



### BIOLOGY

# **BOOKS - VGS PUBLICATION-BRILLIANT**

## **MODEL PAPER 1**



1. What does ICBN stands for ?

2. Find out what do the terms 'algal bloom' and 'red-tides' signify
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**3.** Which group of plants are called Vascular cryptogams ? Name the branch of Botany which deals with them ?

4. What is meant by parthenocarpic fruit? How

is it useful?

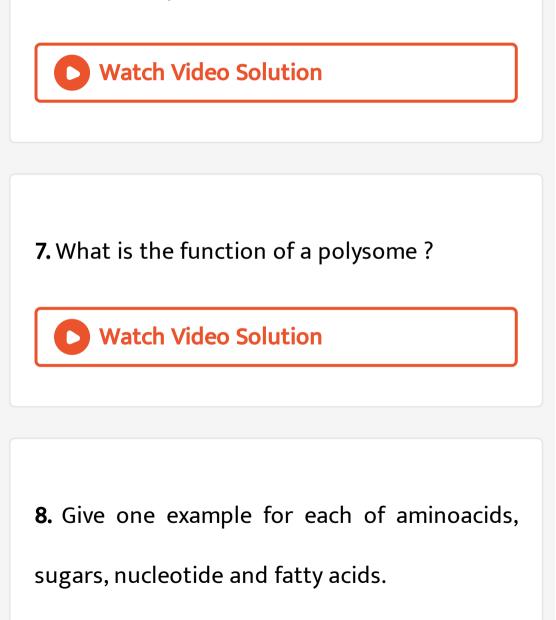
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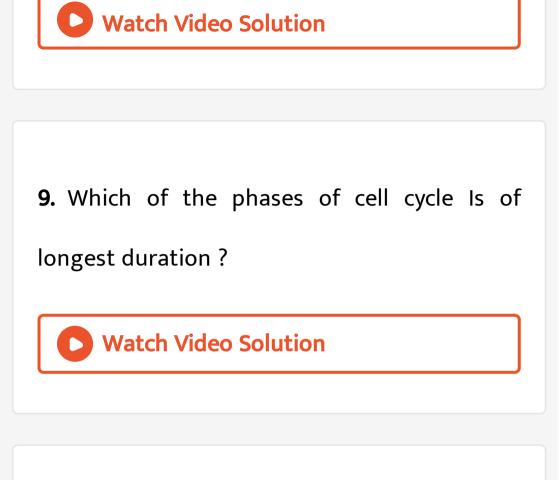
5. What is meant by epipetalous condition?

Give an example.

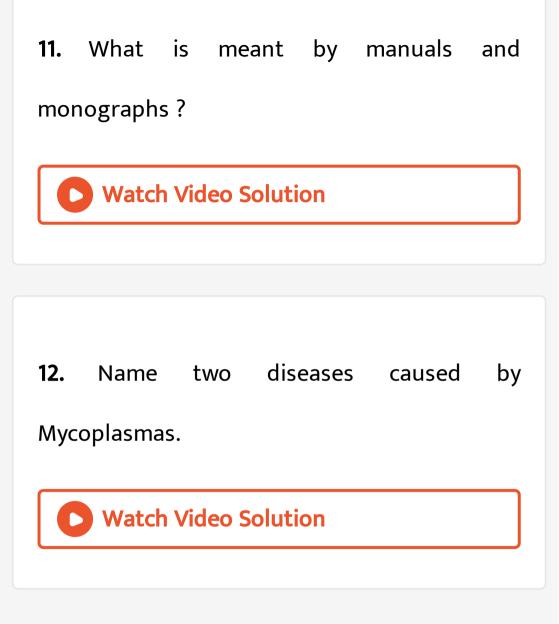
6. What is geocarpy ? Name the plant which

exhibits this phenomenon.



