



**School:** School of Science  
**Program/s:** BSc Chemistry  
**Year:** 2<sup>nd</sup> **Semester:** 3rd  
**Examination:** End Semester Examination  
**Examination year:** December 2022

**Course Code:** BO204      **Course Name:** Plant Structural Biology and Physiology  
**Date:** 08/12/2022      **Total Marks:** 40  
**Time:** 11:30 am to 01:30 pm      **Total Pages:** 02

**Instructions:**

- Write each answer on a new page.
- Use of a calculator is *permitted*/not permitted.
- Draw neat and labelled diagrams/charts wherever necessary.

Q. No.	Details	Marks	COs*	BTL#
Q.1	<b>Answer the following objective type questions:</b>	<b>(7 Marks)</b>		
1.	..... is the innermost layer of the cortex.	1	CO1	BT1
2.	Root epidermis is also sometimes referred to as .....	1	CO2	BT3
3.	The parenchyma may contains chlorophyll and it is called as .....	1	CO3	BT2
4.	The living tissue that provides support to the growing parts of the plant, is .....	1	CO4	BT3
	i. Sclerenchyma                          ii. Collenchyma iii. Parenchyma                          iv. Fibres			
5.	Which meristem helps in increasing the girth of the plant?	1	CO4	BT3
	i. Primary meristem                      ii. Apical meristem iii. Intercalary meristem                iv. Lateral meristem			
6.	..... these are elongated, thin living cells existing with sieve tubes.	1	CO4	BT3
	i. Phloem fibre                              ii. Sieve cells iii. Companion cells                        iv. Tracheids			
7.	In the parenchyma, cells are ..... which means they are equally expanded on all the sides.	1	CO1	BT1
	i. Isoelectric                                ii. Isomerism iii. Isodiametric                            iv. Isonuetric			
Q.2	<b>Answer <u>any four</u> of the following:</b>	<b>(2 x 4 = 08 Marks)</b>		
1.	Where are Bulliform cells present, and what role do they play?	2	CO1	BT1
2.	State the general characteristics of Gymnosperms.	2	CO2	BT3
3.	Describe in brief some functions of trichomes.	2	CO3	BT2

- |   |   |     |     |
|---|---|-----|-----|
| 4. Comment upon the various types of secondary anomalous growth in plants, with examples. | 2 | CO4 | BT3 |
| 5. Write a short note on simple permanent tissues.  | 2 | CO1 | BT1 |

**Q.3 Answer any five of the following: (5 x 5 = 25 Marks)**

- |  |   |     |     |
|--|---|-----|-----|
| 1. With a neat and labelled diagram explain the anomalous secondary growth in <i>Salvadora</i> .       | 5 | CO2 | BT3 |
| 2. Discuss in brief and draw a neat labelled diagram of the cross section of dicot stem.               | 5 | CO3 | BT2 |
| 3. Describe the structure of water conducting tissue, with necessary diagrams.                         | 5 | CO1 | BT1 |
| 4. Based on the number and arrangement of the subsidiary cells, draw and explain the types of stomata. | 5 | CO4 | BT3 |
| 5. Discuss a synoptic outline of the classification system of gymnosperms.                             | 5 | CO3 | BT2 |
| 6. Give a brief comparative account on monocotyledonous and dicotyledonous leaf anatomy.               | 5 | CO1 | BT1 |

\*\*\*\*\*End of Question Paper\*\*\*\*\*