

Chapter 01

The Living World



RANKER'S STUFF



Q.1 Choose the incorrect match.

- (1) Order – a group of related families
- (2) Genus – a group of related species
- (3) Class – a group of related orders
- (4) Division – a group of related phyla

Q.2 Hierarchy of biological organisation in living beings can be

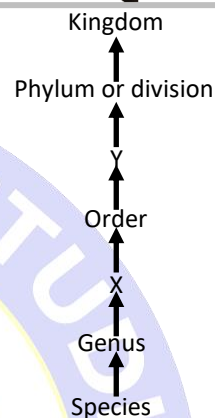
- (1) Subcellular → Cellular → Individual → Population
- (2) Cell → Tissue → Organ → Organ system → Individual
- (3) Organ system → Tissue → Cellular → Organ system → Population
- (4) Organ system → Tissue → Cellular → Tissue system → Population

Q.3 Select true statements from the following and choose the right answer from the options given below.

- I. Human's scientific name is *Homo sapiens*.
- II. Genera Plantarum is written by John Ray.
- III. Highest taxonomic category is division.
- IV. Taxonomic group of any rank is taxon.
- V. A group of closely related species of an organism represents genus.
- VI. The term 'Systematics' was coined by de Candolle.

- (1) II, III, IV and VI (2) I, III, V and VI
- (3) I, IV and V (4) II, III and VI

Q.4 Observe the gradation of taxonomic categories and identify the missing categories according to the statement the given below.



- I. X is a group of related species.
- II. Y is a group of related divisions.
- III. X is a group of related genera.
- IV. Y is a group of related kingdoms.
- V. Y is a group of related orders.

The correct options are

- (1) II and IV (2) I and II
- (3) I, II, IV and V (4) III and V

Q.5 In the names *Mangifera indica*, *Solanum tuberosum* and *Panthera leo*, the words indica, tuberosum and leo represent :

- (1) Generic name (2) Generic epithet
- (3) Class name (4) Specific epithet

Q.6 Why the determination of relationship becomes more complex in higher taxonomic categories ?

- (1) Number of common characters goes on decreasing in lower taxa
- (2) Number of common characters goes on decreasing in higher taxa
- (3) Because classification itself is very difficult process
- (4) Number of common characters goes on increasing in higher taxa

Q.7 Which of the following is not a correct statement?

- (1) Order is the assemblage of families which exhibit a few similar characters in comparison to families
- (2) Convolvulaceae and Solanaceae families are included in order polymoniales mainly on the basis of floral characters
- (3) In hierarchy both broad categories and sub categories are used
- (4) Class is a sub category which includes related order

Q.8 Find the odd one.

- (1) The local names of plants and animals vary from place to place, even within a country
- (2) If we were to visit a dense forest, we would probably see a much greater number and kinds of living organisms in it.
- (3) Biodiversity refers the number and types of organisms present on earth.
- (4) Scientific name assigned to each known species varies country to country worldwide

Q.9 Find the correct statement from the followings:-

- (A) Each rank or taxon, in fact represent a unit of classification
- (B) Every step in taxonomic hierarchy represents a rank or category
- (C) A taxonomic category is a part of overall taxonomic hierarchy
- (D) Taxonomic categories are not distinct biological entities but morphological aggregates

- (1) A, B & D are correct
- (2) A, C & D are correct
- (3) A, B & C are correct
- (4) Only A and B are correct

Q.10 Consider the following statements.

- I. In binomial nomenclature, the name of an organism consists of two components.
- II. The first name of organism represents the specific name and the second name is generic name.

Choose the correct option.

- (1) I is true, but II is false
- (2) Both I and II are false
- (3) I is false, but II is true
- (4) Both I and II are true

Q.11 Select the correct sequence of various taxonomic categories from higher to lower rank:

- (1) Species → Genus → Family → Order → Class → Phylum
- (2) Species → Genus → Family → Order → Division → Class
- (3) Division → Class → Order → Family → Genus → Species
- (4) Phylum → Order → Class → Family → Genus → Species

Q.12 Find the incorrect statement:

- (a) Higher the category, less is the difficulty in determining relationship to other taxa.
 - (b) Diptera belongs to class Animalia
 - (c) Class Diptera includes Musca
 - (d) Carnivora includes Tiger, Cat, Dog.
- (1) a, b, c, d
 - (2) Only b, c
 - (3) a,b,c
 - (4) Only d

Q.13 Find the incorrect one, regard universal rules of nomenclature,

- (1) Biological names are generally in Latin and written in italics
- (2) The first word in a biological name represents the species while the second component denotes the genus.
- (3) Both the words in a biological name, when handwritten, are separately underlined.
- (4) All the above statements are incorrect.

Q.14 Read the following statements:

- (i) Yeast and *Hydra* can reproduce asexually by budding
- (ii) Fungi multiply and spread easily due to the millions of asexual spores they produce
- (iii) In *Planaria* we observe true regeneration
- (iv) Fungi, the filamentous algae, the protonema of mosses, all easily multiply by fragmentation
- (v) In unicellular organism reproduction and growth are exclusive events and not inclusive

BIOLOGY

How many of the above statements are correct?

- (1) Four (2) Two (3) Three (4) One

Q.15 Find the odd one.

- (1) Monkey, gorilla and gibbon are placed in order: Primata.
- (2) Classes comprising animals like fishes, amphibians, reptiles, birds along with mammals constitute the next higher category called phylum.
- (3) Taxonomists have also developed sub-categories in the taxonomic hierarchy to facilitate more sound and scientific placement of various taxa.
- (4) Each category, referred to as unit of classification, in fact, represents a rank and is commonly termed as family.