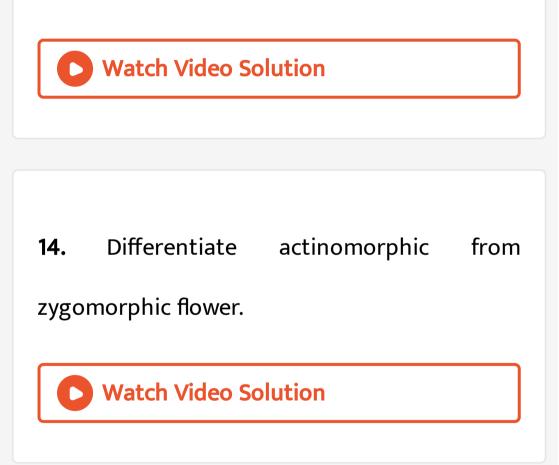


**10.** Define population and community.



13. Name the stored food materials found in

Phaeophyceae and Rhodophyceae.



15. Name a plant that has single fruit developing from the entire inflorescence. What is such a fruit called?



**16.** What is Natural system of plant classification ? Name the scientists who followed it.

17. What are microbodies ? What do they

contain ?



18. What are primary and secondary

metabolites ? Give examples?

**19.** If a tissue has at a given time 1024 cells. How many cycles of Mitosis had a original parental single cell undergone ?

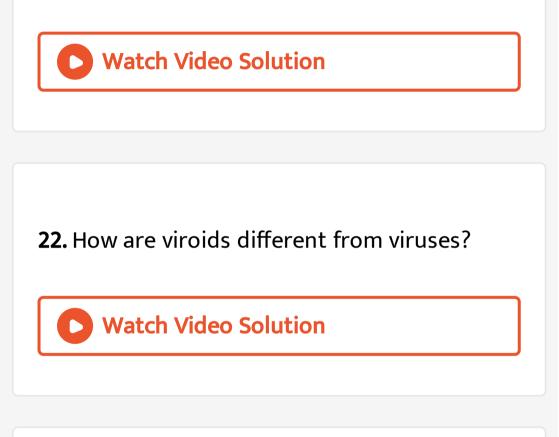


**20.** Climax stage is achieved quickly in secondary succession as compared to primary

succession . Why?

21. What is the basic unit of classification ?

Define it.



23. Who discovered the cell and what was the

book written by him?



**24.** What is meant by pulvinus leaf base? In members of which angiospermic family do you find them?

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**25.** Name a plant that has single fruit developing from the entire inflorescence. What is such a fruit called?

26. Name the type of pollination mechanism

found in members of Fabaceae.

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27. Which part of the Bacterial cell is targeted

in gram staining ?

28. Explain the Zwitterionic form of an amino

acid.

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**29.** If a tissue has at a given time 512 cells, how many cycles of mitosis had the original parental single cell undergone?

30. Name the type of land plants that can

tolerate the salimities of the sea.

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**31.** Name the books written Parasara and mention the important aspects discussed in those books.

**32.** Which is the largest botanical garden in the world ? Name a few well known botanical gardens in India.

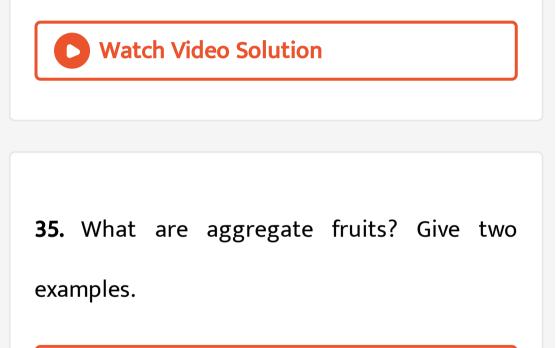


# **33.** What do the terms phycobiont and mycobiont signify?



34. Which organ is modified to trap insects in

Insectivorous plants? Give two examples.





36. What is Omega Taxonomy?



**37.** What is the feature of a metacentric chromosome ?

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38. Give one example for each of aminoacids,

sugars, nucleotide and fatty acids.



