



III. Long Answer Type Questions

Question 1. What is the importance of classification?

Answer: Classification is important because:

- (a) Classification makes the study of wide variety, of organisms, systematic and easier.
- (b) It projects a picture of all organisms and their interrelation with each other.
- (c) It provides a base for the study of other branches of biology.
- (d) It is useful in the study of ecology, which deals with; the inter-relation of an organism with their environment.
- (e) It helps to establish a hierarchy of groups of organisms.

Question 2. What are the characteristic features of mammals?

Answer: Characteristics features of mammals:

- (a) Body is covered with hair.
- (b) Skin is provided with sweat and sebaceous glands.
- (c) Heart is four-chambered.
- (d) Fertilization is internal.
- (e) Females have mammary glands to produce milk to nourish their young ones.
- (f) External ear—pinna, present.
- (g) Eyes have eye lids.
- (h) Warm-blooded.
- (i) Respiration through lungs,
- (j) Body cavity divided into- thorax and abdomen by muscular diaphragm.

Question 3. What are the characteristic features of reptiles?

Answer: The characteristics of reptiles:

- (a) Dry scaly, impermeable skin.
- (b) Respiration through lungs.
- (c) Cold-blooded
- (d) Internal fertilization.
- (e) Heart is three chambered.
- (f) Two pairs of pentadactyl limbs are present.

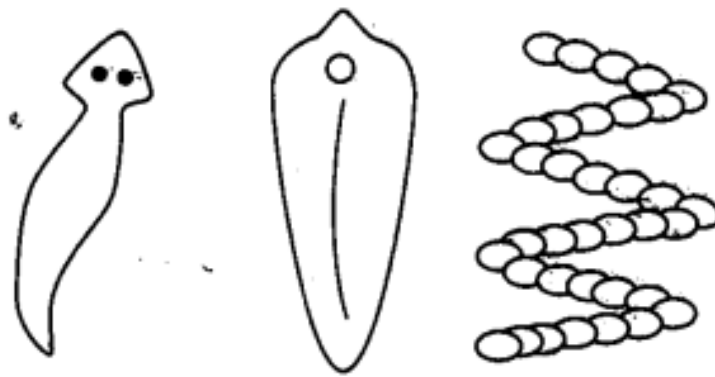
Question 4. What are the basis for classification of organisms?

Answer: The basis for classification are:

- (a) Presence or absence of nucleus.
- (b) Organisms are unicellular, or multicellular.
- (c) Level of organisation.
- (d) Autotrophic mode of nutrition or heterotrophic mode of nutrition.
- (e) Of the organisms that perform photosynthesis (Plants), their level, or organisation of the body.
- (f) Of the animals, how does the individuals body develop and organise its different parts.

Question 5. Give the characteristics of flat worms, round worms and segmented worm. Give their phylum.

Answer:



