

Converting the Pdf format file to Text format file

In [105]:

```
# importing required modules
import PyPDF2

# creating a pdf file object
pdfFileObj = open('XQF.pdf', 'rb')

# creating a pdf reader object
pdfReader = PyPDF2.PdfFileReader(pdfFileObj)
with open('sample.txt', 'w') as text_output:
    for i in range(pdfReader.numPages):

        # creating a page object
        pageObj = pdfReader.getPage(i)

        # extracting text from page
        data=pageObj.extractText()

        #writing the data to a text file(sample.txt)
        text_output.write(data)

# closing the pdf file object
pdfFileObj.close()
```

Opening the text file created above

In [107]:

```
# opening the text file created
f=open('sample.txt','r+')

#creating an instance s which holds all the content of the text file( sample.txt)
s=f.read()
```

Printing the instance s (just to debug)

In [110]:

```
for line in s:
    print(line, end = '')
```

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SolutionsSECTION - A
Objective Type Questions
1.Which of the following is not a result of cell division?
(1)Growth
(2)Repair
(3)M
etabolism(4)
Reproduction
Sol.Answer (3)
Growth, repair and reproduction are the result of cell division.
2.Mark the
incorrect pair.
(1)Hydra - Budding(2)Flatworm - Regeneration
(3)Amoeba
-Fragmentation
(4)Y
east - Budding
Sol.Answer (3)

Amoeba divides by binary fission. Which of the following is incorrect for reproduction? (1) Unicellular organisms reproduce by cell division

- (2) Reproduction is a characteristic of all living organisms
 - (3) In unicellular organisms, reproduction and growth are linked together
 - (4) Non-living objects are incapable of reproducing
- Sol. Answer (2)

Reproduction is absent in sterile organism like mule, hinny, sterile/infertile human couples, worker bees etc.

4. Mark the incorrect statement w.r.t. metabolism.

- (1) Microbes exhibit the metabolism
 - (2) It is the property of all living forms
 - (3) The metabolic reactions can be demonstrated in-vitro
 - (4) It is not a defining feature of life forms
- Sol. Answer (4)

Metabolism is a defining feature. Chapter 1 The Living World

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5. Non-living objects exhibit/show

- (1) Property of self-replication
- (2)

Evolution (3) Self-regulating interactive systems

(4)

Reversible growth

Sol. Answer (4)

Non-living objects do not show-

(a) Property of self replication

(b) Evolution

(c) Self-regulating interactive systems

6. Which statement is false about the growth shown by non-living objects?

- (1) The growth occurs from outside
- (2) The growth is reversible
- (3) The growth is due to the accumulation of material on the surface
- (4) The growth is intrinsic

Sol. Answer (4)

The growth shown by non-living objects is extrinsic.

7. Local names of various plants and animals

- (1) Help in recognizing organisms worldwide
- (2) Are used universally
- (3) Are specific and distinct names
- (4) Vary from place to place

Sol. Answer (4)

Local names of various plants and animals are non-universal. 8. Which of the following is incorrect

w.r.t. Binomial nomenclature?

- (1) Biological names are generally in Latin
- (2) The first word in a biological name represents the genus

(3) Biological names are printed in italics

(4) The first word of the genus starts with a small letter

Sol. Answer (4)

In Binomial nomenclature, genus always starts with a capital letter.

9. What do A, B and C represent in the given scientific name respectively?

Mangifera

indica Linn CBA

- (1) Generic name, specific name and author's name
- (2) Specific name, generic name and author's name

(3) Author's name, specific name and generic name

(4) Generic name, author's name and specific name

Sol. Answer (3)

In binomial nomenclature, 1st name is genus, 2nd is species epithet and 3rd is author's name (optional).

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10. Which of the following is

incorrect regarding scientific names? (1) These are also known as common names

(2) These ensure that each organism has only one name

(3) These have two components - the generic name and specific epithet

(4) These are universally accepted names

Sol. Answer (1)

Scientific names are given by biologists based upon agreed rules and criteria.