**39.** Which of the four chromatids of a bivalent at prophase-I of Meiosis can involve in cross-over ?

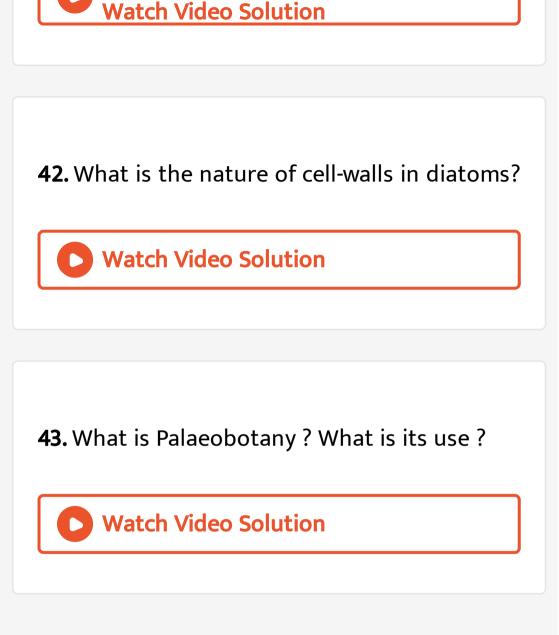


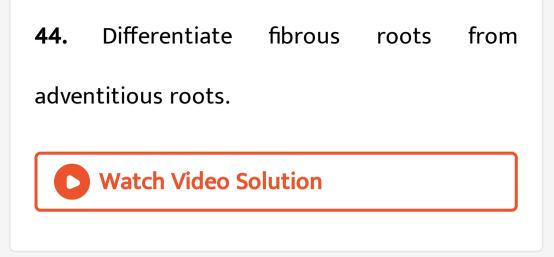
**40.** Define population and community.

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**41.** What does ICBN stands for ?







**45.** Why certain fruits are called false fruits? Name two examples of plants having false fruits.

46. Explain the scope and significance of Numerical Taxonomy.
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**47.** Which of the following is not correct?

(a) Robert Brown discovered the cell.

(b) Schleiden and Schwann formulated the cell

theory.

(c) Virchow explained that cells are formed from pre-existing cells.

(d) A unicellular organism carries out its life

activities within a single cell.



**48.** Medicines are either man made (i.e., synthetic) or obtained from living organisms like plants, bacteria, animals etc. and hence the latter are called 'natural products. Sometimes natural products are chemically altered by man to reduce toxicity or side effects. Write against each of the following

whether they were initially obtained as a natural product or as a synthetic chemical.
a) Penicillin\_ b) Sulfonamide\_ c) Vitamin C \_\_. d)
Growth Hormone \_\_\_

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**49.** An anther has 1200 pollen grains. How many pollen mother cells must have been there to produce them ?

**50.** Among Bryophytes, lichens and ferns which one is a pioneer species in a xerarch succession.



51. What is trinominal nomenclature ? Give an

example.



52. Mention the animals that exhibited a "tube

- within - a-tube" organisation for the first

time. Name their body cavity.



#### 53. Define 'Osteon'.



54. Distinguish between a tendon and a ligament.
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**55.** Which arthropod, you have studied, is called a "living fossil" ? Name its respiratory organs.

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56. Distinguish between Proter and Opisthe.



**57.** What is meant by nocturnal periodicity with reference to the life history of a nematode parasite you have studied ?



58. Name three meninges. In which group of

animals do you find all of them?

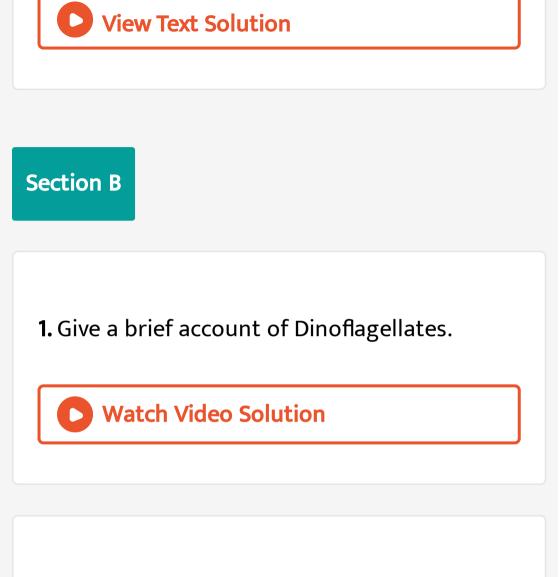
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59. Distinguish between lobopodium and

filopodium. Give an example to each of them.

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**60.** Define Mutualism. Give an example.



2. Differentiate between red algae and brown

algae.



**3.** Distinguish between asexual and sexual reproduction. Why is vegetative reproduction also considered as a type of asexual reproduction?

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4. Give economic importance of plants

belonging to Fabaceae.

