



# BIOLOGY

## BOOKS - VGS PUBLICATION-BRILLIANT

### MODEL PAPER 4

#### Section A

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



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2. Give the main criteria used for classification by whittaker.



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



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



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5. Differentiate between apocarpous and syncarpous ovary.



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**6. What is Omega Taxonomy ?**



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



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**8. Starch, Cellulose, Glycogen, Chitin are polysaccharides found among the following.**

Choose the one appropriate and write against each.

- a) Cotton fibre - b) Exoskeleton of cockroach \_  
c) Liver \_ d) Peeled potato –



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9. At what stage of cell cycle does DNA synthesis occur ?



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10. Hydrophytes show reduced xylem . Why ?



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## Section B

1. Give the salient features and importance of chrysophytes.



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



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3. Identify each part in a flowering plant and write whether it is haploid (n) or diploid (2n).

(a) Ovary -----

(b) Anther -----

(c) Egg -----

(d) Pollen -----

(e) Male gamete -----

(f) Zygote -----



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**4. Describe the essential floral parts of plants belonging to Liliaceae.**



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5. What are the characteristics of prokaryotic cells?



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



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7. What is periderm ? How does periderm formation take place in the dicot stems ?



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8. Enumerate the morphological adaptations of hydrophytes.



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1. Explain different types of Racemos inflorescences.



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



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**3. Describe the internal structure of a Dicot Root .**



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## **Section A**

**1. What is biogenesis ?**



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2. What is monaxial heteropolar symmetry ?

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



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3. Distinguish between exocrine and endocrine glands with examples.



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4. What is a Sesamoid bone? Give an example.



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5. What is metagenesis ? Animals belonging to which phylum exhibit metagenesis ?



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6. What are claspers ? Which group of fishes possesses them?



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7. Draw a labelled diagram of T.S. of flagellum.



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8. Distinguish between Proter and Opisthe.



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9. Define parasitism and justify this term.



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10. What is BOD ?



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## Section B

1. What is the evil quartet ?



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2. Describe the three types of cartilage.



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3. Compare briefly a centipede and a millipede.



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4. Name the four 'hallmarks' of chordates and explain the principal function of each of them.



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5. Describe the process of longitudinal binary fission in Euglena.



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6. What in adolescence is considered vulnerable phase ?



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7. Draw a neat labelled diagram of the mouth parts of cockroach.



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8. What is summer stratification ? Explain.



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**Section C**

1. Explain the structure of life cycle of *Entamoeba histolytica* with the help of neat and labelled diagrams.



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2. Describe the blood circulatory system of *Periplaneta* in detail and draw a neat and labelled diagram of it.



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## Section A

1. What is trinomial nomenclature ? Give an example.



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2. What are retroperitoneal organs ?



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3. Mention the animals that exhibited a 'tube-within-a tube' organisation for the first time.

Name their body cavity.



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



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5. What are the functions of Canal system of sponges ?



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6. How do you distinguish a male frog from a female frog?



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7. Define conjugation with reference to ciliates.

Give two examples.



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



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9. Define incubation period. What is its duration in life cycle of Plasmodium vivax?





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10. Distinguish between lotic and lentic habitats.



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## Section B

1. What are the salient features exhibited by polychaetes ?



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2. Prevention is better than cure'. Justify with regard to TDA abuse.



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3. Write a short note on DFC. Give its significance in a terrestrial ecosystem.



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## Section C

1. List out the major air pollutants and describe their effects on human beings.



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