

The Living World

1.1 What is Living?

- Which one of the following aspects is an exclusive characteristic of living things?
 - Isolated metabolic reactions occur *in vitro*
 - Increase in mass from inside only
 - Perception of events happening in the environment and their memory.
 - Increase in mass by accumulation of material both on surface as well as internally.

(Mains 2011)
- The living organisms can be unexceptionally distinguished from the non-living things on the basis of their ability for
 - interaction with the environment and progressive evolution
 - reproduction
 - growth and movement
 - responsiveness to touch.

(2007)
- Biological organisation starts with
 - cellular level
 - organismic level
 - atomic level
 - submicroscopic molecular level.

(2007)

1.2 Diversity in the Living World

- Select the correctly written scientific name of Mango which was first described by Carolus Linnaeus.
 - Mangifera Indica*
 - Mangifera indica* Car. Linn.
 - Mangifera indica* Linn.
 - Mangifera indica*

(NEET 2019)
- Which of the following is against the rules of ICBN?
 - Hand written scientific names should be underlined.
 - Every species should have a generic name and a specific epithet.
 - Scientific names are in Latin and should be italicized.

- Generic and specific names should be written starting with small letters.

(Odisha NEET 2019)

- Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature?
 - The names are written in Latin and are italicised.
 - When written by hand the names are to be underlined.
 - Biological names can be written in any language.
 - The first word in a biological name represents the genus name and the second is a specific epithet.

(NEET-I 2016)
- ICBN stands for
 - International Code of Botanical Nomenclature
 - International Congress of Biological Names
 - Indian Code of Botanical Nomenclature
 - Indian Congress of Biological Names.

(2007)
- Biosystematics aims at
 - the classification of organisms based on broad morphological characters
 - delimiting various taxa of organisms and establishing their relationships
 - the classification of organisms based on their evolutionary history and establishing their phylogeny on the totality of various parameters from all fields of studies
 - identification and arrangement of organisms on the basis of their cytological characteristics.

(2003)

- The book '*Genera Plantarum*' was written by
 - Engler and Prantl
 - Bentham and Hooker
 - Bessey
 - Hutchinson.

(1999)

10. Linnaeus is credited with
 (a) binomial nomenclature
 (b) theory of biogenesis
 (c) discovery of microscope
 (d) discovery of blood circulation. (1993)
11. Linnaeus evolved a system of nomenclature called
 (a) monomial (b) vernacular
 (c) binomial (d) polynomial. (1990)
12. The term "New Systematics" was introduced by
 (a) Bentham and Hooker
 (b) Linnaeus
 (c) Julian Huxley
 (d) A.P. de Candolle. (1988)

1.3 Taxonomic Categories

13. Match column I with column II for housefly classification and select the correct option using the codes given below.

Column I

Column II

- | | |
|------------------------------------|-----------------|
| A. Family | (i) Diptera |
| B. Order | (ii) Arthropoda |
| C. Class | (iii) Muscidae |
| D. Phylum | (iv) Insecta |
| (a) A-(iii), B-(i), C-(iv), D-(ii) | |
| (b) A-(iii), B-(ii), C-(iv), D-(i) | |
| (c) A-(iv), B-(iii), C-(ii), D-(i) | |
| (d) A-(iv), B-(ii), C-(i), D-(iii) | (NEET-II 2016) |

14. The common characteristics between tomato and potato will be maximum at the level of their
 (a) family (b) order
 (c) division (d) genus. (Karnataka NEET 2013)
15. Which one of the following organisms is scientifically correctly named, correctly printed according to the International Rules of Nomenclature and correctly described?
 (a) *Musca domestica* - the common house lizard, a reptile
 (b) *Plasmodium falciparum* - a protozoan pathogen causing the most serious type of malaria.
 (c) *Felis tigris* - the Indian tiger, well protected in Gir forests.
 (d) *E.coli* - full name *Entamoeba coli*, a commonly occurring bacterium in human intestine. (Mains 2012)
16. Which one of the following animals is correctly matched with its particular taxonomic category?
 (a) Tiger - *tigris*, species