5. What are nucleosomes ? What are they made of ?
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**6.** Though redundantly described as a resting phase, interphase does not really involve rest. Comment.

7. What is the difference between lenticels and

stomata?

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8. Enumerate the morphological adaptations

of hydrophytes.

9. What are the characteristic features of **Euglenoids**? Watch Video Solution 10. Differentiate between liverworts and mosses. Watch Video Solution

**11.** List three strategies that a bisexual chasmogamous flower can evolve to prevent self pollination (autogamy).



12. Give economic importance of plants

belonging to Fabaceae.



13. What are the characteristics of prokaryotic

cells?

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**14.** In which phase of meiosis are the following formed ? Choose the answers from hint points given below.

a) Synaptonemal complex.....

b) Recombination nodules.....

c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

e) Interkinesis

f) Formation of dyad of cells.

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d) Termination of chiasmata

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16. In which phase of meiosis are the following

formed ? Choose the answers from hint points

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a) Synaptonemal complex.....

- b) Recombination nodules.....
- c) Appearance /activation of a Enzyme

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d) Termination of chiasmata

e) Interkinesis

f) Formation of dyad of cells.

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17. Write the role of Fungi in our daily life.

18. Differentiate between red algae and brown

algae.

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|                             |

19. List the changes observed in angiosperm

flower subsequent to pollination and

fertilisation.

20. Describe the non-essential floral parts of

plants belonging to Fabaceae.



**21.** What are nucleosomes ? What are they made of ?



**22.** Which division is necessary to maintain constant chromosome number in all body cell of multicellular organism and why ?



23. A transverse section of the trunk of a tree shows concentric rings which are known as annual rings . How are things rings formed ? What is the significance of these rings ?



**24.** List the anatomical adaptations of hydrophytes.



**25.** Explain binomial nomenclature.



26. Explain the scope of Botany taking plant

physiology as example.

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**27.** Distinguish between asexual and sexual reproduction. Why is vegetative reproduction also considered as a type of asexual reproduction?

28. Explain Floral formula.



29. Though redundantly described as a resting phase, interphase does not really involve rest.Comment.

**30.** Differentiate between Rough Endoplasmic Reticulum (RER) and Smooth Endoplasmic Reticulum (SER).



**31.** What is the difference between lenticels and stomata ?

32. Give in detail the anatomical adaptations

shown by xerophytes.

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33. Give the salient features and importance of

chrysophytes.

**34.** What is meant by Homosporous and Heterosporous pteridophytes ? Give two examples.



- 35. Differentiate between
- a) Hypocotyl and Epicotyl
- b) Coleoptile and Coleorhiza
- c) Integument and testa
- d) Perisperm and Pericarp





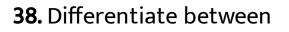
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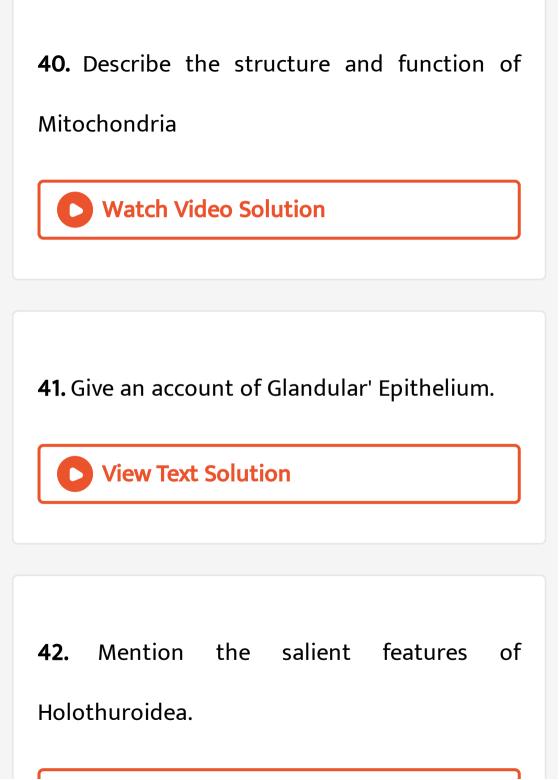


