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22BOU309N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Third 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 region of the root responsible for increase in length is: a) Root cap b) Zone of elongation c) Zone of maturation d) Pericycle	K1	CO1
	2	Fibrous roots are characteristic of: a) Dicot plants b) Monocot plants c) Gymnosperms d) Pteridophytes	K2	CO1
2	3	Pneumatophores are characteristic of: a) Maize b) Rhizophora c) Banyan d) Money plant	K1	CO2
	4	Mycorrhiza is an association between: a) Root and bacteria b) Root and fungi c) Root and algae d) Root and protozoa	K2	CO2
3	5	The underground stem of ginger is called: a) Bulb b) Corm c) Rhizome d) Tuber	K1	CO3
	6	Lenticels help in: a) Water absorption b) Gas exchange c) Food conduction d) Transpiration	K2	CO3
4	7	The cohesion-tension theory was proposed by: a) Dixon and Joly b) Strasburger and Sachs c) Haberlandt and Priestley d) Darwin and Wallace	K1	CO4
	8	The main tissue responsible for secondary growth is: a) Cambium b) Pith c) Cortex d) Phloem	K2	CO4
5	9	The arrangement of leaves on the stem is called: a) Vernation b) Venation c) Phyllotaxy d) Phyllode	K1	CO5
	10	The leaf modified into a pitcher is found in: a) Pea b) Opuntia c) Nepenthes d) Acacia	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.	(a) Describe the types of root systems with examples.	K1	CO1
		(OR)		
	11.b.	(b) Write short notes on the structure and function of root hairs.		
2	12.a.	Explain active and passive absorption of water.	K2	CO2
		(OR)		
	12.b.	Differentiate between symplastic and apoplastic pathways of water movement.		
3	13.a.	Describe the anatomy of a dicot stem.	K3	CO3
		(OR)		
	13.b.	(b) Write short notes on anomalous stem structure in *Nyctanthes*.		
4	14.a.	Write notes on the physical properties of wood.	K4	CO4
		(OR)		
	14.b.	Explain the chemical composition and economic uses of wood.		
5	15.a.	Explain the internal structure of a dicot leaf.	K4	CO5
		(OR)		
	15.b.	Describe the mechanism of stomatal movement.		

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 developmental regions of the root tip and their respective functions.	K1	CO1
2	17	Write an essay on specialized roots and their adaptive significance.	K2	CO2
3	18	Describe the morphological types of stems and their functions.	K3	CO3
4	19	Discuss secondary growth in stems and its significance.	K4	CO4
5	20	Discuss leaf adaptations to drought, moisture, snow, and herbivory.	K4	CO5

Z-Z-Z END