- (b) Cuttlefish - mollusca, class
 (c) Humans - primata, family
 (d) Housefly - *Musca*, order (2011)

17. Species are considered as
 (a) real basic units of classification
 (b) the lowest units of classification
 (c) artificial concept of human mind which cannot be defined in absolute terms
 (d) real units of classification devised by taxonomists. (2003)
18. Which of the following is less general in characters as compared to genus?
 (a) Species (b) Division
 (c) Class (d) Family (2001)
19. 'Taxon' is the unit of a group of
 (a) order (b) taxonomy
 (c) species (d) genes. (1996)
20. Sequence of taxonomic categories is
 (a) class-phylum-tribe-order-family-genus-species
 (b) division-class-family-tribe-order-genus-species
 (c) division-class-order-family-tribe-genus-species.
 (d) phylum-order-class-tribe-family-genus-species. (1992)
21. The term phylum was given by
 (a) Cuvier (b) Haeckel
 (c) Theophrastus (d) Linnaeus. (1992)
22. A group of plants or animals with similar traits of any rank is
 (a) species (b) genus
 (c) order (d) taxon. (1992, 1991)
23. A taxon is
 (a) a group of related families
 (b) a group of related species
 (c) a type of living organisms
 (d) a taxonomic group of any ranking. (1992, 1990)
24. Basic unit or smallest taxon of taxonomy/classification is
 (a) species (b) kingdom
 (c) family (d) variety. (1990)
25. Static concept of species was put forward by
 (a) de Candolle (b) Linnaeus
 (c) Theophrastus (d) Darwin. (1988)

1.4 Taxonomical Aids

26. Match the items given in column I with those in column II and select the correct option given below.

Column I

Column II

- | | |
|--------------|--|
| A. Herbarium | (i) It is a place having a collection of preserved plants and animals. |
| B. Key | (ii) A list that enumerates methodically all the species found in an area with brief description aiding identification. |
| C. Museum | (iii) Is a place where dried and pressed plant specimens mounted on sheets are kept. |
| D. Catalogue | (iv) A booklet containing a list of characters and their alternates which are helpful in identification of various taxa. |

- | A | B | C | D |
|-----------|------|-------|------|
| (a) (i) | (iv) | (iii) | (ii) |
| (b) (iii) | (ii) | (i) | (iv) |
| (c) (ii) | (iv) | (iii) | (i) |
| (d) (iii) | (iv) | (i) | (ii) |

(NEET 2018)

27. The label of a herbarium sheet does not carry information on
(a) date of collection (b) name of collector
(c) local names (d) height of the plant.
(NEET-II 2016)

28. Which one of the following is not a correct statement?
(a) A museum has collection of photographs of plants and animals.
(b) Key is a taxonomic aid for identification of specimens.
(c) Herbarium houses dried, pressed and preserved plant specimens.
(d) Botanical gardens have collection of living plants for reference.
(NEET 2013)

29. One of the most important functions of botanical gardens is that
(a) they provide a beautiful area for recreation
(b) one can observe tropical plants there
(c) they allow *ex situ* conservation of germplasm
(d) they provide the natural habitat for wild life.
(2005)

ANSWER KEY

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (c) | 2. (d) | 3. (d) | 4. (c) | 5. (d) | 6. (c) | 7. (a) | 8. (c) | 9. (b) | 10. (a) |
| 11. (c) | 12. (c) | 13. (a) | 14. (a) | 15. (b) | 16. (a) | 17. (a) | 18. (a) | 19. (b) | 20. (c) |
| 21. (b) | 22. (d) | 23. (d) | 24. (a) | 25. (b) | 26. (d) | 27. (d) | 28. (a) | 29. (c) | |