



## **BIOLOGY**

# BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

# TAXONOMY AND SYSTEMATICS

Exercise Objective Type Questions A Multiple Choice Questions Mcq

1. Systematics is

#### A. Nomenclature

#### B. Relationships and classification

C. Identication

D. all of them

#### Answer: D

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2. The term taxonomy was coined by

A. Therophrstus

B. Pliny

C. Linnaeus

D. De Candolle

Answer: D

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**3.** The book which has left the maximum influence on the thinking of taxonomist is

A. Origin of species

- B. Systema Nature
- C. Species Plantarum
- D. Historia Plantarum

Answer: A

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New Systematics differs from Classical
 Systematics in employing

A. Biochemical and Cytotaxonomy

B. All biological Pararmeters

- C. Numerical taxonomy
- D. Experimental taxonomy

Answer: B

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5. Karyotaxonomy is a component of

A. Numerical taxonomy

B. Biochemical taxonomy

C. Experimental taxonomy

D. Cytotaxnomy

#### Answer: D

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6. The term taxon was given by

A. Linnaeus

B. Mayer

C. Candolle

D. Lamarck

Answer: D

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7. Father of Botany is

A. Aristotle

B. Plato

C. Theophrastus

D. Hippocrates





8. A genus with a single species is

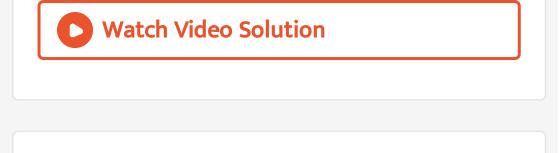
A. Typical

B. Atypical

C. Polytypic

D. Monotypic

Answer: D



- **9.** Which is not a category?
  - A. Order
  - B. Genus
  - C. Species
  - D. Ecotype

#### Answer: D



10. ICZN was adopted in

#### A. 1970

B. 1964

C. 1974

D. 1960

Answer: B

**11.** Several genera resembling one another in their major anatomical and reproductive characters are placed together in

A. Family

**B.** Species

C. Order

D. Genus

Answer: A

12. Who is father of taxonomy?

A. Lamarck

B. Parasara

C. Darwin

D. Linnaeus

Answer: D



13. Common names are

A. Scientific

B. Morphological

C. Universal

D. Non scientific

Answer: D

14. The category of family is between

A. Order and genus

B. Genus and species

C. Kingdom and class

D. Phylum and genus

Answer: A

15. The lowest category in taxonomic hierarchy

is

A. class

B. kingdom

C. species

D. phylum

Answer: C

16. Species belonging to different time periods

are

A. Synchronic species

**B. Allopatric species** 

C. Parapatric species

D. Allochronic species

Answer: D

17. Neosystematics is based on

A. Cytology and biochemistry

**B.** Genetics

C. Morphology and anatomy

D. all fo them

Answer: D

**18.** Chemotaxonomy is connected with the study of

A. Serum tests

B. Metabolic pathways

C. Secondary metabolites

D. Biochemicals

Answer: C

#### **19.** Taxon is

A. Unit of classification

B. Highest rank of classification

C. Group of closely related organisms

D. Species

Answer: C

20. Which of the following is less general in

chracters as compared to genus?

A. Family

**B.** Class

C. Division

**D.** Species

**Answer: D** 

### 21. Descending arrangement of categories is

#### called

A. Key

B. Hierarchy

C. Taxonomy

D. Classification

Answer: B

22. The term new systematics was given by

Julian Huxley in

A. 1940

B. 1840

C. 1901

D. 1809

Answer: A

23. Place of keeping and studying dry plants is

A. Museum

B. Vasculum

C. Herbarium

D. Arboretum

Answer: C

**24.** Who wrote 'Species Plantarum' and provided a basis for classification of plants?

A. Robert Hooks

B. Leeuwenhoek

C. Linnaeus

D. Darwin

Answer: C

#### 25. BNHS is abbreviation of

A. Bombay Natural History Society

**B.** Banaras Natural History Society

C. Biological Natural History Society

D. Botanical North Himalayan Survey

Answer: A



**26.** Identify from the following the only category that has a real existence

A. Genus

**B.** Species

C. Phylum

D. Kingdom

Answer: D

**27.** Which is different in different groups?

A. Family

B. Plankton

C. Species

D. Taxon

Answer: D



28. Scala Naturae was written by

A. Aristotle

B. Linnaeus

C. Whittaker

D. Darwin

Answer: A

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29. The famous botanical garden of Kew is

located in

A. France

B. Germany

C. England

D. India

Answer: C

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30. Related genera belong to same

