
- 4) A scientific classification under which no sharp demarcation between plants and animals and depends upon the stability of species. (**natural taxonomy**)
- 5) A scientific classification which explains the resemblance between species on the base that they descend from common ancestor. (**Recent method of classification**)
- 6) Organisms which are not classified in the recent classification. (**Viruses**)
- 7) Organisms have the characteristics of both living and non-living organisms. (**Viruses**)
- 8) Non-cellular organisms which resemble non-living things. (**Viruses**)
- 9) Living organisms whose nucleus is not surrounded by a nuclear membrane, and the hereditary material does not appear in the form of chromosomes. (**Monera**)
- 10) The smallest living organisms, they cannot be seen except under the light microscope, and have various shapes. (**Bacteria**)
- 11) Living organisms that exist everywhere, even inside our bodies. (**Bacteria**)
- 12) Living organisms that are essential for some industries such as preparation of yoghurt and leather tanning. (**useful bacteria**)
- 13) Living organisms resemble bacteria in its characteristics, but they have pigments of different colours. (**Blue-green algae**)
- 14) Living organisms which have the characters of both plants and animals. (**protista**)
- 15) Aquatic living organisms which are a source of food for fish and form petroleum sediments. (**Golden algae**)
- 16) A protozoan which causes sleeping sickness. (**Trypanosoma**)
- 17) Living organisms some are unicellular and others are multicellular consist of fine threads which could be septated or non-septated. (**Fungi**)
- 18) A fungus which lives as a saprophyte on bread. (**bread-mould or Rhizopus**)
- 19) A unicellular fungi used in the production of ethyl and carbon dioxide. (**yeast**)
- 20) A fungus which used in production of antibiotics as penicillin. (**penicillium**)
- 21) A fungus used in flavoring cheese such as roquefort. (**penicillium**)
- 22) A fungi of which some are edible and others are toxic. (**Mushroom**)



# Midterm - Second term

- 23) Marine sea weeds which consists of masses of filaments simple or branched , consists of true cells containing red pigments. (Red algae or Rhodophyta )
- 24) Terrestrial plants which grow in damp, shaded places, some are flat but others are erect. (Bryophyta)
- 25) Terrestrial erect plants, the body is differentiated into root-like, stem-like, and leaf-like. (Funaria)
- 26) Non-Flowering plants, which have vascular tissue. (Filicate / Ferns)
- 27) plants produce their seeds on cones, and have naked seeds. (Gymospemae / Conifers)
- 28) plants produce covered seeds (fruits enclosing seeds). (Angiospermae / seed plants)
- 29) plants have fibrous roots, leaves have parallel venation ,and flowers have trimerous whorls. (Monocotyleonae)
- 30) plants have tap roots, leaves have pinnate or palmate venation, and flowers are tetramerous or pentamerous. (Dicotyledonae)
- 31) Aquatic animals have an external skeleton which is calcareous or siliceous. (sponges)
- 32) Aquatic animals have tentacles supplied with stinging cells. (Colentrata)
- 33) Flat worms, most of them are endoparasites , body systems are limited or absent, most of them are hermaphrodite. (platyhelminthes)
- 34) Hermaphrodite worms, which infect cows and sometimes human. (Fasciola)
- 35) An animal has segmented body, sucks animal's blood. (Medical leech)
- 36) Aquatic animals, the body is covered with chitinous cuticle, they breathe by gills. (crustaceans)
- 37) Animals having four pairs of jointed legs, they breathe through tracheae and lung books. (Archnida)
- 38) Animals have an exoskeleton in the form of calcareous shell, but they do not have an internal skeleton. (Mollusca)
- 39) Animals have body wall with calcareous plates and prickles and have arms of different sizes. ( Echinodermater)
- 40) Animals have red blood cells with no nucleus. (mammals)
- 41) Animals have cartilaginous skeleton, and their body is provided with paired fins. (cartilaginous fish)
- 42) Animals have bodies covered with bony scales, and respire by gills. (Bony fish)
- 43) Animals respire by gills then by lungs and sometimes through skin. (Amphibians)
- 44) Terrestrial animals have four weak limbs which may be absent so they move by creeping . (Reptiles)
- 45) Animals have bodies covered with feathers , its hind limbs are tetradactyl having claws. (Birds or Aves)
- 46) Animals have bodies covered with hair, have dissimilar teeth. (mammals)