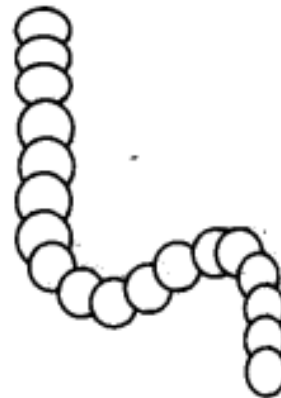
Planaria

Liverfluke

Tape worm



Ascaris



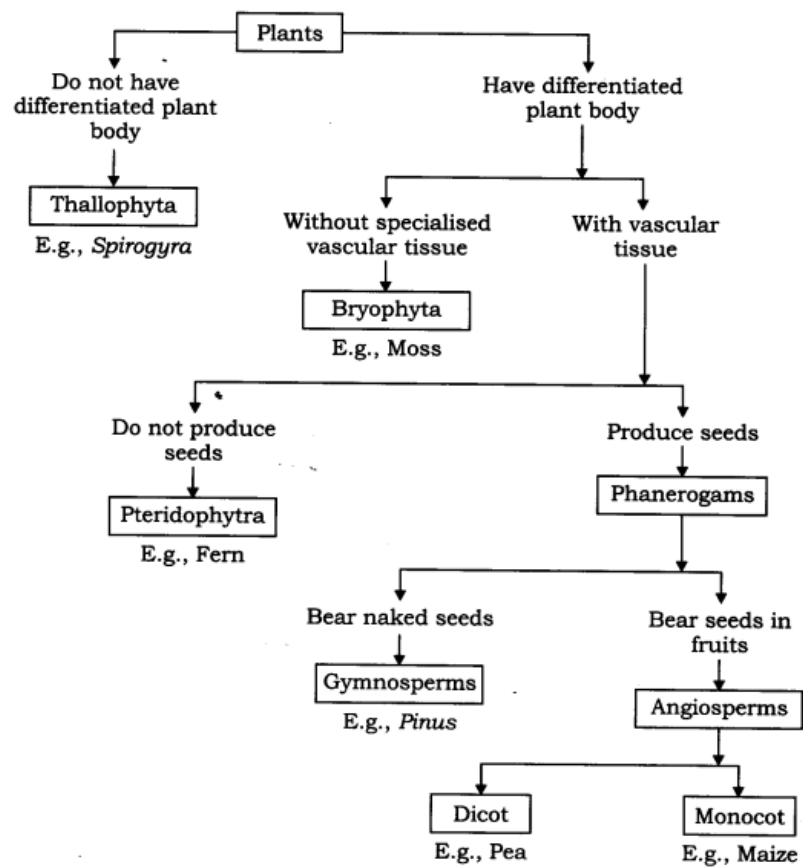
Pheretima

Types of Worms

Flat worms	Round worms	Segmented worms
Phylum—Platyhelminthes	Phylum Nematoda	Phylum Annelida
Dorsoventrally flat, i.e., flat body from top to bottom.	Body is cylindrical.	Body is segmented from head to tail.
No true body cavity.	Pseudocoelom (Sort of body (cavity).	True body cavity.
Mostly hermaphrodite, i.e., male and female sex organs present in the same individual.	Sexes are separate.	May be unisexual or bisexual.

Question 6. Give the classification of plant kingdom.

Answer:



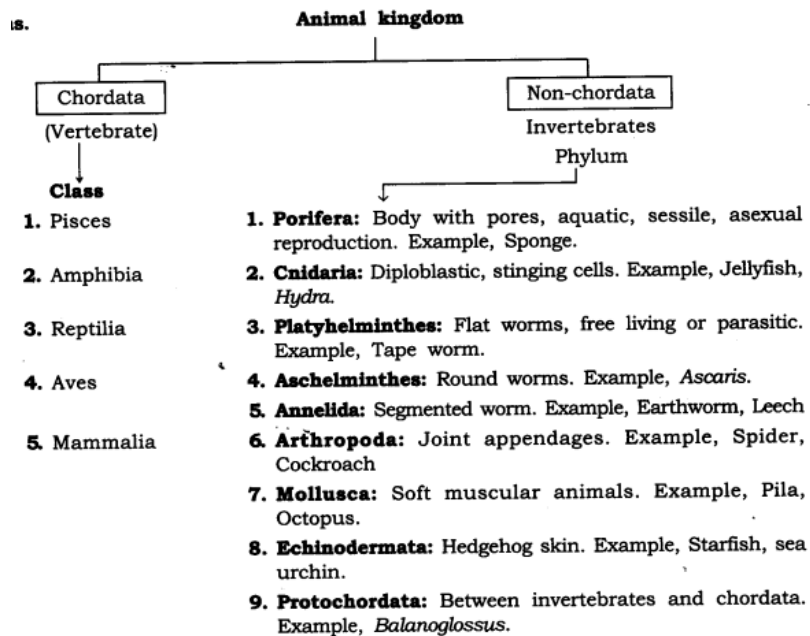
Question 7. Differentiate (5 points) between monocot and dicot plants.

