

6. Animal classification

Q. One word is incorrect in the following statement. Change it to make the statement correct. (5M)

1. Amphibians are warm blooded.

Ans : Correct statement :- Amphibians are cold-blooded or Mammals are warm blooded.

2. Mammals breath with the help of gills.

Ans : Mammals breath with the help of lungs and fishes breath with the help of gills.

3. Arthropod animals bear numerous pores on their body.

Ans : porifera animals bear numerous pores on their body.

4. Planet earth has highest number of animals form phylum Echinodermata.

Ans : Planet earth has highest number of animals form phylum arthropod.

5. Coelenterata animals have special type of collar cells.

Ans : Coelenterata animals have special type of choanoblasts or porifera animals have special type of collar cells.

Q. Match the columns.

(5M)

Phylum and sub phylum

Characteristics

1.mollusca

i. sucker

2. Hemichordate

ii. Collar cells

3. Porifera

iii. Trunk

4. Coelenterata

iv. Tunic

5. Cyclostomata

v. Tentacles bearing cnidoblasts

vi. Mantle

Ans : 1.mollusca = vi. Mantle

2. Hemichordate = iii. Trunk

3. Porifera = ii. Collar cells

4. Coelenterata = v. Tentacles bearing cnidoblasts

5. Cyclostomata = i. sucker

Q. Find the odd one out :

(5 M)

1. Frog, Tortoise, Toad, Salamander

Ans : Tortoise – Tortoise is reptile, the remaining are amphibians.

2. Tube feet, Setae, Parapodia, Sucker.

Ans : Tube Feet. – Tube feet are locomotory organs of echinoderms, the remaining are locomotory organs of annelids.

3. Shark, Sting ray, Electric ray, Prom fret

Ans : Prom fret.- Prom fret is a bony fish, all the remaining are cartilaginous fish.

4. Cockroach, Butterfly, Spider, Honey bee

Ans : Spider – spider is eight- legged Arachnid, remaining are insects.

5. Physalia, Hyalonema, Euplectella, Spongilla

Ans : Physalia – Physician belongs to coelenterata all the remaining are poriferans.

Q. Find the correlation : (5M)

1. Annelida : Earthworm : : Platyhelminthes : -----

Ans : Planarian/Liver fluke

2. Horse : Mammal : : Seahorse : -----

Ans : Pisces

3. Para podia : Annelida : : Tube Feet : -----

Ans : Echinodermata

4. Frog : Amphibian : : Turtle : -----

Ans : Reptilian

5. Proboscis : Hemichordate : : Sectorial Mouth : -----

Ans : Cyclostomatous.

Q. Identify Me :

1. I am diploblastic and acoelomate. Which Phylum do I belong to?

Ans : I am from phylum cnidarian or coelenterata.

2. My body is radially symmetrical water vascular system is present in my body. I am referred as fish though I am not. What is my name?

Ans : Star fish. I am from Echinodermata phylum.

3. I live in your small intestine. Pseudo coelom is present in my thread like body. In which phylum will you include me?

Ans : I am Ansaris. I am included in As helminthes.

4. Though I am multicellular, there are no tissues in my body. What is the name of my phylum?

Ans : sponge, porifera phylum.

5. I am meteorically segmented, blood sucking, ectoparasite. I have suckers. Who am I and to what phylum do I belong to ?

Ans : Leech, phylum Annelida.

Q. Answer in one sentence. (5M)

1. On what is the natural method of animal classification based?

Ans : Natural system of classification was based on following criteria like body organization, types of cells, chromosomes, bio-chemical properties etc.

2. On which criteria is system of classification given by Robert Whittaker based upon?

Ans : The system of classification given by Robert Whittaker is based on following criteria like body organization, body symmetry, body cavity, germinal layers, Segmentation etc.

3. Where is nerve cord of chordate animals located?

Ans : In all the chordate animals, nerve cord is located on the dorsal side of the body.

4. What is radial symmetry?

Ans : If any imaginary plane passing through central axis but any plane of the body forms two equal halves, then it is called radial symmetry.

5. What are spicules of peripheral animal made up of?

Ans : spicules in porifera animals are made up of calcium carbonate or silica.

6. What are two different forms of the body in coelenterata animals?

Ans : The cylindrical polyp and the umbrella like medusa are the two different forms of body in coelenterata animals.

7. What is the function of ostia and osculum in poriferan animals?

Ans : Water is taken through the ostia and given out through the osculum in case of poriferans while feeding.

8. What are coral reefs?

Ans : Coral reefs are colonies of specific coelenterata or cnidarians.

9. What is the use of corals?

Ans : Coral is the precious stone which is used in jewelry. The ash obtained from corals is also used in Ayurvedic medicines.

10. What are the divisions of the body in molluscs?

Ans : Molluscan animals body is divided into three parts, viz. head, foot and visceral mass.

11. What is molluscan shell made up of and which part of the body secretes it?

Ans : The molluscan shell is made up of calcium carbonate and it is secreted by the mantle that covers the visceral mass.

12. Which are the three main parts of the body of a hemichordate animal?

Ans : The hemichordate animals body is made up of proboscis, collar and trunk.