A. Family

**B.** Species

C. Variety

D. None of them

Answer: A

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31. Lions are found in

A. Madhya Pradesh

**B.** Corbett National Park

C. Weterm Ghats

D. Gir Forest

#### Answer: D



#### 32. Animals and Plants are best protected in

- A. Botanical gardens
- B. Zoos
- C. National Parks

D. Sanctuaries

#### Answer: C

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# **33.** Which of the following is an endangered animal?

A. Langur

B. Hanuman monkey

C. Lion tailed macaque

#### D. Antelope

Answer: C

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### 34. Animal that has become extinct in India is

A. Cheetah

B. Wolf

C. Hippopotamus

D. Snow Leopard





#### 35. Rajaji National Park is in

A. Assam

- B. Tamil Tadu
- C. Uttaranchal
- D. Karnataka





- 36. Botanical gardens provide
  - A. reservoir for tropical plants
  - B. beautiful area for recreation
  - C. natural habitat for wildlife
  - D. ex- situ conservation of germplasm

Answer: D



37. National Botanical Institute in located in

A. Chennai

B. Kolkata

C. Lucknow

D. Mumbai

Answer: C

38. The Wildlife Protection Act 1972 was first

### amended in

A. 1991

B. 1995

C. 1998

D. 2007

#### Answer: A

39. Largest herbarium in India is located at

A. Lloyd Botanical Garden, Darjeeling

B. Indian Botanical Garden, Shibpur

C. National Botanical Garden, Lucknow

D. Forest Research Institute, Dehradun

Answer: B



**40.** Which one is exclusive characteristics of living beings?

A. Increase in mass both from outside and

inside

B. Increase in mass from inside

C. Isolated metabolic reactions in-vitro

D. Perception of events happening in

environment and their memory







# 41. Taxon is the unit of

A. Taxonomy

B. Order

C. Genus

**D.** Species

Answer: A

42. Which suffix is used in the name of family

A. inae

B. oidae

C. aceae

D. ineae

Answer: C



**43.** The common character between Tomato and Potato will be maximum at the level of

A. Division

B. Family

C. Order

D. Genus

Answer: D

44. Which one of the following is not used for

ex - situ plant conservation ?

A. Botanical gardens

B. Field gene banks

C. Seed banks

D. Shifting cultivation

Answer: D

45. An example of ex-situ conservation is

A. Sacred grove

B. National park

C. Seed bank

D. Wildlife sanctuary

Answer: C

**46.** Which one of the following is related to Exsitu conservation of threatened animals and planets?

A. Biodiversity hotspots

B. Amazon rain forest

C. Himalayan region

D. Wildlife safari parks

# Answer: D

1. Major botanical gardens of India are

A. Padua botanical garden

B. India botanical garden

C. Royal botanical garden

D. National botanical garden

Answer: B::D

**2.** Systematics is a branch of biology concerned with the

A. Gene structure and functions

**B.** Classification

C. Nomenclature

D. Identification

Answer: B::C::D

3. Phylogenetic system of classification is used

by

A. Bentham and Hooker

B. John Hutchinson

C. Engler and Prantl

D. A. W. Eichler

Answer: B::C::D

**4.** The correct statement about taxon is

A. The term taxon was introduced for the

first time by ICBN

B. Linnaeus is the founder of taxon

C. Taxon is the taxonomic group of any

rank

D. Taxon term was used in Systema Naturae

Answer: A::C

5. Which of the following are correct?

A. Term taxonomy was given by Linnaeus
B. JCBN is for the nomenclature of viruses
C. Chemotaxonomy is based on the presence of absence of chemicals in the cells or tissues

D. Karyotaxonomy is based on the nuclear and chromosomal studies

## Answer: C::D



# 6. In a museum

A. Wild animals are kept in the protect

environments

B. Plant specimens are preserved as dry

specimens

C. Insects are preserved in insect boxes

D. A collection of living plants maintained

for both pure and applied sciences

Answer: B::C

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7. A herbarium is a collection of plants which

A. are mounted

B. have been dired

C. have been pressed

D. have been cultivated

Answer: A::B::C

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8. Which of the following is correct?

