



SHIKSHA CLASSES

Subject : Science -II
Class : X

Answer Paper
6. Animal Classification

Total Marks : 20

- Q.1: A) Choose the correct alternative :** 2
- 1) The body wall of Hydra is -----
Ans. : c) Diploblastic
- 2) Spicules are made up of -----
Ans. : d) Calcium carbonate.
- B) Solve the following questions. (Any One)** 1
- 1) Match the following.
- | | | |
|--------|-------------|-----------------------|
| Ans. : | A | Answer |
| | a) Hydra | b) Radial Symmetry |
| | b) Planaria | a) Bilateral symmetry |
- 2) Complete the analogy.
Coelenterata : _____ :: Platyhelminth : Triploblastic
Ans. : Coelenterata : **Diploblastic** :: Platyhelminth : Triploblastic
- 3) Write true or False.
Amphibians have a two habitat life cycle.
Ans. : True
- Q.2: A) Give scientific reason. (Any One)** 2
- 1) **Bat is included in mammalia class.**
Ans. : i) Mammary gland is present in the bat.
ii) Bats are warm blooded
iii) Body is divided into head, neck, trunk and tail.
iv) Exoskeleton is in from of hair or therefore bat is included in mammalia class.
- 2) **Our body irritates if it comes in contact with jelly fish.**
Ans. : i) Jelly fish belongs to phylum coelenterata that contain specialized cells called endoblasts that inject toxins when in contact with anything
ii) When our body brushes against a tentacle these cnidoblast containing tiny stinges penetrates the skin and toxin is release.
iii) The toxin and the sting affect the area of the skin toxin also enters the blood stream.
iv) Due to this there is rashes and itchiness on due skin causing an irritating sensation. Due to the ability of jelly fish to inject toxin our body irritates if it comes in conact with jelly fish.

: B) Solve the following question. (Any Two)

4

1) What is notochord?

Ans. : Notochord is a long rod like, Supporting structure present on dorsal side of animal body. It keeps the nerve tissue isolated from remaining body.

2) Write about phylum Annelida

Ans. : Characteristics of Phylum Annelida :

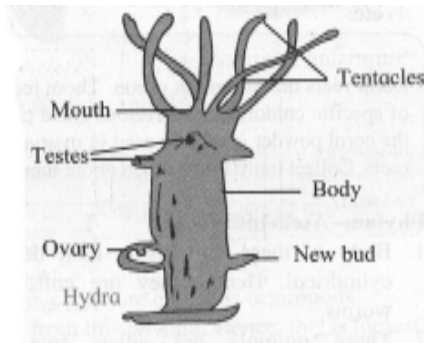
- 1) Body of these animals is long, cylindrical and metamerically segmented.
- 2) Most of the animals are free living, but few are ectoparasites. Free living animals may be marine or fresh water dwellers or terrestrial.
- 3) These animals are triploblastic, bilaterally symmetrical and eucoelomate.
- 4) They have setae or parapodia or suckers for locomotion.
- 5) Their body is covered with special cuticle.
- 6) These animals are either hermaphrodite or unisexual example Earthworm, Leech, Nereis etc..

3) Write about hydrocarbonclastic bacteria.

Ans. : Spilling of petroleum oil occurs in ocean due to various reasons. This oil may prove fatal and toxic to aquatic organisms. It is not easy to remove the oil layer from surface of water by mechanical method. However bacteria like pseudomonas spp. and Alcanovorax bockumensis have the ability to destroy the pyridines and other chemicals. Hence these bacteria are used to clear the oil pills. These are called hydrocarbonoclastic bacteria (HCB). HCB decompose the hydrocarbons and bring out the reaction of carbon with oxygen CO_2 and water is formed in this process.

4) Draw a well labelled diagram of Hydra.

Ans. :



Q.3: Solve the following questions. (Any Two)

6

1) Explain body symmetry and its types.

Ans. : In Imaginary sense if body of any animal is cut through imaginary axis of body it may or may not produce two equal halves. Depending upon this property there are different types of animal bodies.

Asymmetrical body : In case of such body, there is no any imaginary axis of the body through which we can get two equal halves.

Example – Amoeba, Paramocium, some sponges.

Radial symmetry. : In this type of body, if imaginary cut passes through central axis but any plane of body, it gives two equal halves, example – starfish.

In case of this animal, there are five different planes passing through central axis of body through which we can get two equal halves.

Bilateral symmetry : In this type of body, there is only one such imaginary axis of body through which we can get two equal halves example – Insects, fishes, frog birds, human.

2) **Write difference between non chordates and chordates.**

Ans. :	Non Chordates	Chordates
	1) Body is not supported by rod – like notochord	1) Body is supported by notochord.
	2) Pharyngeal gill slits are absent	2) Pharyngeal gill–slits or lungs are present.
	3) Nerve cord, if present it is on ventral side. It is solid and paired.	3) Nerve cord is present on dorsal side of body It is hollow.
	4) Heart, if present, it is on dorsal side.	4) Heart is present on ventral side of body.

3) **Write in detail about class cyclostomata of phylum Echinodermata.**

Ans. : **Class cyclostomata :**

- 1) These animals have jaw less mouth provided with sucker.
- 2) Their skin is soft and without any scale.
- 3) Paired appendages are absent.
- 4) Endoskeleton is cartilaginous.
- 5) Most of the animals are ectoparasites Example petromyzon, Myxine.

4) **Write short note on Bath sponge.**

Ans. : **Bath sponge :**

This is a black coloured and somewhat round shaped animal. Its body is mainly made up of fibers of a protein spongin and due to this, they have good water holding capacity. It was used for bathing during old days. Besides it was also used for manufacturing of pillows and cushions. These were also used as wetting material for sticking postal stamps and contouring the currency notes.

Q. 4: Solve the following question. (Any One).

5

1) **Write history & benefits of animal classification.**

Ans. : **History of animal classification :**

Greek philosopher Aristotle was the first to perform the animal classification. He classified the animals according to the criteria like body size, habits and habitat classification proposed by Aristotle is known as ‘Artificial method’.

As per new development in the science the criteria of classification of animal is changed. The Artificial method is followed by many scientist. Later on ‘Natural system of classification’ was followed. This classification is based on various criteria like body organization, types of cells, chromosomes, etc.

After that system of classification is based on evolution was brought into practice.

Benefits of Animal Classification :

- 1) Study of animal becomes convenient.
- 2) Study of few animals from a group helps to understand about that entire animal group.
- 3) It gives idea about animal evolution.

- 4) Animals can be easily identified with great accuracy.
- 5) It helps to understand the relationship of animals with other living organisms.
- 6) It helps to understand the habitat of each animal and its exact role in the nature.
- 7) It helps to understand various adaptations shown by animals.

2) **I) Write the classification of the following according to given points**

- i) **Shark** ii) **Frog**
a) **Kingdom** b) **Phylum** c) **Subphylum** d) **Class**

II) Write two character of shark and frog.

Ans. : **I) i) Shark :**

Kingdom - Animalia
Phylum - Chordata
Subphylum - vertebrata
Class - pisces

ii) Frog :

Kingdom - Animalia
Phylum - Chordata
Subphylum - Vertebrata
Class - Amphibia

II) Character of shark

- 1) Respiration occurs with gills
- 2) These are cold blooded aquatic animal.

Character of frog :

- 1) These animals are strictly aquatic during laral life and perform only aquatic respiration where as they can live in water as well as on land during adult life and can perform aquatic as well as aerial respiration
- 2) Exoskeleton is absent.

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