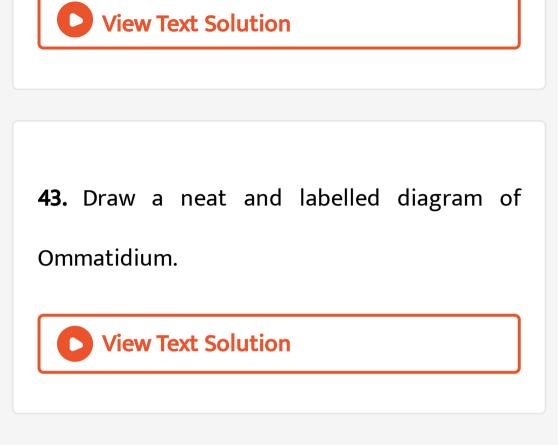
Perisperm and Pericarp



**39.** Write a brief account on the class of Dicotyledanae of Bentham and Hooker's classification.









1. Explain how stem is modified variously to

perform different functions.





**2.** With a neat, labelled diagram, describe the parts of a mature angiosperm embryo sac. Mention the role of synergids.

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3. Describe the internal structure of a Dicot

Root.

**4.** In which phase of meiosis are the following formed ? Choose the answers from hint points given below.

a) Synaptonemal complex.....

b) Recombination nodules.....

c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

e) Interkinesis

f) Formation of dyad of cells.

**5.** In which phase of meiosis are the following formed ? Choose the answers from hint points given below.

a) Synaptonemal complex.....

b) Recombination nodules.....

c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

e) Interkinesis

f) Formation of dyad of cells.

**6.** In which phase of meiosis are the following formed ? Choose the answers from hint points given below.

a) Synaptonemal complex.....

b) Recombination nodules.....

c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

e) Interkinesis

f) Formation of dyad of cells.

7. A transverse section of the trunk of a tree shows concentric rings which are known as annual rings . How are things rings formed ? What is the significance of these rings ?

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**8.** Write a brief account on classification of xerophytes.

9. Explain how stem is modified variously to

perform different functions.



**10.** Draw the diagram of a microsporangium and label its wall layers. Write briefly about the wall layers.



11. What are complex tissues ? Describe various types of complex tissues.
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**12.** Explain how stem is modified variously to perform different functions.

13. With a neat, labelled diagram, describe the parts of a mature angiosperm embryo sac. Mention the role of synergids.



**14.** Describe the internal structure of a dorsiventral leaf with the help of labelled diagrams.



15. Explain different types of Racemos

inflorescences.



16. What are the possible types of pollinations

in chasmogamous flowers ? Give reasons.

**17.** Explain the process of secondary growth in stems of woody angiosperm with help of schematic diagrams. What is the significance?



**18.** In which phase of meiosis are the following formed ? Choose the answers from hint points

given below.

a) Synaptonemal complex.....

b) Recombination nodules.....

c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

- e) Interkinesis
- f) Formation of dyad of cells.

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**19.** In which phase of meiosis are the following

formed ? Choose the answers from hint points

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a) Synaptonemal complex.....

- b) Recombination nodules.....
- c) Appearance /activation of a Enzyme

recombinase.....

d) Termination of chiasmata

e) Interkinesis

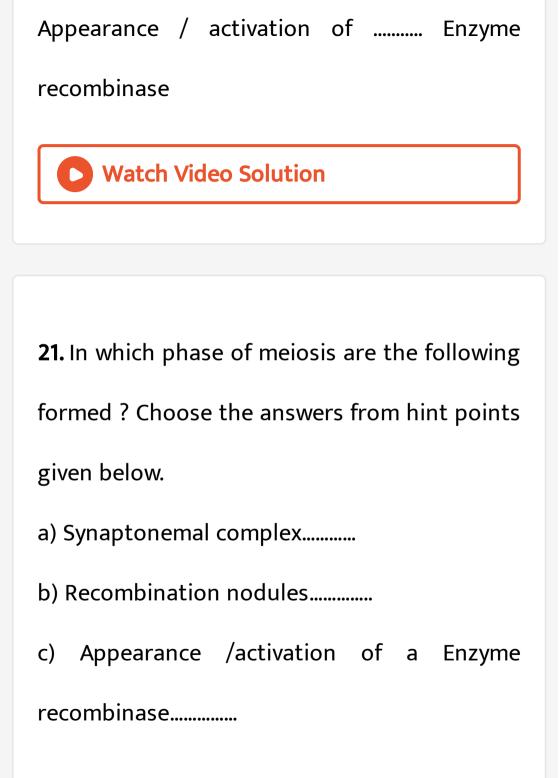
f) Formation of dyad of cells.