A. Tiger - Panthera tigris

B. Lion - Panthera pardus

C. Leopard - Panthera leo

D. Potato - Solanum tuberosum

### Answer: A::D



**9.** Bionomial name of a plant represents its genus and species. Which of the following are correct about the binomical system of nomenclature?

A. Names are in English only

B. Binomial system was published is

'Species Plantarum'

C. Names are written in capital letters

D. Biomial system of nomenclature was

proposed by Linnaeus.

Answer: B::D

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10. An Order

A. is higher in systematic hierarchy than

Family

B. is higher in systematic hierarchy than

Class

C. is higher in systematic hierarchy than

Genus

D. is higher in systematic hierarchy than

Species

Answer: A::C::D

11. Four Kingdom classification given by

**Copeland includes** 

A. Monera

B. Archaea

C. Prokarya

D. Protista

Answer: A::D

12. Who among the following practised

artificial system of classification?

A. Bentham and Hooker

B. Theophrastus

C. A. L. de Jussien

D. C. Linnaeus

Answer: B::D

13. Which of the following are found in India?

A. FRI

B. Agricultural college and Research

Institute

C. Museum of Natural History

D. Royal Botanical Garden

Answer: A::B

14. Biological species concept comprises

A. Morphologically	indistinct	groups	of
individuals			
B. Reproductively	isolated	groups	of
individuals			
C. Sexually interbreeding population			
D. Groups wherein, cross		fertilization	
occurs			