11. According to binomial nomenclature, every living organism has

(1) Two scientific names with single component

(2) One scientific name with two components

(3) Two names, one Latin and other common

(4) One common name with three components

Sol. Answer (2)

Every living organism has one scientific name with two components. 12. Which of the following is incorrect w.r.t. Species?

(1) A group of individual organisms with fundamental similarities

(2) Two different species breed together to produce fertile offsprings

(3) Human beings belong to the species

sapiens

(4) Panthera has many specific epithets as tigris, leo and pardus

Sol. Answer (2)

Two different species cannot breed together to produce fertile offsprings.

13. Taxonomy deals with

(1) Development of zoological parks

(2) Study of kinds and diversity of microorganisms only

(3) Evolutionary relationships between organisms

(4) Classification of diverse organisms in different taxa

Sol. Answer (4)

Taxonomy is classification of diverse organisms in different taxa.

14. Which of the following features are not shown by scientific names of various organisms?

(1) They consist of two components

(2) They have Latin origin

(3) They always have "linn" abbreviation at the end of second component

(4) They are printed in italics

Sol. Answer (3)

In scientific names author's name is optional and written in abbreviated form.

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15. The correct sequence of taxonomic study of a newly discovered organism is

(1) First classification then identification, nomenclature and characterization

(2) First identification then classifying organism and then characterizations and nomenclature

(3) First nomenclature then characterization, identification and classification

(4) First characterisation then identification and classification and then nomenclature

Sol. Answer (4)

Correct sequence of taxonomic study is

Characterisation Identification Nomenclature

Classification (First)

(Last)

16. Which one of the following statements given below is not included in universal rules of nomenclature?

(1) Generic names and specific epithet should be in Latin words

(2) Generic name is immediately followed by name of taxonomists who described it firstly

(3) Generic name must begin with capital letter

(4) All letters of the specific name must be small

Sol. Answer (2)

Fact based 17. Find the correct sequence of taxonomic categories.

(1) Division

Kingdom

Genus Order (2) Species

Genus

Family Order (3) Class

Order

Family Division

(4) Kingdom

Class Species

Order Sol. Answer (2)

Correct sequence of taxonomic categories.

Species

Genus Family Order 18. Which of the following is a class?

(1) Mammalia

(2) Sapindales

(3) Primate

(4) Poales

Sol. Answer (1)

Mammalia -

Class Sapindales -

Order Primata -

Order Poales -

Order 19. _____ is the assemblage of families which exhibit a few similar characters.

(1) Class

(2)

Genus (3) S

pecies (4)

Order Sol. Answer (4)

Species

Genus

Family

Order Class Division Kingdom 20. Fill in the blanks A and B.

Kingdom Phylum [A]

Order

[B] (1) A - Genus; B - Species

(2) A - Family; B - Class

(3) A - Class; B - Family

(4) A - Species; B - Division

Sol. Answer (3)

Fact based 4747

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21. Match the following columns

Column-I Column-II a. Binomial nomenclature

(i) Carolus Linnaeus

b. Generic name

e (ii) Muscidae

c. Family

(iii) Panthera

d. Systema naturae

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

(i), c(ii), d(i)

Sol. Answer (2)

Binomial nomenclature - Carolus Linnaeus

Generic name - Panthera Family - Muscidae

Systema naturae -

Carolus Linnaeus

22. Genus is a category which comes in between the

(1) Family and Species (2) Class and Family (3)

Order and Phylum (4) Kingdom and Class

Sol. Answer (1)

Species

Genus

Family

23. Three different genera

Solanum

,

Petunia and Datura are placed in the family (1) Poaceae

(2) Anacardiaceae

(3) Hominidae

(4) Solanaceae

Sol. Answer (4)

Genera - Solanum

, Petunia, Datura

Family - Solanaceae 24. Cat and dog are placed in which families respectively

(1) Felidae and Hominidae

(2) Muscidae and Felidae

(3) Poaceae and Canidae

(4) Felidae and Canidae

Sol. Answer (4)

Animal - Cat Dog

Family - Felidae

Canidae

25. Which one of the following criteria is/are essential and form the basis of classical taxonomic studies?

(1) Ecological information of organisms (2)

Development process

(3) External and internal structure

(4) External structure

Sol. Answer (4)

Basis of modern taxonomic studies.

