

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023  
(Third Semester)

Branch – BOTANY

VEGETATIVE PLANT BIOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 Find out the readily available water to plants for absorption by roots  
(i) Gravitational water (ii) Capillary water  
(iii) Rain water (iv) Hygroscopic water
- 2 In mycorrhiza, fungal filaments help in  
(i) Water absorption (ii) Food translocation  
(iii) Developing tension in xylem (iv) Development of root pressure
- 3 Identify thorn is  
(i) modification leaf (ii) axillary bud modified  
(iii) climbing structure (iv) always non -woody
- 4 How should be the color of good quality timber?  
(i) Light (ii) Gradient  
(iii) Dark (iv) Brown
- 5 Phyllotaxy refers to an arrangement of  
(i) Phloem in a vascular bundle (ii) Axillary buds in a plant  
(iii) Veins in a leaf (iv) Leaves on the stem

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Explain the root tip meristem.  
OR  
b Analyze the features of tap root.
- 7 a Write an outline of Prop and photosynthetic roots.  
OR  
b Discuss the importance of root pressure.
- 8 a Show the difference between erect and climbing stems.  
OR  
b Summarize the modification of aerial stem.

Cont...

- 9 a Write an outline of Pruning and healing process.  
OR  
b Appraise the specific gravity of wood.
- 10 a Elaborate account on simple and compound leaves.  
OR  
b Summarize the leaf modification with suitable examples.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Discuss the internal structure of young root of Dicot plant.  
OR  
b Determine the internal structure of mature monocot root.
- 12 a Trace out the mechanism of water absorption.  
OR  
b Discuss the process of Guttation and its importance.
- 13 a Outline the primary anatomical structure of Dicot stem.  
OR  
b Elucidate the anomalous structure of *Achyranthus stem*.
- 14 a Explain the capillary action and how does it work?  
OR  
b Compile the physical properties of wood.
- 15 a Describe the internal structure of dorsiventral leaf with suitable diagram.  
OR  
b Examine the mechanism of stomatal transpiration.

Z-Z-Z

END