Answer: B::C



**15.** Which of these are included in Binomial system to nomenclature?

A. Both the generic name and the specific

epithet should be italicized

B. Generic name should start with small

letter

C. Specific epithet should start with small

letter

described the species must be written

before the generic name

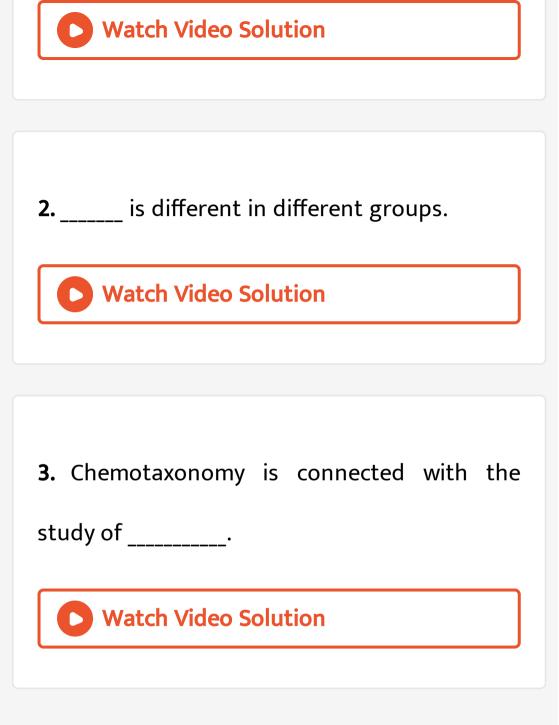
Answer: A::C

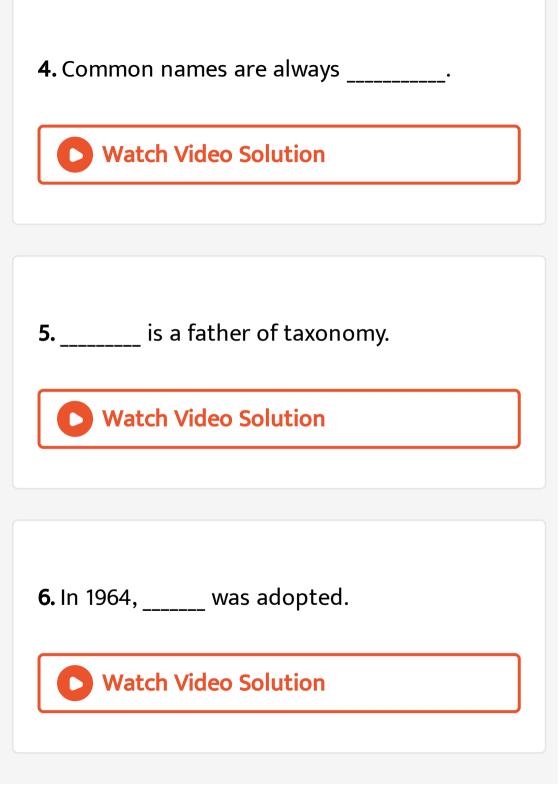
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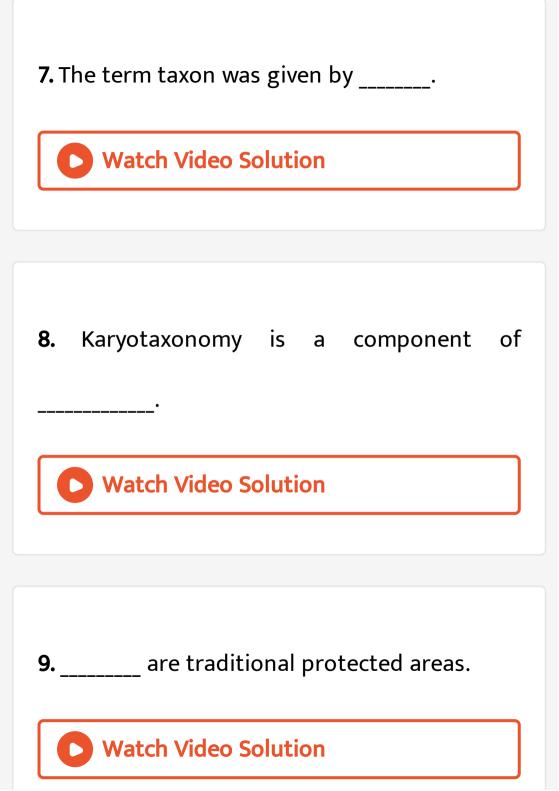
C Fill In The Blanks

1. The place of keeping and studying dry plants

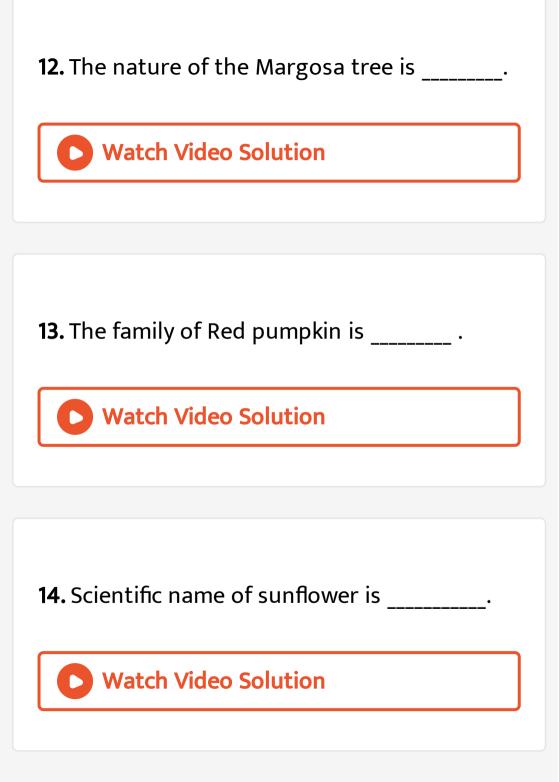
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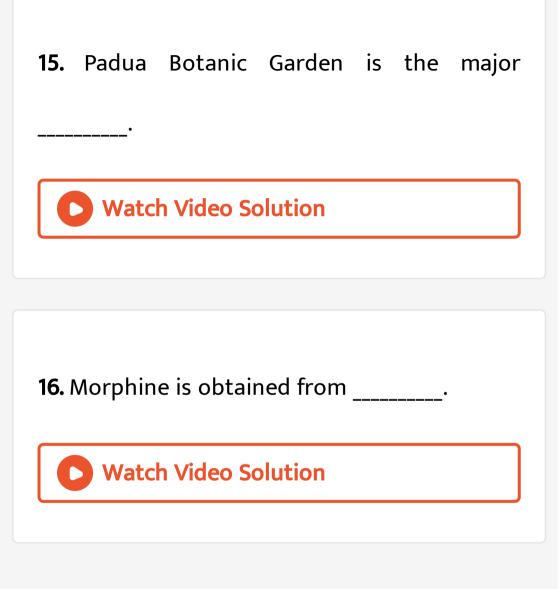






