



# BIOLOGY

## BOOKS - VGS PUBLICATION-BRILLIANT

### MODEL PAPER 1

#### Section A

1. What does ICBN stands for ?



**Watch Video Solution**

2. Find out what do the terms 'algal bloom' and 'red-tides' signify



**Watch Video Solution**

3. Which group of plants are called Vascular cryptogams ? Name the branch of Botany which deals with them ?



**Watch Video Solution**

4. What is meant by parthenocarpic fruit? How is it useful?



**Watch Video Solution**

5. What is meant by epipetalous condition?

Give an example.



**Watch Video Solution**

6. What is geocarpy ? Name the plant which exhibits this phenomenon.



[Watch Video Solution](#)

7. What is the function of a polysome ?



[Watch Video Solution](#)

8. Give one example for each of aminoacids, sugars, nucleotide and fatty acids.



[Watch Video Solution](#)

9. Which of the phases of cell cycle is of longest duration ?



[Watch Video Solution](#)

10. Define population and community.



[Watch Video Solution](#)

**11.** What is meant by manuals and monographs ?



**Watch Video Solution**

**12.** Name two diseases caused by Mycoplasmas.



**Watch Video Solution**

**13.** Name the stored food materials found in Phaeophyceae and Rhodophyceae.



**Watch Video Solution**

**14.** Differentiate actinomorphic from zygomorphic flower.



**Watch Video Solution**

**15.** Name a plant that has single fruit developing from the entire inflorescence.

What is such a fruit called?



**Watch Video Solution**

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



**Watch Video Solution**



**17.** What are microbodies ? What do they contain ?



**Watch Video Solution**

**18.** What are primary and secondary metabolites ? Give examples?



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

**21. What is the basic unit of classification ?**

Define it.



**Watch Video Solution**

**22. How are viroids different from viruses?**



**Watch Video Solution**

**23. Who discovered the cell and what was the**

**book written by him ?**





[Watch Video Solution](#)

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



[Watch Video Solution](#)

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



[Watch Video Solution](#)

**26.** Name the type of pollination mechanism found in members of Fabaceae.



**Watch Video Solution**

**27.** Which part of the Bacterial cell is targeted in gram staining ?



**Watch Video Solution**

**28.** Explain the Zwitterionic form of an amino acid.



**Watch Video Solution**

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



**Watch Video Solution**

**30.** Name the type of land plants that can tolerate the salinities of the sea.



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**



**34.** Which organ is modified to trap insects in Insectivorous plants? Give two examples.



**Watch Video Solution**

**35.** What are aggregate fruits? Give two examples.



**Watch Video Solution**

**36.** What is Omega Taxonomy ?



[Watch Video Solution](#)

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



[Watch Video Solution](#)

**38.** Give one example for each of aminoacids, sugars, nucleotide and fatty acids.



[Watch Video Solution](#)

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



**Watch Video Solution**

**40.** Define population and community.



**Watch Video Solution**

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





[Watch Video Solution](#)

**42.** What is the nature of cell-walls in diatoms?



[Watch Video Solution](#)

**43.** What is Palaeobotany ? What is its use ?



[Watch Video Solution](#)

**44.** Differentiate fibrous roots from adventitious roots.



**Watch Video Solution**

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



**Watch Video Solution**

**46.** Explain the scope and significance of Numerical Taxonomy.



**Watch Video Solution**

**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.



**Watch Video Solution**

**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 \_\_\_



[Watch Video Solution](#)

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



[Watch Video Solution](#)



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



**Watch Video Solution**

**51.** What is trinomial nomenclature ? Give an example.



**View Text Solution**

**52.** Mention the animals that exhibited a "tube - within - a-tube" organisation for the first time. Name their body cavity.