# Midterm - Second term

47) Animals reproduce by laying eggs, have mammary glands on their abdomen to feed young on milk. (prototheria)

2- Mention the name of the scientist who did the following :

1- He classified plants into trees, shrubs and weeds. (Aristotle )

2- He classified living organisms according to similarities in their external features. (John Ray)

3- He gathered together in one group all living organism, which are similar in their external body structure. (Linnaeus)

4- He classified living organisms in a serial way. (Linnaeus)

5- He classified living organisms into two kingdoms. (Linnaeus)

6- He suggested a classification which explains the resemblance of living organisms on the base that they descend from a common ancestor. (R.whittaker)

7- He classified living organisms into five kingdoms. (R.whittaker)

## B) Compare between:

a)kingdoms Monera and protista

Kingdom Monera	Kingdom Protista
<ol style="list-style-type: none"> <li>1. Less developed</li> <li>2. Unicellular organism</li> <li>3. Cell wall is devoid of cellulose or pectin</li> <li>4. Cytoplasm is devoid of some organelles such as mitochondria, plastids, golgi body, endoplasmic reticulum.</li> <li>5. Nucleus is not surrounded by nuclear membrane, the hereditary material does not appear In the form of chromosomal threads, but in the form of chromosomes in the cytoplasm.</li> <li>6. This kingdom is divided into two phyla: I- Phylum Schizophyta (Bacteria) II-Phylum Cyanophyta (Blue –green algae)</li> </ol>	<ol style="list-style-type: none"> <li>1. More developed.</li> <li>2. Unicellular organism.</li> <li>3. Cell wall may contain cellulose or pectin.</li> <li>4. Cytoplasm contains plastids.</li> <li>5. Nucleus is surrounded by a nuclear membrane, while the hereditary material takes the shape of chromosomal threads, it also contains a nucleolus.</li> <li>6. This kingdom is divided into three phyla. I- Phylum Euglenophyta. II-Phylum Chrysophyta. III- Phylum Protozoa.</li> </ol>



### b) The three classes of phylum protozoa :

Class Sarcodina	Class Flagellata	Class Ciliata	Class Sporozoa
Moves by: Pseudopodia.	Moves by: Flagellum.	Moves by: Cilia	Has no mean of movement.
Amoeba and Parasitic amoeba (Entamoeba) Which causes amoebic dysentery	EX: Trypanosoma Which causes sleeping Sickness to man, and it is transmitted by Tsetse fly.	EX: Paramecium.	EX: Plasmodium malaria which causes malaria disease to man, which is transmitted by female Anopheles mosquito.

### c) Monocots and dicots :

Points of comparison	Monocots	Dicots
Seeds:	One cotyledon.	Two cotyledons.
Flowers:	Trimerous whorls or its multiple	Tetramerous or pentamerous or their multiple.
Leaf venation :	Parallel.	Pinnate or palmate.
Roots:	Fibrous.	Tap.
Examples :	Wheat, onion , maize , cactus , rice , palms and sugarcane.	Legumes such as pea, beans , cotton, rose and petunia.



**L) Old and Recent method of classification**

Old method of classification	Recent method of classification
1- There is no sharp demarcation between plants and animals. 2- Depends on stability of species which contradicts with the evolution theory. 3- It depends on similarities in the living organism's morphological features. 4- Classified living organisms into two Kingdoms: 1. Kingdom plantae 2. Kingdom Animalia	1- There is sharp demarcation between plants and animals. 2- It explains the similarities between species on the bases that they were descended from a common ancestor. 3- It depends on cellular characteristics, characteristics of nucleus, hereditary studies, resemblance in reproductive organs, microscopical examination. 4- Classified living organisms into five kingdoms. 1. Kingdom Monera. 2. Kingdom Protista. 3. Kingdom Fungi 4. Kingdom Plantae. 5. Kingdom Animalia.