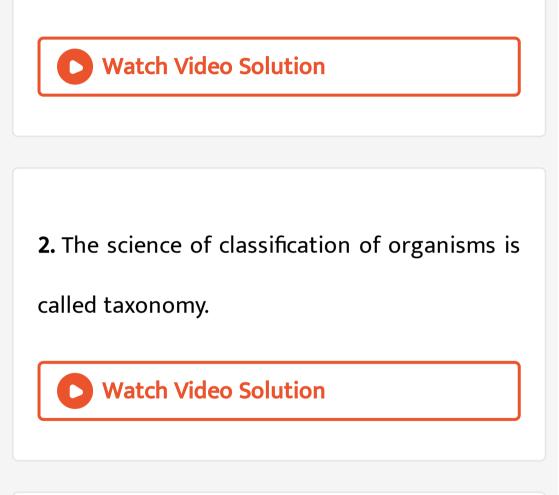
<b>10.</b> Biodiversity increases from the to the			
equator.			
<b>Watch Video Solution</b>			
<b>11.</b> As the september 2002, India had			
protected areas.			
<b>Watch Video Solution</b>			





**D** True Or False Statement Questions

1. Theophrastus is known as Father of Zoology.



3. Linnaeus is regarded as father of taxonomy.

4. Karyotaxonomy is a component of

experimental taxonomy.

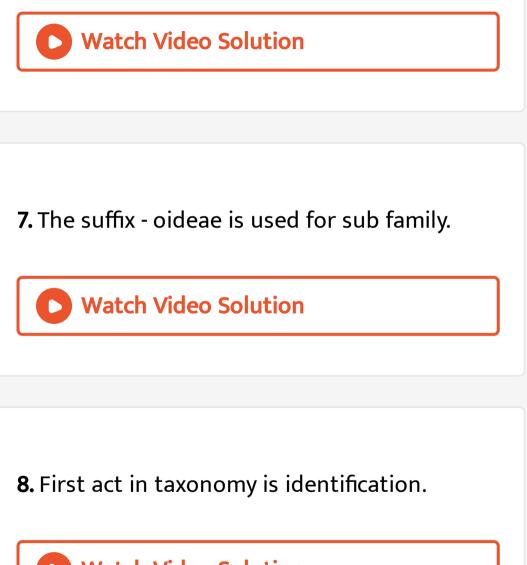
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5. The number of species classified in 'Species

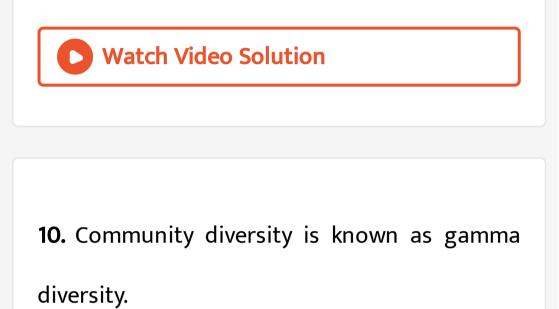
Plantarum' in 5900.



6. Species is specific unit of evolution.



9. Kanha National Park is famous for tigers.



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**11.** State bird of Himachal Pradesh is peacock.

12. Silent valley having rare plants and animals

is situated in West Bengal.



**13.** Kanpur Zoological Park is an important Zoological Park.

14. Prince of Wales Museum is situated at Delhi.Watch Video Solution

15. Standard museums have collections of

plants and animals of Various areas.