**View Text Solution**

**53.** Define 'Osteon'.



**View Text Solution**

**54.** Distinguish between a tendon and a ligament.



**View Text Solution**

**55.** Which arthropod, you have studied, is called a "living fossil" ? Name its respiratory organs.



**View Text Solution**

**56.** Distinguish between Proter and Opisthe.



**View Text Solution**

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



**View Text Solution**

**58.** Name three meninges. In which group of animals do you find all of them?



**View Text Solution**

**59.** Distinguish between lobopodium and filopodium. Give an example to each of them.



**View Text Solution**

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



[View Text Solution](#)

## Section B

1. Give a brief account of Dinoflagellates.



[Watch Video Solution](#)

2. Differentiate between red algae and brown algae.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

4. Give economic importance of plants belonging to Fabaceae.



[Watch Video Solution](#)

5. What are nucleosomes ? What are they made of ?



[Watch Video Solution](#)

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



[Watch Video Solution](#)



7. What is the difference between lenticels and stomata ?



[Watch Video Solution](#)

8. Enumerate the morphological adaptations of hydrophytes.



[Watch Video Solution](#)

**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).



**Watch Video Solution**

**12.** Give economic importance of plants belonging to Fabaceae.



**Watch Video Solution**

**13.** What are the characteristics of prokaryotic cells?



**Watch Video Solution**

**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.



[Watch Video Solution](#)

**15.** 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.



[Watch Video Solution](#)

**16.** 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.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

**18.** Differentiate between red algae and brown algae.



**Watch Video Solution**

**19.** List the changes observed in angiosperm flower subsequent to pollination and fertilisation.



**Watch Video Solution**



**20.** Describe the non-essential floral parts of plants belonging to Fabaceae.



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

**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 ?



**Watch Video Solution**

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



**Watch Video Solution**

**25.** Explain binomial nomenclature.



**Watch Video Solution**

**26.** Explain the scope of Botany taking plant physiology as example.



**Watch Video Solution**

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



**Watch Video Solution**

**28.** Explain Floral formula.



**Watch Video Solution**

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

Comment.



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

**32.** Give in detail the anatomical adaptations shown by xerophytes.



**Watch Video Solution**

**33.** Give the salient features and importance of chrysophytes.



**Watch Video Solution**

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



**Watch Video Solution**

**35.** Differentiate between

- a) Hypocotyl and Epicotyl
- b) Coleoptile and Coleorhiza
- c) Integument and testa
- d) Perisperm and Pericarp







[Watch Video Solution](#)

**36.** Differentiate between

Coleoptile and Coleorhiza



[Watch Video Solution](#)

**37.** Differentiate between

Integument and Testa



[Watch Video Solution](#)

**38.** Differentiate between

Perisperm and Pericarp



**Watch Video Solution**

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



**Watch Video Solution**

**40.** Describe the structure and function of Mitochondria



**Watch Video Solution**

**41.** Give an account of Glandular' Epithelium.



**View Text Solution**

**42.** Mention the salient features of Holothuroidea.



[View Text Solution](#)

**43.** Draw a neat and labelled diagram of Ommatidium.



[View Text Solution](#)

## Section C

**1.** Explain how stem is modified variously to perform different functions.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

3. Describe the internal structure of a Dicot Root .



[Watch Video Solution](#)

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.



**Watch Video Solution**

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.



**Watch Video Solution**

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.



**Watch Video Solution**



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 ?



**Watch Video Solution**

8. Write a brief account on classification of xerophytes.



**Watch Video Solution**

**9.** Explain how stem is modified variously to perform different functions.



**Watch Video Solution**

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



**Watch Video Solution**

**11.** What are complex tissues ? Describe various types of complex tissues.



**Watch Video Solution**

**12.** Explain how stem is modified variously to perform different functions.



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

**15.** Explain different types of Racemos inflorescences.



**Watch Video Solution**

**16.** What are the possible types of pollinations in chasmogamous flowers ? Give reasons.



**Watch Video Solution**

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



**Watch Video Solution**

**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.



[Watch Video Solution](#)

**19.** 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.



**Watch Video Solution**

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



Appearance / activation of ..... Enzyme  
recombinase



[Watch Video Solution](#)

**21.** 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.



[Watch Video Solution](#)

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

Interkinesis .....



[Watch Video Solution](#)

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

Formation of dyad of cells .....