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20. In which phase of meiosis are the following

formed ? Choose the answers from hint points

given below.



- d) Termination of chiasmata
- e) Interkinesis
- f) Formation of dyad of cells.

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**22.** In which phase of meiosis are the following formed ? Choose the answers from hint points given below.

Interkinesis .....

23. In which phase of meiosis are the following

formed ? Choose the answers from hint points

given below.

Formation of dyad of cells ......

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24. State the location and function of different

types of meristem.

25. What are hydrophytes ? Briefly discuss the

different kinds of hydrophytes with example.



**26.** Define root. Mention the types of root systems. Explain how root is modified to perform different functions.



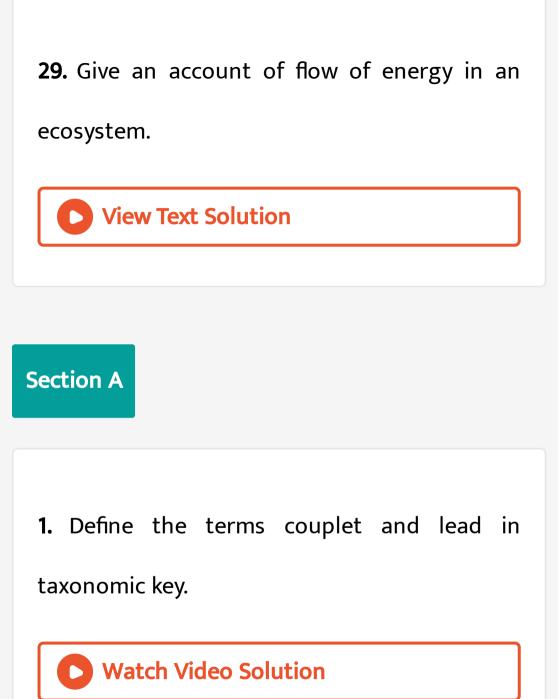
27. Describe the post-fertilisation changes in a

flower.

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28. What are simple tissues ? Describe various

types of simple tissues.



2. What is the principle underlying the use of cyanobacteria in agricultural fields for crop improvement ?

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3. Name different methods of vegetative

reproduction in Bryophytes.

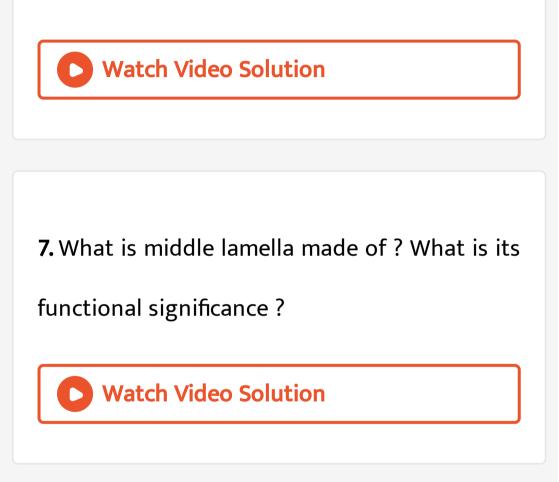
4. Define venation. How do Dicots differ from

Monocots with respect to venation.



5. What is the morphology of cup like structure in Cyathium? In which family it is found?

6. What is Omega Taxonomy?



**8.** What constituents of DNA are linked by glycosidic bond ?



**9.** An anther has 1200 pollen grains. How many pollen mother cells must have been there to produce them ?

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10. Hydrophytes show reduced xylem . Why?

1. Give the salient features and importance of

chrysophytes.

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 What is meant by Homosporous and Heterosporous pteridophytes ? Give two examples.

**3.** List three strategies that a bisexual chasmogamous flower can evolve to prevent self pollination (autogamy).



4. Describe the essential floral parts of plants

belonging to Lilliaceae.



5. Describe the structure and function of Mitochondria
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6. Though redundantly described as a resting phase, interphase does not really involve rest. Comment.

7. What is the difference between lenticels and

stomata?