16. The name of important botanical garden is

New York Botanical garden.

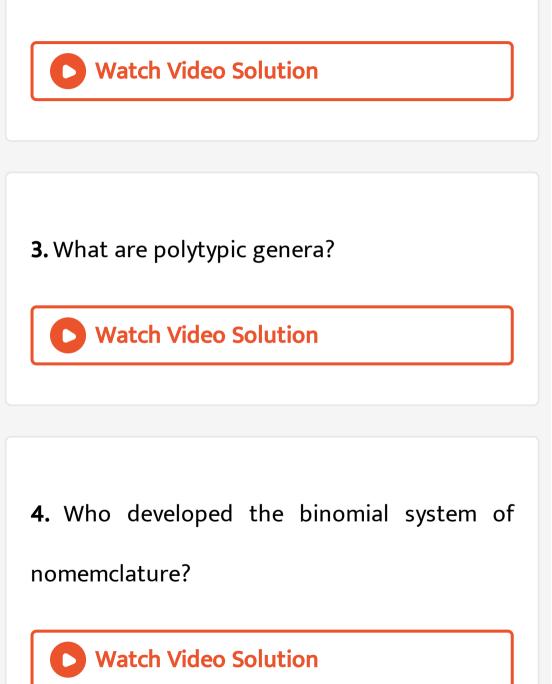
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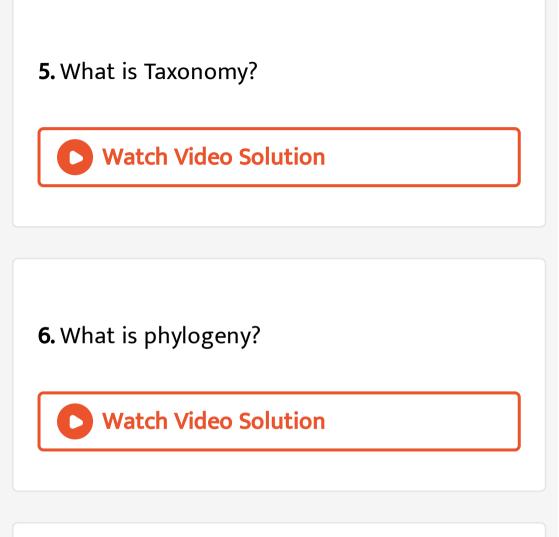
Very Short Answer Type Questions

1. Write the name of two impartant books

published by Linnaeus.

2. Write the full name of ICBN.





7. What is the basis of Linnaeus Systems of

classification?





