

LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

FIRST SEMESTER – NOVEMBER 2024



UPB 1502 – PLANT ANATOMY AND EMBRYOLOGY



Date: 13-11-2024

Dept. No.

Max. : 100 Marks

Time: 09:00 am-12:00 pm

SECTION A - K1 (CO1)

Answer ALL the Questions		(10 x 1 = 10)
1.	Fill in the blanks	
a)	The special type of parenchyma seen in aquatic plants is _____.	
b)	Bicollateral vascular bundles are seen in _____.	
c)	The dark-coloured portion of the wood is called _____.	
d)	The outer wall of pollen is called _____.	
e)	Coconut is an example for _____ endosperm.	
2.	State whether the following statements are TRUE or FALSE	
a)	Apical meristem is responsible for increase in girth.	
b)	Tunica Corpus theory holds good for cryptogams.	
c)	Anisocytic stomata is also known as cruciferous type of stomata.	
d)	Tapetum is nutritive in function.	
e)	Coleoptile develops into shoot system.	

SECTION A - K2 (CO1)

Answer ALL the Questions		(10 x 1 = 10)
3.	Choose the correct answer	
a)	Bast fibers are obtained from a. Phloem b. xylem c. cortex d. mesocarp	
b)	Histogen theory was proposed by a. Schmist b. Schneider c. Hanstein d. Golgi	
c)	Dendrochronology is related to study of a. leaf b. stomata c. roots d. stem	
d)	Anemophily is pollination by a. insects b. wind c. water d. bats	
e)	Polyembryony is seen in a. Citrus b. Pear c. Peas d. Bean	
4.	Answer the following, each in about 50 words	
a)	List the features of sclereids.	
b)	Define intercalary meristem.	
c)	Distinguish between paracytic and diacytic stomata.	

d)	Expand NPC.
e)	Comment on triple fusion.

SECTION B - K3 (CO2)

	Answer any TWO of the following in 500 words	(2 x 10 = 20)
Draw diagrams / flowcharts wherever necessary		
5.	Explain the features of parenchyma. Add a note on its types.	
6.	Explain the theories on organization of apical meristem.	
7.	Discuss the structure of pollen grain.	
8.	Write notes on the types of ovules.	

SECTION C – K4 (CO3)

	Answer any TWO of the following in 500 words	(2 x 10 = 20)
Draw diagrams / flowcharts wherever necessary		
9.	Write notes on the features of collenchyma. Add a note on its types.	
10.	Describe the types of vascular bundles.	
11.	Explain the anatomy of monocot root.	
12.	Enumerate the features that favour cross pollination.	

SECTION D – K5 (CO4)

	Answer any ONE of the following in 1000 words	(1 x 20 = 20)
Draw diagrams / flowcharts wherever necessary		
13.	Compare the anatomical features of dicot and monocot stem.	
14.	Describe the anatomy of dorsiventral and isobilateral leaf.	

SECTION E – K6 (CO5)

	Answer any ONE of the following in 1000 words	(1 x 20 = 20)
Draw diagrams / flowcharts wherever necessary		
15.	Elaborate on the structure of a mature anther.	
16.	Describe the endosperm, their types and functions.	

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