Answer:

Monocot Plants	Dicot Plants
1. Fibrous root	Tap root
2. Parallel venation	Reticulate venation.
3. Seeds with one cotyledon	Seeds with two cotyledons
4. Vascular bundles are scattered.	Vascular bundles are arranged in rings.
5. Flowers are trimerous	Flowers are pentamerous, flowers or tetramerous

Question.8. Give the outline classification of animal kingdom.

Answer.



V. Activity - Based Questions

Question 1.

1. We have heard of 'desi' cows and Jersey cows.
2. Does a desi cow look like a Jersey cow?
3. Do all desi cows look alike.
4. Will we be able to identify a Jersey cow in a crowd of desi cows that don't look like each other?
5. What is the basis of our identification?

Answer:

1. Desi cow is different in size and colour.
2. Most of the desi cows look alike, not all.
3. Yes, Jersey cow can be spotted from the group.
4. Basis of identification:
5. Size, horn shape, skin colour, height, etc.

Question 2.

- Soak seeds of green gram, wheat, maize, peas and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two nearly equal halves?
- The seeds that do are the dicot seeds and the seeds that don't are then; monocot seeds.
- Now take a look at the roots, leaves and flowers of these plants.
- Are the roots, tap roots or fibrous?
- Do the leaves have parallel or reticulate venation?
- How many petals are found in the flowers of these plants?
- Can you write down further characteristics of monocots and dicots on the basis of these observations?

Answer:

Characteristics	Green gram	Wheat	Maize	Peas	Tamarind
1. Roots	Tap root	Fibrous root	Fibrous root	Tap root	Tap root
2. Cotyledon	Dicotyledon	Monocotyledon	Monocotyledon	Dicotyledon	Dicotyledon
3. Venation in leaves	Reticulate	Parallel	Parallel	Reticulate	Reticulate
4. Vascular bundle	In a ring	Not in a ring	Not in a ring	In a ring	In a ring
5. Flowers	Pentamerous	Trimerous	Trimerous	Pentamerous	Pentamerous

Question 3. Find out the names of the following animals and plants

in as many: languages as you can.

Answer: It is difficult to remember names of a species in different languages. This problem means there was a need for some system to create uniform naming convention. Hence system of nomenclature and classification was devised.

Animals	Plants
1. Frog— <i>Rana tigrina</i>	1. Touch me not— <i>Mimosa pudica</i> .
2. Human— <i>Homo Sapiens</i>	2. Neem— <i>Azadirachta indica</i> .
3. Peacock— <i>Pavo cristatus</i>	3. Maize— <i>Zea mays</i> .
4. Honeybee— <i>Apis cerena</i> , <i>Apis indica</i> .	

VI. Value - Based Questions

Question 1. Many medicinal plants every year are getting extinct. A group of students who had gone for educational trip clicked photographs of endangered plants. These photographs were used by the school laboratory to study these plants.

- (a) Name two endangered plants.
- (b) Name any one medicinal plant and give its medicinal use.
- (c) What value of students is reflected in the above act?

Answer:

- (a) Two endangered plants are:
 - (i) *Euphrasia*
 - (ii) *Ubinus rubra*
- (b) Aloe-vera. Juice of Aloe-vera is used in case of indigestion, treating skin infection etc.
- (c) Students are caring citizens, shows responsible behaviour.

Question 2. Due to global warming coral is getting diminished in all the oceans/ water bodies. People in Lakshadweep island protect their corals by not allowing people/tourist to scrape take few pieces away.

- (a) Name the phylum of coral.
- (b) What is coral made up of.
- (c) What values of people in Lakshadweep island is reflected?

Answer:

- (a) Phylum of coral is coelenterata.
- (b) Coral is made up of calcium carbonate.
- (c) People in Lakshadweep island reflect the value of-being-responsible (Citizen, respecting environment and nature).

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