8. Which one has a real existence?

A. Phylum

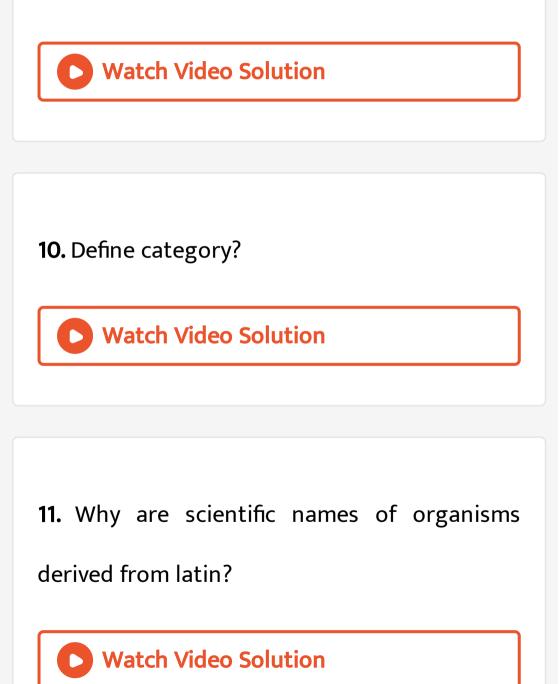
B. Class

C. Genus

D. Species

#### **Answer:**

9. What is subspecies?



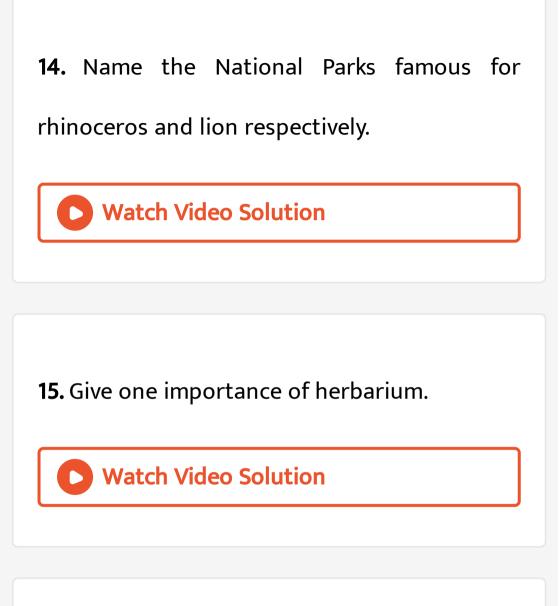
### 12. Why are scientific names written in Italics?



13. Who made the earliest attempt to classify

the living organisms?





16. What is the family of Sunflower?

17. How many specimens are found in Paris

Museum?



**18.** Write the name of one major Botanical Garden.

**19.** Write one aim of Zoological Parks.



20. Write one important Zoological Parks of

India?

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**21.** What is art museums?

Short Answer Type Questions

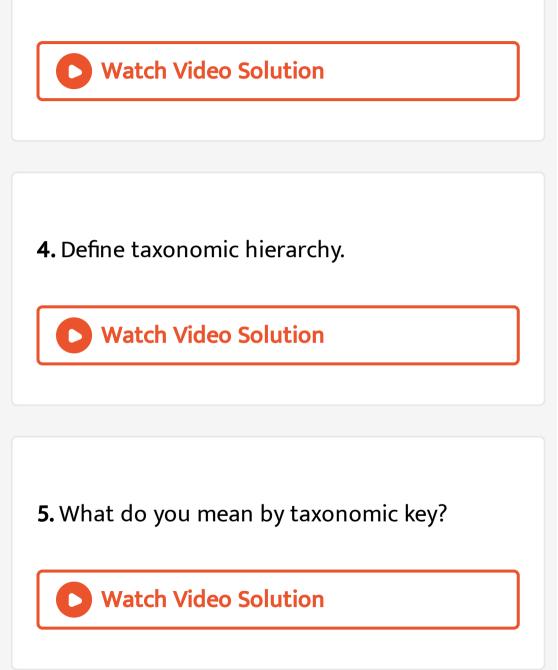
#### 1. State the difference between species and

taxon.