13. Which six classes are included in sub phylum vertebrata?

Ans : subphylum vertebrata is subdivided into cyclostomata, pisces, amphibia, Reptilian, Aves and mammalia.

14. Why are birds and mammals called warm blooded?

Ans : Birds and mammals can maintain their body temperature to a constant level, therefore they are called warm blooded.

15. Which criteria are used for classification of organisms?

Ans : The living organisms are classified according to their basic characteristics, such as presence or absence of nucleus, unicellular body or multicellular body, presence or absence of cell wall and the mode of nutrition in them.

16. Balanoglossus is connecting link between non-chordates and chordates. Give scientific reason. (2M)

Ans : Balanoglossus shows some characters of non-chordates. It also has notochord as in case of chordates. Since it shares the characters of non-chordates and chordates, from the view point of evolution, it is called connecting link between them.

17. What are the benefits of animal classification. (4M)

Ans : Benefits of classification :

- Studying the different animals becomes easy when they are placed under different groups.
- When few representative animals of the particular group are studied then the idea about other animals belonging to that group also becomes clear.
- The animal evolution becomes easier to follow after studying classification.
- The identification of animals can be done accurately.
- Relationship of the different animals with each other and with other groups can be understood clearly.

- Habitat of each animal and its role in nature is understood by classification .
- Various adaptations are understood by learning classification.

18. Which are the animals from phylum arthropoda those have shortest and longest life span? (2M)

Ans : Shortest life span : May fly- About 24 hours. The longest life span : Lobster(*Homarus americanus*) – About 100 years.

19. Why has it been said that only insects directly compete with humans for food? (2M)

Ans : The Standing crop in the fields can be totally ruined by insects. The locust can damage the crops when they attack in thousands at a time. The grains are also infested by variety of insects like ants, weevils, beetles, etc. Therefore, we can say that only insects compete with humans for food.

20. What type of benefit and harm occur to human from animals of phylum arthropoda? (4M)

Ans : Some insects are very useful for us. We get many products from them. E.g. Honey bee, Lac insect, silk worm, are the insects that provide us with honey and wax, lac and silk respectively.

- The culture experiments are done on these insects for large scale production of these substances.
- Butterflies help in the pollination of crops and are thus helpful for the farmers and gardeners.
- Lady bug beetle is an insect which acts as a natural pest control as it attacks the other harmful insect pests.
- In biological pest control methods it is widely used.
- Some insects, on the contrary are very harmful. Mosquito, bed bugs, lice are blood sucking parasites which can spread the diseases.
- Mosquito is a vector for dengue, filariasis and malaria.
- Some are biting insects that can cause wounds, some cause allergies of various kinds.
- The grains and crops are destroyed to great extent by the insects. In this way the insects belonging to the phylum Arthropods are harmful to health, wealth and peace of mind too.

21. Why is earthworm called as friend of farmers? (2M)

Ans : Earthworms move through the soil in the farms and fields. They feed on the detritus in the soil.

- They also help in decomposition of the organic matter.
- When the soil is loosened due to their activities, the root of the crops grow well.

- They enrich the soil by their excreta which act as fertilizers.
- All these facts make earthworm, a farmer's friend.

22. Animals like whale, walrus live in water(ocean). Are they included in pisces or Mammalia? (2M)

Ans : Whale and walrus are aquatic and MARINE MAMMALS. They do not belong to class pisces.

- They do not have gills to breathe in dissolved oxygen in water.
- Neither they have scales on the body nor can they lay eggs.
- Whales and walrus have mammary glands like all other mammals.
- They give birth to live young one. They breathe only with the help of lungs by putting their nostrils out of the water at surface. Hence they are included in Mammalia.

23. Animals like ghariyal and crocodile live in water as well as on land. Are they amphibians or reptiles? (3M)

Ans : Ghariyal and crocodile are reptiles. They can swim in water and crawl on land. But they can respire only with the help of lungs.

- Their breathing is through nostrils. Even when in water, they have to inhale and exhale by coming up to the surface of water for air.
- Amphibians can breathe through the skin when in water and by lungs when on land. They also have hard exoskeleton which amphibians do not have.
- Ghariyal and crocodile cannot do so, hence they are not amphibians, but they are reptiles.

24. Give scientific classification of shark up to class. (2M)

Ans : kingdom : Animalia

- Phylum : Chordata
 - Subphylum : Vertebrata
 - Class : Pisces
 - Subclass : Elasmobranchi(cartilaginous)
- Example : Scientific name : Scoliodon sorrakowah.
Common name : Shark.

25. Distinguish between Butterfly and Bat. (4M)

Ans :

Butterfly	Bat
i. Butterfly is classified as Non-chordate.	i. Bat is classified as a Chordate.
ii. It is included in class Insecta of phylum Arthropoda.	ii. It is included in class Mammalia of subphylum

	Vertebrata.
iii. Butterfly has three pairs of legs and two pairs of chitinous wings.	iii. Bat has one pair of legs and a pair of patagium which are used for flying. Patagium has bones.
iv. Butterfly is a diurnal(active during day)insect.	iv. Bat is a nocturnal(active at night) mammal.

