

NCERT Exemplar Solutions of Class 11 Biology – Chapter: 1 The Living World.**MULTIPLE CHOICE QUESTIONS**

1. As we go from species to kingdom in a taxonomic hierarchy, the number of common characteristics:

- a. Will decrease
- b. Will increase
- c. Remain the same
- d. May increase or decrease

Solution:

Option (a) is the answer.

In taxonomic hierarchy, as we move from species (lowest level) to kingdom (highest level), organisms become more diverse. Species contains organisms with maximum similarities, while kingdom contains organisms with minimum common characteristics. Therefore, the number of common characteristics decreases as we go up the hierarchy.

2. Which of the following 'suffixes' used for units of classification in plants indicates a taxonomic category of 'family':

- a. –Ales
- b. –Onae
- c. –Aceae
- d. –Ae

Solution:

Option (c) is the answer.

In botanical nomenclature, different suffixes are used for different taxonomic categories:

- Family: -aceae (e.g., Solanaceae)
- Order: -ales (e.g., Polymoniales)
- Class: -ae
- Division: -phyta

3. The term 'systematics' refers to:

- a. Identification and study of organ systems of plants and animals
- b. Identification and preservation of plants and animals
- c. Diversity of kinds of organisms and their relationship
- d. Study of habitats of organisms and their classification

Solution:

Option (c) is the answer.

Systematics is the scientific study that deals with the diversity of organisms and their evolutionary relationships. It encompasses the identification, nomenclature, and classification of organisms based on their similarities and differences.

4. Genus represents:

- a. An individual plant or animal
- b. A collection of plants or animals

c. A group of closely related species of plants or animals

d. None of these

Solution:

Option (c) is the answer.

Genus is a taxonomic category that groups together closely related species. For example, the genus *Solanum* includes species like *Solanum tuberosum* (potato) and *Solanum melongena* (brinjal).

5. The taxonomic unit 'Phylum' in the classification of animals is equivalent to which hierarchical level in classification of plants:

a. Class

b. Order

c. Division

d. Family

Solution:

Option (c) is the answer.

In taxonomic hierarchy, 'Phylum' (used for animals) and 'Division' (used for plants) represent the same hierarchical level. Both come after Class and before Kingdom in the classification system.

6. Botanical gardens and zoological parks have:

a. Collection of endemic living species only

b. Collection of exotic living species only

c. Collection of endemic and exotic living species

d. Collection of only local plants and animals

Solution:

Option (c) is the answer.

Botanical gardens and zoological parks maintain collections of both endemic species (native to a particular region) and exotic species (non-native species from other regions) for conservation, research, and educational purposes.

7. A taxonomic key is one of the taxonomic tools in the identification and classification of plants and animals. It is used in the preparation of:

a. Monographs

b. Flora

c. Both a & b

d. None of these

Solution:

Option (c) is the answer.

Taxonomic keys are used in preparing both monographs (detailed study of a single taxon) and flora (systematic account of plants in a particular region). Keys provide a systematic way to identify organisms based on contrasting characteristics.

8. All living organisms are linked to one another because:

- a. They have the common genetic material of the same type
- b. They share common genetic material but to varying degrees
- c. All have common cellular organization
- d. All of the above

Solution:

Option (b) is the answer.

All living organisms share common genetic material (DNA/RNA) but to varying degrees. This indicates common evolutionary origin, but the degree of similarity varies depending on evolutionary relationships.

9. Which of the following is a defining characteristic of living organisms?

- a. Growth
- b. Ability to make sound
- c. Reproduction
- d. Response to external stimuli

Solution:

Option (d) is the answer.

Response to external stimuli (consciousness/sensitivity) is a universal defining characteristic of all living organisms. While growth and reproduction are important, not all living organisms show these at all times, but all living organisms respond to their environment.

10. Match the following and choose the correct option:

Column I

- A. Family
- B. Kingdom
- C. Order
- D. Species
- E. Genus

Column II

- i. tuberosum
 - ii. Polymoniales
 - iii. Solanum
 - iv. Plantae
 - v. Solanaceae
- a. A-v, B-iv, C-ii, D-i, E-iii
 - b. A-iv, B-iii, C-v, D-ii, E-i
 - c. A-iv, B-iii, C-v, D-i, E-ii
 - d. A-iv, B-iii, C-ii, D-v, E-i

Solution:

Option (a) is the answer.

The correct matching based on taxonomic hierarchy:

- Family → Solanaceae (suffix -aceae indicates family)

- Kingdom → Plantae (highest taxonomic category)
- Order → Polymoniales (suffix -ales indicates order)
- Species → tuberosum (specific epithet)
- Genus → Solanum (generic name)