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8. Give in detail the anatomical adaptations

shown by xerophytes.



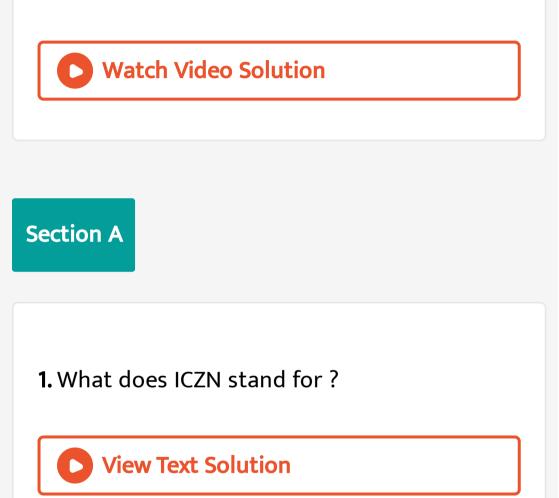
**1.** Define root. Mention the types of root systems. Explain how root is modified to perform different functions.



2. Describe the process of fertilization in

angiosperms.

3. Describe the T.S of a Monocot stem .



2. What is monoaxial heteropolar symmetry ?

Name the group of animals in which it is the

principal symmetry.



# 3. Distinguish between Brown fat and White

fat.



4. What are microglia and what is their origin

? Add a note on their function.



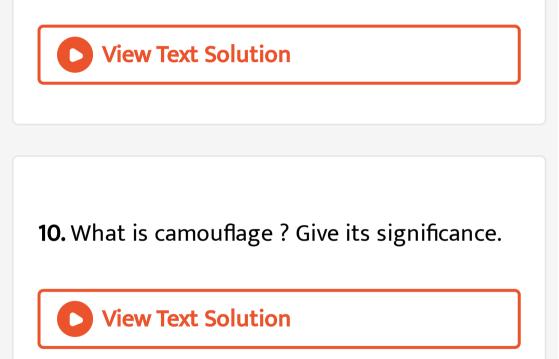
**5.** What is the function of radula ? Give the name of the group of Molluscs which do not possess a radula.

6. What are Pneumatic bones ? How do they help birds? **View Text Solution** 7. What is Kinety?

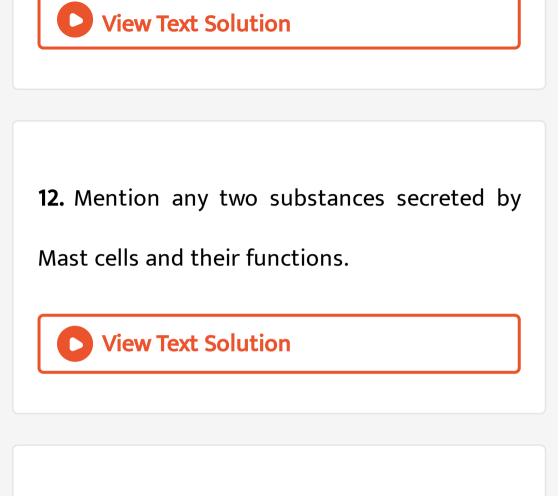
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8. Draw a labelled diagram of T.S. of Flagellum.