**Watch Video Solution**

**24.** State the location and function of different types of meristem.



**Watch Video Solution**

**25.** What are hydrophytes ? Briefly discuss the different kinds of hydrophytes with example.



**Watch Video Solution**

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



**Watch Video Solution**

**27.** Describe the post-fertilisation changes in a flower.



**Watch Video Solution**

**28.** What are simple tissues ? Describe various types of simple tissues.



**Watch Video Solution**

29. Give an account of flow of energy in an ecosystem.



[View Text Solution](#)

## Section A

1. Define the terms couplet and lead in taxonomic key.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

3. Name different methods of vegetative reproduction in Bryophytes.



[Watch Video Solution](#)

4. Define venation. How do Dicots differ from Monocots with respect to venation.



[Watch Video Solution](#)

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



[Watch Video Solution](#)



6. What is Omega Taxonomy ?



[Watch Video Solution](#)

7. What is middle lamella made of ? What is its functional significance ?



[Watch Video Solution](#)

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



[Watch Video Solution](#)

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



[Watch Video Solution](#)

10. Hydrophytes show reduced xylem . Why ?



[Watch Video Solution](#)

## Section B

1. Give the salient features and importance of chrysophytes.



[Watch Video Solution](#)

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



[Watch Video Solution](#)

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



[Watch Video Solution](#)

4. Describe the essential floral parts of plants belonging to Lilliaceae.



[Watch Video Solution](#)

5. Describe the structure and function of Mitochondria



[Watch Video Solution](#)

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



[Watch Video Solution](#)

7. What is the difference between lenticels and stomata ?



**Watch Video Solution**

8. Give in detail the anatomical adaptations shown by xerophytes.



**Watch Video Solution**

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



**Watch Video Solution**

2. Describe the process of fertilization in angiosperms.



**Watch Video Solution**

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



[Watch Video Solution](#)

## Section A

1. What does ICZN stand for ?



[View Text Solution](#)



2. What is monoaxial heteropolar symmetry ?

Name the group of animals in which it is the principal symmetry.



[View Text Solution](#)

3. Distinguish between Brown fat and White fat.



[View Text Solution](#)

4. What are microglia and what is their origin ? Add a note on their function.



[View Text Solution](#)

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



[View Text Solution](#)

6. What are Pneumatic bones ? How do they help birds?



[View Text Solution](#)

7. What is Kinetin ?



[View Text Solution](#)

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



[View Text Solution](#)

9. Define neoplasia. Give one example.



[View Text Solution](#)

10. What is camouflage ? Give its significance.



[View Text Solution](#)

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



[View Text Solution](#)

**12.** Mention any two substances secreted by Mast cells and their functions.



[View Text Solution](#)

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



[View Text Solution](#)

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



**View Text Solution**

**15.** Distinguish between Milt and Spawn.



**View Text Solution**

**16.** List any two differences between a Flagellum and Cilium.



**View Text Solution**

**17.** Define Conjugation with reference to Ciliates. Give two examples.



**View Text Solution**

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

Give one example.



**View Text Solution**

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



**View Text Solution**

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





[View Text Solution](#)

21. Distinguish between exocrine and endocrine glands with examples.



[View Text Solution](#)

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



[View Text Solution](#)

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



**View Text Solution**

**24.** What is a Kinyety?



**View Text Solution**

25. What is a hyper-parasite ? Mention the name of one hyper- parasite.

 [View Text Solution](#)

26. Mention two advantages of UV rays to us.

 [View Text Solution](#)

27. Distinguish between exocrine and endocrine glands with examples.



[View Text Solution](#)

**28.** Which is the strongest cartilage ? In which regions of the human body do you find it?



[View Text Solution](#)

**29.** How do you justify the statement, 'heart in fish is a branchial heart'?



[View Text Solution](#)

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



**View Text Solution**

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



**View Text Solution**

**Section B**

1. What are the reasons for greater biodiversity in the tropics ?



[View Text Solution](#)

2. Describe the structure of a skeletal muscle.



[View Text Solution](#)

3. Mention the general characters of Arachnida.



[View Text Solution](#)

4. Write eight salient features of the class Amphibia.



[View Text Solution](#)

5. Describe the process of transverse binary fission in Paramecium.



[View Text Solution](#)

6. What are the adverse effects fo tobacco ?



[View Text Solution](#)

7. Draw a neat labelled diagram of the salivary apparatus of Cockroach.



[View Text Solution](#)

8. Explain Van't Hoff rule.



[View Text Solution](#)



**9. Define Species. Explain the various aspects of 'Species'.**



**View Text Solution**

**10. Describe 'Green House Effect'.**



**View Text Solution**

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



[View Text Solution](#)

12. Describe the male reproductive system of frog.



[View Text Solution](#)

13. What is summer stratification ? Explain.



[View Text Solution](#)

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



[View Text Solution](#)

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



[View Text Solution](#)

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



[View Text Solution](#)