External and internal structure

Developmental process

Ecological information of organisms 4848

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26. In which of the following pair of category, greater is the difficulty of determining the relationship to other taxa

at the same level, thus the problem of classification becomes more complex?

(1) Genus and species

(2) Tribe and genus

(3) Division and ph

ylum (4) S

pecies and family

Sol. Answer (3)

Division and Phylum are at very next higher rank and they have lower number of similarity 27. In taxonomic hierarchy, which of the following group of taxa will have less number of similarities as compared

to other?

(1) Solanaceae, Convolvulaceae and Poaceae (2)

Polymoniales, Poales and Sapindales (3) Solanum,

Petunia

and Atropa (4) Leopard, tiger and lion

Sol. Answer (2)

(1) Solanaceae, Convolvulaceae, Poaceae - Family

(2) Polymoniales,

Poales, Sapindales - Order

(3) Solunum, Petunia

and
Atropa - Genus(4) Leopard , Tiger, Lion - Species

Less number of similarity will be in order.

28. Taxonomic categories which come lower to the rank of class are

- (1) Order, phylum, family, species
- (2) Order, family, genus, species
- (3) Division, family, order, genus
- (4) Order, division, genus, species

Sol. Answer (2)

Class

Order

Family

Genus

Species

Lower to Class Rank

29. Two animals A and B have similar morphological features and are fundamentally similar with each other, they

must be treated as (1) One biological species

- (2) Two distinct species
- (3) One biological genera
- (4) Two distinct genera

Sol. Answer (1)

Morphological feature

Similar

Fundamentally

One biological species

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30. A place used for storing, preservation and exhibition of both plants and animals is known as

- (1) Herbaria
- (2)

Botanical Garden (3) Museum

(4) Zoos

Sol. Answer (3)

Storing, preservation

& exhibition

Plants

& Animals

Museum

31. Herbarium consists of

- (1) Collection of living plants
- (2) Collection of plant and animal specimens preserved in the containers
- (3) Preserved insects in boxes after collecting killing and pinning
- (4) Herbarium sheets carrying dried, pressed and preserved plant specimens on them

Sol. Answer (4)

Herbarium consists of dried, pressed and preserved plant specimens.

32. National Botanical Research Institute consists of

- (1) Dried and preserved plant specimens only
- (2) Collection of preserved plant and animal specimens

(3) Flora, manuals and monographs only

(4) Collection of living plants for reference

Sol. Answer (4)

NBRI is a botanical garden, collection of living plants for reference.

33. Key is

- (1) A form of herbaria
- (2) A type of educational institute

(3) A taxonomical aid used for identifying various organisms

(4) Taxonomic category

Sol. Answer (3)

Key, a taxonomical aid, used for classification.

34. In zoological parks, animals are

- (1) Kept and preserved in containers or jars
- (2) Preserved in boxes after killing
- (3) Kept in protected environments under human care
- (4) Stuffed and then preserved

Sol. Answer (3)

Zoological parks, animals are kept in protected environments under human care.³⁵ For identifying organisms through key usually

- (1) Two contrasting characters are used
- (2) One similar character is studied
- (3) Two or more similar characters are used
- (4) Only one statement called lead is used

Sol. Answer (1)

Key, a taxonomical aid, has two contrasting characters.

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SECTION - B Objective Type Questions

1. Select correct statement for growth as one of the characteristic of living organisms.

- (1) Growth by increase in mass is a defining property of prokaryotic organisms only
- (2) Non-living objects do not show growth by increase in mass of body

(3) Intrinsic growth is a characteristic of all living organisms

(4) Growth can be extrinsic or intrinsic for multicellular organisms

Sol. Answer (3)

Intrinsic growth is a characteristic of all living organisms while in non-living thing extrinsic growth is possible/occurred. 2. Reproduction is synonymous with growth in

- (1) Most of the fungi and Planaria
- (2) Desmids, diatoms and protozoans
- (3) Cyanobacteria, fungi and mosses
- (4) Mosses, algae and hydra