**9.** Define neoplasia. Give one example.



**11.** What is meant by Tautonymy ? Give two examples.



# **13.** What is Sesmoid bone ? Give an example.

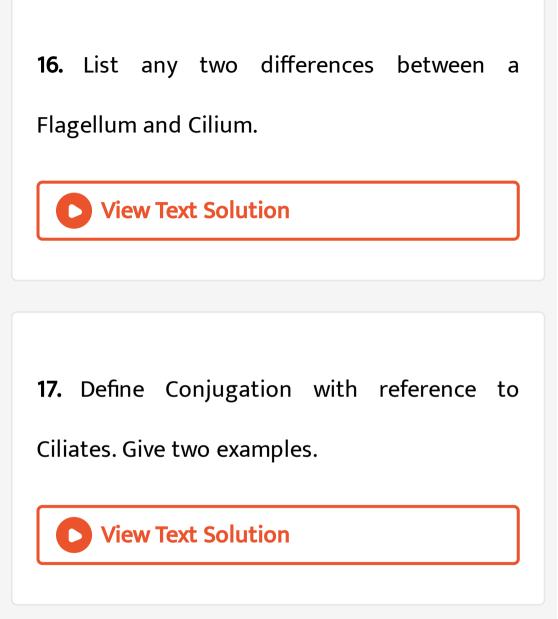


**14.** What is the function of Radula? Give the name of the group of molluscs which do not possess a radula.



### 15. Distinguish between Milt and Spawn.





**18.** What do you mean by parasitic častration?

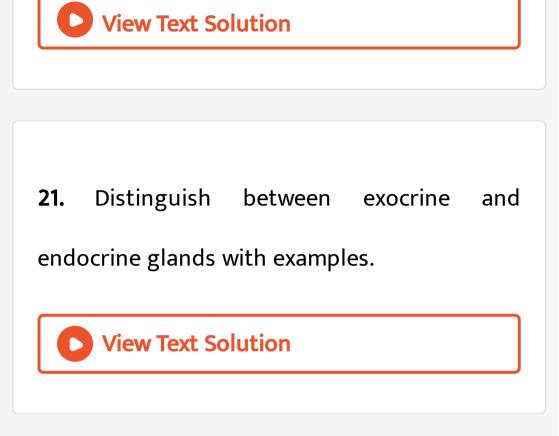
Give one example.

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**19.** Why are incinerators used in hospitals ?

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**20.** What is Enterocoelom ? Name the enterocoelomate phyla in the animal kingdom.



**22.** What is the function of radula? Give the name of the group of molluscs which do not posses a radula.

**23.** Name two poisonous and non-poisonous snakes found in South India.



### 24. What is a Kinety?

25. What is a hyper-parasite ? Mention the

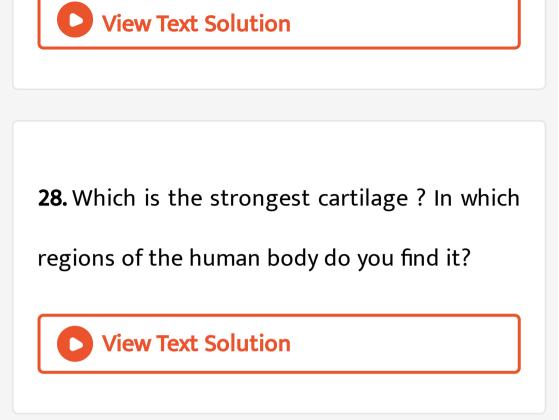
name of one hyper-parasite.

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**26.** Mention two advantages of UV rays to us.

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**27.** Distinguish between exocrine and endocrine glands with examples.



# 29. How do you justify the statement, 'heart in

fish is a branchial heart'?

**30.** In what way does tobacco affect respiration ? Name the alkaloid found in tobacco.

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**31.** Define commensalism. Give an example.



1. What are the reasons for greater

biodiversity in the tropics ?

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| 1 |      |      |    |        |

**2.** Describe the structure of a skeletal muscle.

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3. Mention the general characters of

Arachnida.

**4.** Write eight salient features of the class Amphibia.

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5. Describe the process of transverse binary

fission in Paramecium.

6. What are the adverse effects fo tobacco?

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7. Draw a neat lebelled diagram of the salivary

apparatus of Cockroach.

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8. Explain Van't Hoff rule.

9. Define Species. Explain the various aspects

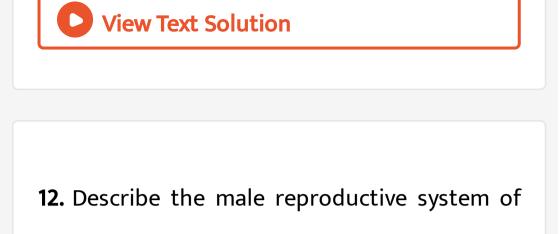
of 'Species'.



#### 10. Describe 'Green House Effect'.



**11.** Write a short note on in-situ conservation.



frog.

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# **13.** What is summer stratification ? Explain.



 Describe the structure and life cycle of Ascaris lumbricoides with the help of a neat labelled diagram.



**2.** The blood circulatory system of Periplaneta is of open type illustrate the statement describing the course of circulation in it.



**3.** Describe lake as an ecossytem giving examples of the various zones and the biotic components in it.