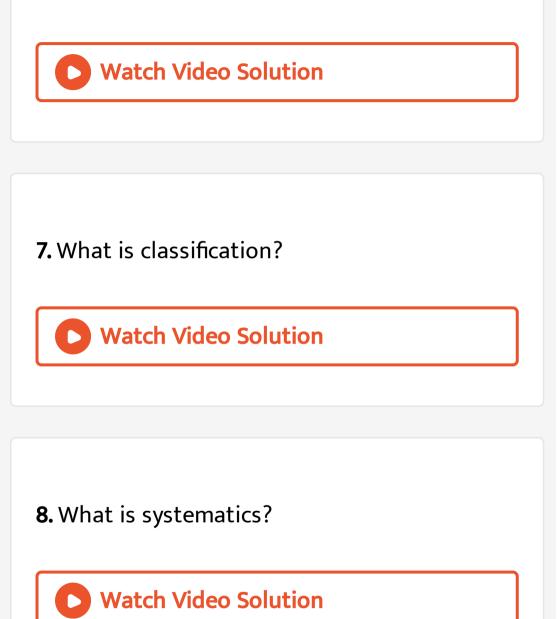
**Watch Video Solution** 

2. What is monograph?

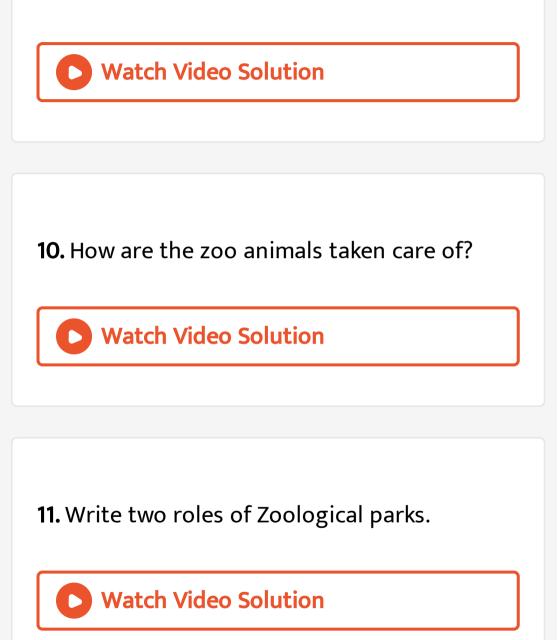
3. What are taxonomic aids?



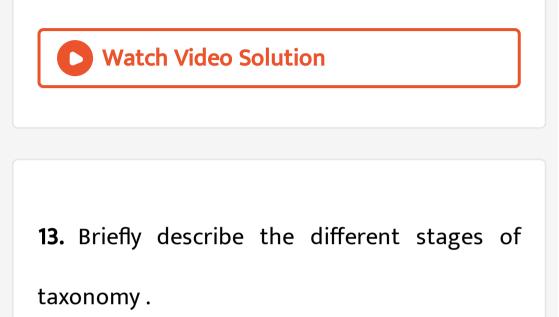
6. Define identification.



9. Write two roles of Botanical Gardens.



**12.** Write two names of Zoological parks.



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14. Write a brief notes on Species Concept.

**15.** State different advantages of binomial nomenclature.



16. Write a brief notes about the rules of

nomenclature.

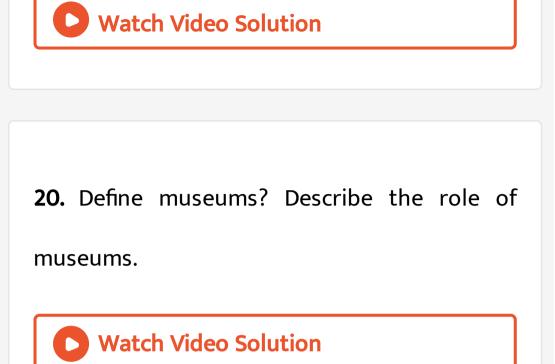
17. Botanical gardens are living herbarium?
Comment.
Watch Video Solution

**18.** Describe the establishment of a zoological

park.



**19.** How would you maintain a zoological park.



## **21.** How many kinds of museums are found?

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Long Answer Type Questions

1. Mention the difference between taxonomy

and systematics. Describe about the

components of taxonomy.

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2. Describe about the importance of taxonomy.

3. Mention the brief notes about subspecies,

cline, deme, sibling species.



4. What is trinomial nomenclature? Define

synonym, tautonym, homonym.



5. What do you understand by herbarium? Explain the various steps involved in preparing a herbarium specimen.



# 6. What is the role of Zoological parks in wild

life conservation.



**1.** Why are living organisms classified?



2. Why are the classification systems changing

every now and then?

3. What different criteria would you choose to

classify people that you meet often?



4. What do we learn from identification of

individuals and populations?



5. Given below is the scientific name of Mango.

Identify the correctly written name. Mangifera

Indica, Mangifera indica.



6. Define a taxon. Give some examples of taxa

at different hierarchical levels.



**7.** Can you identify the correct sequence of taxonomical categories?

(a)

 $Species \rightarrow Order \rightarrow Phylum \rightarrow Kingdom$ 

(b) Genus  $\rightarrow$  Species  $\rightarrow$  Order  $\rightarrow$  kingdom

(c) Species  $\rightarrow$  Genus  $\rightarrow$  Order  $\rightarrow$  Phylum

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**8.** Try to collect all the currently accepted meanings for the word 'species'. Discuss with

your teacher the meaning species in case of higher plants and animals on one hand and bacteria on the other hand.

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9. Define and understand the following terms :

(a) Phylum, (ii) Class, (iii) Family, (iv) Order, (v)

Genus.

10. How is a key helpful in the identification

and classification of an organism?