Sol. Answer (2)

Reproduction is synonymous with growth in unicellular organisms like- desmids, diatoms and protozoans. 3. Carolus Linnaeus is the father of taxonomy because of one of his contributions

- (1) Genera Plantarum
- (2) Binomial nomenclature
- (3) Described nearly ten thousand plants and animal species

(4) Die Naturlichen Pflanzen Familien

Sol. Answer (2)

Carolus Linnaeus's contribution in taxonomy is - Binomial nomenclature

4. Binomial epithet has

- (1) Two Latin names only
- (2) Two Italics names written in Latin

(3) Two Latin names and author's name in Italics

(4) Two Latin names followed by author's name in Roman

Sol. Answer (4)

Binomial epithet has - two Latin names followed by author's name in Roman.

5. Systematics is the study of

- (1) Diversity amongst groups of organisms
- (2) Grouping of organisms
- (3) Identification and grouping of organisms
- (4) I

dentification, classification and taxonomy Sol. Answer (1)

Systematics, study of diversity amongst groups of organisms. 6. Which one of the following criteria is/are essential and form the basis of modern taxonomic studies?

- (1) Ecological information of organisms
- (2) Development process

(3) External and internal structure

(4) All of these

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Sol. Answer (4)

Modern taxonomic studies are Ecological information of organisms Development process

External and internal structure 7. Which one of the following is the first publication of Carolus L

innaeus?

- (1)Systema Naturae(2)Classes Plantarum
(3)Hortus Cliffortianus(4)Hortus Upplandicus

Sol.Answer (4)

Publications of Carolus Linnaeus

Hortus Upplandicus (First)

Philosophica Botanica Species Plantrum

Systema Nature8.Scientific name

Rattus rattus

is an example of

- (1)Binomial nomenclature
(2)Tautonyms
(3)Synonyms
(4)Both (1) & (2)

Sol.Answer (4)

Rattus rattus

Binomial nomenclature Tautonyms

9.Given organisms belongs to how many genera?

Wheat, Brinjal, Potato, Lion, Dog, Tiger

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

Sol.Answer (3)

AnimalGeneraWheat-Triticum

Brinjal & Potato-

Solanum Four generaLion & Tiger-

PantheraDog-Canis

10.Organisms which can freely interbreed and produce fertile offspring and have similar coded information or blue

print for making these organisms are called(1)Species

- (2)
Tribe(3)Genus(4)Sub-genus

Sol.Answer (1)

Species-

Freely interbreed

-Fertile offspring

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11.The correct sequence of taxonomic categories is

- (1)Division-class-family-tribe-order-genus -species
(2)Division-class-order-family-tribe-genus -species

- (3)Phylum-order-class-tribe-family-genus-species

- (4)Class-phylum-tribe-order-family-genus-species

Sol.Answer (2)

Hierarchy of taxonomic categoriesKingdom

Division Class Order Family Genus Species

12.Two species can be said to be reproductively isolated if they are

- (1)Interfertile
(2)

Not interfertile

- (3)Do not grow together in a common habitat(4)Growing together in a common habitat

Sol.Answer (2)

Reproductively isolated two species - Not interfertile13.A genus having many species is known as

- (1)Polytypic
(2)

Monotypic

- (3)Polygamic(4)Both (1) & (3)

Sol.Answer (1)

Polytypic genus - A genus having many species

14.In taxonomic hierarchy, which of the following group of taxa will have more number of similarities as compared

to other?(1)Anacardiaceae, Convolvulaceae and Poaceae(2)

Polymoniales, Poales and Sapindales

- (3)Solanum, Petunia and Atropa(4)Leopard, tiger and lion

Sol.Answer (4)

Orders have less similarities than family, genus and species.

15. In which of the following pair of category, greater is the difficulty of determining the relationship to other taxa at the same level, thus, the problem of classification becomes more complex? (1) Genus and species (2) Variety and genus (3) Division and phylum (4) Species and family
Sol. Answer (3)

Higher the categories in hierarchy will be lesser similarities and will show difficulty of determining the relationship to other.