Q.16 Match the column A and Column B

Column-A

- (a) Man
(b) Housefly
(c) Mango
(d) Wheat

Column-B

- (i) Diptera
(ii) Sapindales
(iii) Primata
(iv) Poales

- (1) (a)-(iii), (b)-(i), (c)-(ii), (d) (iv)
(2) (a)-(i), (b)-(ii), (c)-(iii), (d) (iv)
(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
(4) (a)-(ii), (b)-(i), (c)-(iii), (d)- (iv)

Q.17 Find the incorrect one.

- (1) We sense our environment through our sense organs.
- (2) Photoperiod affects reproduction in seasonal breeders, both plants and animals.
- (3) Increase in mass and increase in number of individuals are twin characteristics of growth.
- (4) Metabolic reactions cannot be demonstrated outside the body in cell-free systems

Q.18 Arrange the following in ascending order of similar characteristics.

I. Family II. Genus III. Class IV. Species

- (1) Class < Family < Genus < Species
- (2) Family < Class < Genus < Species
- (3) Species < Genus < Family < Class
- (4) Class < Genus < Species < Family

Q.19 Match the following columns.

Column I	Column II
A. Family	1. <i>tuberosum</i>
B. Kingdom	2. Polymoniales
C. Order	3. <i>Solanum</i>
D. Species	4. Plantae
E. Genus	5. Solanaceae

- | | A | B | C | D | E |
|-----|---|---|---|---|---|
| (1) | 5 | 4 | 2 | 1 | 3 |
| (2) | 5 | 4 | 1 | 3 | 2 |
| (3) | 1 | 2 | 3 | 5 | 4 |
| (4) | 2 | 1 | 3 | 4 | 5 |

Q.20 Match the column I and column II

Column -I

- (a) Felidae
(b) Gorilla
(c) Petunia
(d) Canidae

Column-II

- (i) Solanaceae
(ii) Dog
(iii) Cat
(iv) Primata

- (1) (a)-(iii), (b)-(i), (c)-(ii), (d) (iv)
(2) (a)-(i), (b)-(ii), (c)-(iii), (d) (iv)
(3) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(4) (a)-(ii), (b)-(i), (c)-(iii), (d)- (iv)

Q.21 Read the statements given below and identify the incorrect statement.

- (1) Scientific names favour multiple naming for the same kind of an organism
- (2) Scientific name is used all over the world
- (3) Scientific names are often descriptive and tell us some important characters of an organisms
- (4) Scientific names indicate relationship between species

Q.22 Which of the following are the defining features of life forms ?

- (1) Metabolism, Reproduction
- (2) Cellular organization, consciousness
- (3) External growth, Reproduction
- (4) Consciousness, external growth

Directions: (Q.23 To Q.27) – In each of the following questions, a statement of Assertion is given followed by the corresponding statements of Reason. Of the statements, mark the correct answer as

- (A) Both Assertion and Reason are true and Reason is a correct explanation of Assertion
- (B) Both Assertion and Reason are true, but Reason is not the correct explanation of the Assertion
- (C) Assertion is true, but Reason is false
- (D) Assertion is false, but Reason is true

Q.23 Assertion: Scientific names are printed in italics.

Reason: The name of author is written in abbreviated form after the specific epithet and is printed in Romans.

- (1) A (2) B (3) C (4) D

Q.24 Assertion: Each taxonomic group can have two or more names.

Reason: Name should be short, precise and easy to pronounce.

- (1) A (2) B (3) C (4) D

Q.25 Assertion: Carolus Linnaeus was a Swedish naturalist.

Reason: Linnaeus is called Father of Taxonomy.

- (1) A (2) B (3) C (4) D

Q.26 Assertion: The earliest classification were based on the 'uses' of various organisms.

Reason : In early days, human beings needed to find sources for their basic needs of food, clothing and shelter.

- (1) A (2) B (3) C (4) D

Q.27 Assertion: Families are characterized on the basis of both vegetative and reproductive features of plant species.

Reason: Among plants for example, three different genera *Solanum*, *Petunia* and *Datura* are placed in the family: Fabaceae.

- (1) A (2) B (3) C (4) D

Direction (Q.28-Q.31): In the light of the above statements, choose the correct answer from the options given below:

- (A) Statement I is correct but statement II is incorrect
- (B) Statement II is correct but statement I is incorrect
- (C) Both statements I and II are correct
- (D) Both statements I and II are incorrect

Q.28 Statement-I: The sum total of all chemical reactions occurring in living body is called metabolism

Statement-II: The patient is brain-dead and has no self-consciousness. Such patients never come back to life. They are considered living

- (1) A (2) B (3) C (4) D

Q.29 Statement-I: There are many numbers and types of organisms present on earth, this is referred as Biodiversity

Statement-II: All living organisms can be classified into different taxa on the basis of characteristics, this process of classification is called Taxonomy

- (1) A (2) B (3) C (4) D

Q.30 Statement-I: A group of individuals organisms with fundamental similarities is called species.

Statement-II: Each genus may have one or more than one specific epithets representing different organisms.

- (1) A (2) B (3) C (4) D

Q.31 Statement-I: The scientific name of lion is written as *Panthera leo*.

Statement-II: The first word denoting the genus starts with a capital letter while the specific epithet starts with a small letter.

- (1) A (2) B (3) C (4) D

ANSWER KEY

RANKER'S STUFF

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	4	2	3	4	4	2	4	4	3	1	3	3	2	1	4
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	1	4	3	1	3	1	2	2	4	2	1	3	3	3	3
Que.	31														
Ans.	3														

