



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – APRIL 2023

UPB 1502 – PLANT ANATOMY AND EMBRYOLOGY

Date: 09-05-2023

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A

(20 marks)

Answer ALL the Questions

1. Choose the correct answer		(5 x 1 = 5)	
a)	Phellogen is an example for _____ meristem. i) apical ii) intercalary iii) primary iv) secondary	K1	CO1
b)	Bicollateral vascular bundles are seen in the stem of i) Poaceae ii) Apocyanaceae iii) Cucurbitaceae iv) Rubiaceae	K1	CO1
c)	In monocot leaf, the shape of the stomata is i) cup shaped ii) kidney shaped iii) dumb-bell shaped iv) star shaped	K1	CO1
d)	Pollen tube is formed from i) vegetative cell ii) generative cell iii) endexine iii) ektexine	K1	CO1
e)	The cyclic parthenogenesis is otherwise called as i) complete parthenogenesis ii) incomplete parthenogenesis iii) hybrid parthenogenesis iv) haploid parthenogenesis	K1	CO1
2. Complete the following sentences		(5 x 1 = 5)	
a)	The cell wall in plants is predominantly made of _____.	K1	CO1
b)	Phloem wedges are seen in _____.	K1	CO1
c)	Rubiaceous type of stomata is also known as _____.	K1	CO1
d)	The two types of tapetum are _____ and _____.	K1	CO1
e)	The exalbuminous seeds are called as _____.	K1	CO1
3. Answer the following, each within 50 words		(5 x 2 = 10)	
a)	Mention any two features of collenchyma.	K2	CO1
b)	Define dendrochronology.	K2	CO1
c)	Comment on bulliform cells.	K2	CO1
d)	Differentiate exine from intine.	K2	CO1
e)	PEN - expand and comment.	K2	CO1

SECTION B

Answer any TWO of the following each within 500 words. Draw diagrams / flowcharts wherever necessary.

(2 x 10 = 20)

4.	Outline the features of parenchyma.	K3	CO2
5.	Explain the types of vascular bundles.	K3	CO2
6.	Illustrate the primary structure of dicot root.	K3	CO2
7.	Present the internal structure of a mature anther.	K3	CO2

SECTION C

Answer any TWO of the following each within 500 words. Draw diagrams / flowcharts wherever necessary.

(2 x 10 = 20)

8.	Describe the characteristics of xylem tissue.	K4	CO3
9.	Outline the anatomy of <i>Dracaena</i> stem.	K4	CO3
10.	Illustrate the different types of ovules.	K4	CO3
11.	Explain about endosperm and its types.	K4	CO3

SECTION D

Answer any ONE of the following within 1000 words. Draw diagrams / flowcharts wherever necessary.

(1 x 20 = 20)

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| 12. | Compile the various theories related to the organization of apical meristems. | K5 | CO4 |
| 13. | Summarize the process of fertilization and add notes on its types. | K5 | CO4 |

SECTION E

Answer any ONE of the following within 1000 words. Draw diagrams / flowcharts wherever necessary.

(1 x 20 = 20)

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| 14. | Compare the anatomy of dicot and monocot stem. | K6 | CO5 |
| 15. | Elucidate and illustrate the various types of pollination. | K6 | CO5 |

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