

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Second Semester)

Branch -BOTANY

VEGETATIVE PLANT BIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The zone of root tip mainly responsible for cell division is: a) Zone of elongation b) Zone of maturation c) Root cap d) Meristematic zone	K1	CO1
	2	The radial arrangement of vascular tissues is commonly found in: a) Stem b) Root c) Leaf d) Flower	K2	CO1
2	3	Pneumatophores are mainly associated with: a) Desert plants b) Mangrove plants c) Aquatic plants d) Epiphytes	K1	CO2
	4	Velamen is a characteristic feature of: a) Hydrophytes b) Xerophytes c) Epiphytic roots d) Parasitic roots	K2	CO2
3	5	A stem modification for storage and perennation is: a) Tendril b) Rhizome c) Spine d) Phyllode	K1	CO3
	6	Anomalous secondary growth is commonly found in: a) Wheat b) Achyranthes c) Mango d) Maize	K2	CO3
4	7	The vascular cambium forms: a) Cortex and epidermis b) Secondary xylem and secondary phloem c) Root cap d) Periderm only	K1	CO4
	8	The cohesion-tension theory explains: a) Mineral absorption b) Water ascent in xylem c) Root pressure d) Guttation	K2	CO4
5	9	Leaf arrangement in which three leaves arise from a node is: a) Alternate b) Opposite c) Whorled d) Spiral	K1	CO5
	10	Phyllode is mainly formed by modification of: a) Leaf lamina b) Petiole c) Stipule d) Midrib	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the organization of root apex with reference to zones of growth.	K1	CO1
		(OR)		
	11.b.	Compare tap root system and fibrous root system with examples.		
2	12.a.	Write an account on specialized roots with suitable examples.	K2	CO2
		(OR)		
	12.b.	Explain the structure and significance of mycorrhiza.		
3	13.a.	Explain primary structure of dicot stem with labelled diagram.	K2	CO3
		(OR)		
	13.b.	Write notes on shoot apical meristem and its role in primary growth.		
4	14.a.	Enlist the medicinal properties usage of barks.	K4	CO4
		(OR)		
	14.b.	Explain chemical composition of wood and significance of lignin, tannins and resins.		
5	15.a.	Describe stomatal structure and explain the mechanism of stomatal movement.	K4	CO5
		(OR)		
	15.b.	Write notes on xerophytic leaf adaptations against drought and predators.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the structure of mature dicot root with labelled diagram.	K1	CO1
2	17	Explain the physiology of water absorption in roots. Discuss symplastic and apoplastic pathways.	K2	CO2
3	18	Explain the types of stems and stem modifications with examples.	K3	CO3
4	19	Discuss conduction of water in stem. Explain capillary action, cohesion-tension theory and modern concepts of ascent of sap.	K4	CO4
5	20	Describe leaf morphology in detail with examples.	K4	CO5

Z-Z-Z END