16. Rice, cereals, monocots and plants represent

- (1) Different taxa at different level
- (2) Same taxa of different category
- (3) Different category of same taxa
- (4) Same category for different taxa

Sol. Answer (1)

Rice, Cereals, Monocots, Plants

Species Family Class Kingdom

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17. The equivalent rank of Carnivora in taxonomic categories of man and housefly is respectively

- (1) Homo and Musca
- (2) Hominidae and Muscidae
- (3) Mammalia and Insecta
- (4) Primata and Diptera

Sol. Answer (4)

Animal Order

Lion-

Carnivora Man-Primata

Housefly-Diptera

18. All given are suffixes used for category class, except

- (1) -phyta
- (2) -opsida
- (3) -phyceae
- (4) -ae

Sol. Answer (1)

-phyta-D

ivision-opsida-

Class-phyceae-

Class-ae-Class

19. Biological concept of species was given by _____ and it is based on _____

- (1) Lamarck; physiological isolation
- (2) Linnaeus; morphological isolation
- (3) Ernst Mayr; mechanical isolation
- (4) Ernst Mayr; reproductive isolation

Sol. Answer (4)

Biological concept of species

Ernst Mayr

Reproductive isolation

20. Which category comes after phylum in descending order in taxonomic hierarchy?

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

Sol. Answer (3)

Phylum Class

21. Order primata and carnivora are placed in the same class, i.e.

- (1) Hominidae
- (2) Mammalia
- (3) Insecta
- (4) Chordata

Sol. Answer (2)

Order Class

s Primata

Carnivora

Mammalia

22. Fishes, amphibians, reptiles and birds are kept in the same

(1) Order
(2) Class (3)
Genus (4) Phylum Sol. Answer (4)
Fishes Pisces Chordata
Amphibians Amphibians Chordata
Reptiles Reptilia Chordata
Birds Aves Chordata
Class Phylum
Animals

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23. Choose odd one out w.r.t.

Panthera leo (1) Common name of tiger

(2) Panthera

represents generic name

(3) leo represents specific epithet

(4) Panthera

represents higher level of taxon than

leo

Sol. Answer (1)

Panthera leo is common name of lion. 24. Potato and brinjal belong to the genus

Solanum

, which reflects that (1) They belong to single species

(2) They are a group of related species

(3) They both are morphologically and structurally similar to each other in all respects

(4) They can always produce fertile hybrid

Sol. Answer (2)

Potato and Brinjal are a group of related species. 25. Class mammalia consists of

(1) Order carnivora only

(2)

Families like felidae and canidae only (3) Related orders like carnivora, primata, etc. (4) All

animals belonging to various phyla

Sol. Answer (3)

Order

Class Carnivora Mammalia Primata

26. Dicots like mango, brinjal and monocot like wheat are placed under a common taxonomic category known as

(1) Phylum - Arthropoda

(2) Phylum - Angiospermae

(3) Division - Angiospermae

(4) Class -

Angiospermae Sol. Answer (3)

Class Division Dicot

Angiosperm

Monocot Angiosperm 27. Rice and brinjal belong to the category ending with suffix

(1) "aceae"

(2) "ales" (3) "phyta"

(4) "ae"

Sol. Answer (3)

Species Family

Class Division Rice Poaceae Monocot Angiosperm Brinjal Solanaceae

Dicot Angiosperm

28. Various taxonomic categories are

(1) Mere morphological aggregates

(2) Distinct biological entities

(3) International codes used for nomenclature

(4) Collection of organisms on structural similarities only

Sol. Answer (2)

Various taxonomic categories are distinct biological entities

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29. Plants belonging to different classes, with a few similar characters are assigned to a category called

- (1) Phylum
- (2)

Order (3) Division

- (4) Genus Sol. Answer (3)

Class Division Kingdom

30. Amongst the given taxonomic aids, how many are associated with preservation of specimens?

Monograph, Flora, Key, Museums, Botanical gardens, Catalogue, Herbarium, Manual

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

- (4) Four Sol. Answer (3)

Preservation of specimens is done in taxonomic aids Museum Herbarium 31. Which of the following chemicals is used for poisoning the specimens in herbarium technique?

