CBSE Test Paper 04

Chapter 07 Diversity in living organisms

1. The feature that is not a characteristic of protochordate
   a. Bilateral symmetry and coelom
   b. Jointed legs
   c. Presence of notochord
   d. Presence of notochord
2. The taxonomic unit 'Phylum' in the classification of animals is equivalent to which hierarchial level in classification of plants
   a. Class
   b. Order
   c. Division
   d. Family
3. Which of the following has a two-chambered heart?
   a. Lizard
   b. Rohu
   c. Ostrich
   d. Toad
4. Match the following with correct response.

(1) Peacock	(a) Musca domestica
(2) Tiger	(b) Pavocristatus
(3) Housefly	(c) Ranatigrina
(4) Frog	(d) Panthera tigris

   a. 1-C, 2-B, 3-D, 4-A
   b. 1-B, 2-D, 3-A, 4-C
   c. 1-D, 2-A, 3-C, 4-B
   d. 1-A, 2-C, 3-B, 4-D
5. Identify a member of Porifera
   a. Penicillium
   b. Hydra

c. Spongilla
d. Euglena

6. Which other names can be used for an advanced organism?
7. What is lichen?
8. What is enterocoelom?
9. On what bases are plants and animals put into different categories?
10. What are parazoa?
11. Write the difference between bony and cartilaginous fishes
12. Give the important features of the division of Bryophyta.
13. How are the criteria for deciding divisions in plants different from the criteria for deciding the subgroups among animals?
14. Give the main features of coelenterates.
15. Distinguish between the five classes of vertebrates on the basis of characters like habitat, kind of exoskeleton, respiratory organs and other distinct features.

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Answers

1. (b) Jointed legs
   Explanation: Jointed leg is a characteristic feature of Arthropods.
2. (c) Division
   Explanation: Division term is used in a taxonomic hierarchy in place of phylum while classifying plants.
3. (b) Rohu
   Explanation: The members of family Pisces have two-chambered heart, one atrium and one ventricle. Rohu has a two-chambered heart out of the organism given above. The 2-chambered heart is an interesting form of the primary circulatory organ and exists primarily in animals that use gills for breathing.
   The two types of chambers are the atria- receiving chambers and ventricles- pumping chambers. the atria are the first stops for blood entering the heart, and the ventricles are the chambers that push blood out of the organ. The organization of these chambers will differ depending on the needs of the system, particularly as it relates to breathing and respiration. Animals with 2-chambered hearts are those that use gills to replenish oxygen in the blood supply.
4. (b) 1-B, 2-D, 3-A, 4-C
   Explanation: Pavo cristatus is the scientific name of peacock according to binomial nomenclature.
   The tiger is the largest cat species, most recognizable for their pattern of dark vertical stripes on reddish-orange fur with a lighter underside. The species is classified in the genus Panthera.
   The housefly Musca domestica is a fly of the suborder Cyclorrhapha. It is believed to have evolved in the Cenozoic era, possibly in the Middle East, and has spread all over the world. It is the most common fly species found in habitations.
   A frog has Rana Tigris as the scientific name is a member of a diverse and largely carnivorous group of short-bodied, tailless amphibians composing the order Anura.
5. (c) Spongilla

Explanation: Spongilla is a poriferan having pores all over its body which are meant for circulation of water through these pores into the canals inside its body. During this circulation, spongilla takes up the food and oxygen carried with the water and mixes the waste and carbon dioxide into the water for their removal.

6. Advanced organisms are also called recent or younger organisms.
7. Lichen is a composite or dual organism made of a fungus and an alga associated with the mutually beneficial association.
8. Enterocoelom is a true coelom which develops as lateral pouches from the embryonic gut, e.g., Echinodermata, Chordata.
9. Plants and animals differ in many features such as the absence of chloroplasts, the presence of cell wall, etc. But, locomotion is considered as the characteristic feature that separates animals from plants. This is because the absence of locomotion in plants gave rise to many structural changes such as the presence of a cell wall (for protection), the presence of chloroplasts (for photosynthesis) etc. Hence, locomotion is considered to be the basic characteristic as further differences arose because of this characteristic feature.
10. Parazoa includes animals whose body consist of loosely aggregated cells, e.g., Porifera.
11. In bony fishes, the skeleton is bony (made up of bones) while in cartilaginous fishes skeleton is made up of cartilage.
12. i. Bryophytes are called the amphibians of the plant kingdom.
    ii. The plant body is commonly differentiated to form a stem and leaf-like structures. But there is no specific tissue for conduction of water and other substances.
    iii. Vegetative reproduction is very common.
    iv. Sexual reproduction is of oogamous type, i.e., the male gamete is small and motile and female gamete is non-motile and large, e.g., moss, Funaria and Marchantia.
13. The criteria for deciding divisions in plants are the presence or absence of seeds and flowers, differentiation of body parts, presence or absence of specialized vascular tissues and nature of the seed. The criteria for subdivisions among animals are the presence or absence of notochord and coelom, the position of the nerve cord, gill slits, body segmentation, habitat and oviparity or viviparity.
14. i. Diploblastic animals with the tissue-level organisation in the body.
    ii. The body is radially symmetrical.
    iii. The body bears tentacles supplied with special stinging cells call cnidoblasts.
    iv. There is a cavity in the body.

v. The body is made of two layers of cells.
vi. Simple gonads without gonoducts are present.
vii. Reproduction is usually asexual (budding) in polyp form and sexual in medusae form.
viii. They show polymorphism
Example: Hydra, Obelia and jellyfish.

15.

	Pisces	Amphibia	Reptilia	Aves	Mammals
1. Habitat	Aquatic	Terrestrial and aquatic	Terrestrial	Arboreal	Terrestrial, aquatic and arboreal
2. Exoskeleton	Slimy scales	Absent	Dry and scaly	Feathers, claws	Hair, nails, etc.
3. Respiratory organs	Gills	Gills, lungs and skin	Lungs	Lungs	Lungs
4. Body temperature	Cold blooded	Cold-blooded	Cold blooded	Warm-blooded	Warm-blooded
5. Heart	2-chambered	3-chambered	3-chambered	4-chambered	4-chambered
6. Locomotory organs	Fins	Limbs	Limbs; but absent in snakes.	Wings and Limbs	Limbs
7. Other	The body is streamlined. They are oviparous.	They have webbed feet. Eggs are laid in water and larvae are aquatic.	They are oviparous and some are viviparous, e.g., lizard and snake. Development is external	The body is covered by feathers and forelimbs are modified into wings. Their bones are hollow.	Presence of mammary glands. There are hairs on the body and external pinna is also present. They are viviparous.