**4- Choose the anomalous word:**

- 1- (Nostoc / Amoeba / Bacteria / Blue green algae) All are in phylum Monera.
- 2- ( Eugena / Golden algae / Bacteria / Protozoans) All belong to Protista.
- 3- ( Diatoms / Nostoc /Euglena / Plasmodium) All are Autotrophic .
- 4- (Flagellates / Ciliates / Monerans / Sporozoans ) All are Protists.
- 5- (parasitic amoeba/ Trypanosoma / Plasmodium / Bacteria ) All are protists
- 6- (Nostoc /paramecium / parasitic amoeba / Trypanosoma)All are protists
- 7- (Taenia / Favous – Black rust – Typhoid) All fungal disease .
- 8- (Bread mould – Yeast – mushroom – Fucus) All fungi.
- 9- (Polysiphonia – Spirogyra – Saragassum – Penicellum) All are algae.
- 10- ( Ferns – dicost – Angiospermae – Gymnospermae)All are Classes.
- 11- (wheat – Beans – Maize – Palm) All are Monocots
- 12- (Cactus – Pea – Rose – Cotton) All are Dicots





# Midterm - Second term

## 5- Give reason for:

1. The necessity for classification of living organisms.
  - a. Identification of living organisms, as there are huge variety of kinds.
  - b. Facilitates the studying of living organisms and how to deal with them.
2. The use of latin language in the nomenclature and description of living organisms.
  - Because being an old language and not spoken by people, so it has been protected from any change or modification.
3. The old system of classification contradicts with the evolution theory.
  - Because it depends on stability of species.
4. Viruses do not undergo classification.
  - Because they have the characteristics of both living organisms and non- living matter.
5. Viruses are considered as a link between living organisms and non-living matter.
  - Because they contain nucleic acids (DNA&RNA) enveloped by a protein coat like living organisms also they have a crystalline form out of the living tissues → non-living matter.
6. All viruses are obligate parasites and they are specific.
  - As they only can live inside the host cell to multiply and they are specific as virus which attacks certain types of cells cannot attack other types.
7. Monerans are called prokaryotes.
  - Because the nucleus is not enveloped by a nuclear membrane, and the hereditary material is found in the cytoplasm.
8. The protists are called Eukaryotes.
  - \* Amoeba belongs to protista.
  - Because the nucleus is enveloped by a nuclear membrane and the hereditary material is found as chromosomal threads.
9. Golden algae and Diatoms have an economic importance to man.
  - Because they form petroleum sediments, and they are sources of food for fish.
10. Fungi live as parasites or saprophytes.
  - Because they are heterotrophic organisms as they do not contain chlorophyll.
11. Fungi have an economic importance.
  - Because they are used in several industries as (Rhizopus) in production of cortisone, (saccharomyces) in production of alcohol, CO<sub>2</sub>, Baking industry, Penicillium in production of antibiotics, and in flavoring.
12. Some plants are called Gymnosperms.
  - Because they carry naked-seeds (seeds have no testa).
13. Onion belongs to sub-class Monocotyledonae.
  - Because:
    - \* Seed has one cotyledon.
    - \* Flowers are trimerous whorls.
    - \* Leaves have parallel venation.
    - \* Have fibrous roots.



## Midterm - Second term

14. Shrimp is considered from the Arthropodes.
  - Because its body is divided into identical segments, some of the body segments have pairs of jointed legs.
15. Scorpion belongs to Arachnida and not Insecta.
  - Because its body is divided into thoracic and abdominal regions, and it has four pairs of walking legs, it respire through trachea and lung books.
16. The frog lays its eggs in water.
  - Because the first embryonic stages of the frog respire oxygen dissolved in water by gills.
17. The skin of the frog is always smooth and moistened.
  - Due to the presence of mucus glands, which secretes mucus.
18. The Classification of Aristotle is Considered a Primitive Classification.
  - Because the Classification didn't follow a Scientific Principle.
19. Using the Binomial system in naming living organisms.
  - To facilitate their identification and study.
20. Nostoc algae appears to have blue green colour.
  - Because they have blue-green Pigments.
21. Blue – green algae are autotrophs.
  - Because it Performs Photosynthesis Process as it contains chlorophyll.
22. Euglena is an organism which has the characters of both animals and planth.
  - Because it contains green Plastid(Plant )and it moves by flagellum (animal).
23. Although Euglena has a flagellates it is not Classified as flagellates.
  - Because it is a free living organisms as it contains green plastid.
24. Fungi are heterotrophs.
  - Because they depends on others in getting its own food as it doesn't contain chlorophyll.
25. Some kinds of mushroom are edible.
  - Because some tide are rich in Proteins.