- (1) Hg

2 Cl

2 (2) AgNO

3 (3) HCl

- (4) HgCl

2 Sol. Answer (4)

Poisoning chemical for the specimens - HgCl

232. The international size of herbarium sheet is

- (1) 41 × 29 cm
- (2) 40 × 30 inches (3) 42 × 20 cm (4) 39 × 28 cm

Sol. Answer (1)

International size of herbarium sheet is 41 × 29 cm

33. Find the correct sequence of various steps of herbarium technique

a. Drying

b.

Poisoning c. Collection

d. Labelling

e. Mounting

f. Deposition

g. Stitching

(1) c, a, b, e, g, d, f (2) c, b, d, e, f, g, a (3) c, a, b, e, g, f, d (4) c, a, b, g, e, f, d

Sol. Answer (1)

Correct sequence

Collection

Drying Poisoning Mounting Stitching

Labelling Deposition

34. Select the correct match

Column I

Column II

a.

Ex-situ conservation

- (i) Central national Herbarium b. Quick referral system

- (ii) Museum

c. Preserved plants and animals

- (iii) Flora

d. Actual account of habitat and distribution (iv) Royal Botanical Gardens, Kew of plants of a given area

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

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

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

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

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Sol. Answer (4)

Ex-situ conservation

- Botanical garden

Quick referral - Herbarium

Preserved plants and animals -

Museum Habitat & distribution -

Flora

of plants of a given area³⁵. Live specimens are used for reference in taxonomic studies in
(1) Museum

(2)

Zoological parks (3) Botanical gardens

(4)

More than one option is correct Sol. Answer (4)

Live specimens

- Zoological parks

- Botanical gardens

SECTION - C Previous Years Questions

1. The label of a herbarium sheet

does not

carry information on [NEET (Phase-2)-2016] (1) Date of collection

(2) Name of collector

(3) Local names

(4) Height of the plant

Sol. Answer (4)

The herbarium sheets carry a label providing information about date and place of collection, English, local and botanical names, family, collector's name.

2. Study the four statements (A-D) given below and select the two correct ones out of them:

A. Definition of biological species was given by Ernst Mayr.

B. Photoperiod does not affect reproduction in plants.

C. Binomial nomenclature system was given by R.H. Whittaker.

D. In unicellular organisms, reproduction is synonymous with growth.

The two correct statements are

[NEET (Phase-2)-2016]

(1) B and C

(2) C and D

(3) A

and D (4)

A and B

Sol. Answer (3)

Photoperiod affects reproduction in plants. Binomial nomenclature system was given by

Carolus Linnaeus³. Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature? [NEET-2016]

(1) When written by hand, the names are to be underlined

(2) Biological names can be written in any language

(3) The first word in a biological name represents the genus name and the second is a specific epithet

(4) The names are written in Latin and are italicised

Sol. Answer (2) Biological names originate from Latin language and are printed in italics⁵⁷⁵⁷

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Solutions of Assignment (Set-2)

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4. Which one of the following is not a correct statement?

[NEET-2013]

(1) Botanical gardens have collection of living plants for reference

(2) A museum has collection of photographs of plants and animals

(3) Key is a taxonomic aid for identification of specimens

(4) Herbarium houses dried, pressed and preserved plant specimens

Sol. Answer (2)

A museum has collection of specimens of plants and animals.⁵ Maximum nutritional diversity is found in the group

[AIPMT (Prelims)-2012]

(1) Plantae

(2) Fungi (3) Animalia

(4)

Monera Sol. Answer (4)

6. Which one of the following aspects is an exclusive characteristic of living things?

[AIPMT (Mains)-2011]

(1) Perception of events happening in the environment and their memory

(2) Increase in mass by accumulation of material both on surface as well as internally

(3) Isolated metabolic reactions occur

in-vitro

(4) Increase in mass from inside only

Sol. Answer (4)

Increase in mass from inside only is an exclusive characteristic of living things. 7. The living organisms can be unexceptionally distinguished from the non living things on the basis of their ability for

[AIPMT (Prelims)-2007]

(1) Growth and movement

(2) Responsiveness to touch

(3) Interaction with the environment and progressive evolution

(4) Reproduction

Sol. Answer (2)

Defining features are

Metabolism

Consciousness Cellular structure

8. ICBN stands for

[AIPMT (Prelims)-2007] (1) Indian Code of Botanical Nomenclature

(2) Indian Congress of Biological Names

(3) International Code of Botanical Nomenclature (4) International Congress of Biological Names

Sol. Answer (3)

ICBN International Code of Botanical Nomenclature. 9. Two plants can be conclusively said to belong to the same species if they:

[AIPMT (Prelims)-2007] (1) Have same number of chromosomes

(2) Can reproduce freely with each other and form seeds

(3) Have more than 90 per cent similar genes

(4) Look similar and possess identical secondary metabolites

Sol. Answer (2)

Two same species can reproduce freely with each other and form seeds.

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10. Biosystematics aims at

(1) The classification of organisms based on broad morphological characters

(2) Delimiting various taxa of organisms and establishing their relationships

(3) The classification of organisms based on their evolutionary history and establishing their phylogeny on

the totality of various parameters from all fields of studies

(4) Identification and arrangement of organisms on the basis of their cytological characteristics

Sol. Answer (3)

Biosystematics - Classification based on their ontogeny and phylogeny.

11. The common characteristics between tomato and potato will be maximum at the level of their

(1) Genus

(2) Family (3)

Order (4) D

ivision Sol. Answer (2)

Tomato and Potato will be maximum at the family level.

12. Taxonomic hierarchy refers to

(1) Step-wise arrangement of all categories for classification of plants and animals

(2) A group of senior taxonomists who decide the nomenclature of plants and animals

(3) A list of botanists or zoologists who have worked on taxonomy of a species or group

(4) Classification of a species based on fossil record

Sol. Answer (1)

Taxonomic hierarchy, step-wise arrangement of all categories for classification of plants and animals.

13. 'Taxon' is the unit of

(1) Order

(2) T

axonomy (3) S

pecies (4)

Genus Sol. Answer (2)

Taxon is the unit of taxonomy.

14. The closely related morphologically similar sympatric populations, but reproductively isolated, are designated

as

(1) Clones

(2) Sibling species (3) Clines

(4) Demes

11, 20000

Sol. Answer (2)

Sibling species :

Morphologically similar sympatric populations

Reproductively isolated 15. Which of the following is least general in characters as compared to genera?

- (1) Species
- (2) Division
- (3) Class
- (4) Family

Sol. Answer (1)

Species is least general in characters as compared to genera.

16. Species is considered as

- (1) Real basic unit of classification
- (2) The lowest unit of biosystematics
- (3) Artificial concept of human mind which cannot be defined in absolute terms
- (4) Real units of classification devised by taxonomists

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Sol. Answer (1)

Species is real basic unit of classification.

17. Which of the following is

not true for a species? (1) Members of a species can interbreed

(2) Gene flow does not occur between the populations of a species

(3) Each species is reproductively isolated from every other species

(4) Variations occur among members of a species

Sol. Answer (2)

Gene flow occurs between the populations of a species.

18. One of the most important function of botanical gardens is that

- (1) They provide a beautiful area for recreation
- (2) One can observe tropical plants there
- (3) They allow

ex-situ conservation of germplasm (4) They provide the natural habitat for wildlife

Sol. Answer (3)

Botanical gardens - Ex-situ conservation of germplasm. SECTION - D Assertion - Reason Type Questions

1. A : Members of a species are reproductively isolated from the members of other species.

R : Species is the basic taxonomic category.

Sol. Answer (2) Assertion & Reason both are correct but not explanation of assertion. 2. A :

Panthera

is a polytypic genera. R : Panthera

has specific epithets like

leo, tigris, pardus. Sol. Answer (1)

Panthera is a polytypic genera because it has more than two specific epithets like -

leo, tigris, pardus. 3. A : A group of closely related families form an order.

R : The families of an order show close resemblance in certain fundamental features and also in evolutionary

trends. Sol. Answer (1)

Assertion and reason both are correct and also correct explanation. 4. A : Biological concept of species is based on reproductive isolation.

R : Most accepted species concept was given by Linnaeus.

Sol. Answer (3)

Biological concept of species, given by Ernst Mayr.

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6060

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5. A : Synonyms are concerned with one of the most important rules of ICBN.

R : Out of the two or more scientific names given to the organism, the oldest name is recognized as valid name

and other names are recognised as synonyms.

Sol. Answer (1) Assertion and Reason both are correct and correct explanation.

Sol.Answer (1)Assertion and Reason both are correct and correct explanation.

6.A :Botanical gardens are

ex-situ conservation strategy of plants.R :National Botanical Garden is situated at Howrah.

Sol.Answer (3)National Botanical Garden is situated at Lucknow.

7.A :Two plants A and B are treated as two taxonomic species.

R :Both A and B are different in correlated characters.

Sol.Answer (1)

Assertion and Reason both are correct and also gives correct explanation.8.A :Species is a genetic ally closed system.

R :Because the reproductive isolation constitutes the most important boundary between different species.

Sol.Answer (1)

Species is a genetically closed system because the reproductive isolation constitutes the most important

boundary between different species.9.A :Scientific names for plants have been standardized through ICBN.

R :Naming system which uses three word format was given by Linnaeus.

Sol.Answer (3)

Trinomial nomenclature was given by Lamark.

10.A :Dried specimens are poisoned by HgCl

2.R :It protects the specimen from the moisture.

Sol.Answer (3)

HgCl

2 protects the specimen from the microbes.

Extracting the question

- All the questions have a common pattern
- i.e. They start with 'number' folowed by '.'
- and all the character between the 'number'{ folowed by '.'} and '(' are the part of question

In [112]:

```
count=1
for i in range(1,100):
    start = s.find(str(count)+'.')
    end=s.find('(', start)
    print(s[start:end])
    count+=1
```

1.Which of the following is not a result of cell division?

2.Mark the
incorrect pair.

3.Which of the following is
incorrect for reproduction?

4.Mark the
incorrect statement w.r.t. metabolism.

5.Non-living objects exhibit/show

6.Which statement is false about the growth shown by non-living objects?

7.Local names of various plants and animals

8.Which of the following is
incorrect
w.r.t. Binomial nomenclature?

9.What do A, B and C represent in the given scientific name respectively?
Mangifera
indicaLinnCBA

10.Which of the following is
incorrect regarding scientific names?

11.According to binomial nomenclature, every living organism has

12.Which of the following is
incorrect w.r.t. Species?

13.Taxonomy deals with

14. Which of the following features are not shown by scientific names of various organism?
15. The correct sequence of taxonomic study of a newly discovered organism is
16. Which one of the following statements given below is not included in universal rules of nomenclature?
17. Find the correct sequence of taxonomic categories.
18. Which of the following is a class?
19. _____ is the assemblage of families which exhibit a few similar characters.
20. Fill in the blanks A and B.
Kingdom Phylum [A]
 Order
 [B]
21. Match the following columns
Column-I Column-II
a. Binomial nomenclature
22. Genus is a category which comes in between the
23. Three different genera
Solanum
,
Petunia and Datura are placed in the family
24. Cat and dog are placed in which families respectively
25. Which one of the following criteria is/are essential and form the basis of classical taxonomic studies?
26. In which of the following pair of category, greater is the difficulty of determining the relationship to other taxa at the same level, thus the problem of classification becomes more complex?
27. In taxonomic hierarchy, which of the following group of taxa will have less number of similarities as compared to other?
28. Taxonomic categories which come lower to the rank of class are
29. Two animals A and B have similar morphological features and are fundamentally similar with each other, they must be treated as
30. A place used for storing, preservation and exhibition of both plants and animals is known as
31. Herbarium consists of
32. National Botanical Research Institute consists of
33. Key is
34. In zoological parks, animals are
35. For identifying organisms through key usually

