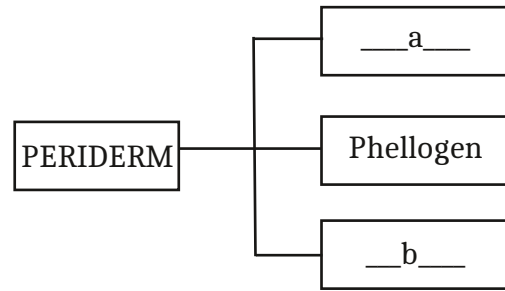


PREVIOUS QUESTIONS XI 2012-2022 : Chapter 4 - Anatomy of Flowering plants**1 Mark Questions**

- Analyse the given statements and correct the false statements with respect to the underlined word.
 - In roots, vascular tissues are conjoint.
 - Cork cambium is otherwise called phelloderm. 2012 March
- Imagine that you and your father is visiting a timbershop to buy wood for making furniture. Timbershop owner suggested rosewood. Father seeks your help to determine the age of the wood.
 - As a botany student, can you help your father?
 - Justify your answer. 2013 Imp.
- In timber yielding plants, only the central part of the wood is used to make furniture. Name this part and justify your answer. 2016 Imp.
- Parenchyma is a tissue for storage, schlerenchyma is a tissue for 2017 Imp.
- Fill in the blank.
Epidermal hairs on the stem of certain plants are called..... 2017 2nd term
- Choose the CORRECT answer.
All tissues on the innerside of the endodermis together constitute....
 - Conjunctive tissue
 - Stele
 - Pericycle
 - Vascular bundle 2018 Imp.
- Which among the following is a correct statement?
 - Lenticels permit exchange of gases.
 - Phelloderm is a secondary meristem.
 - Bulliform cells are present in roots.
 - In stem, the xylem is exarch. 2018 2nd term
- Select the statement which is not applicable to sclerenchyma.
 - Consists of long narrow cells
 - The cells are living
 - The cell wall is lignified
 - Provides mechanical support to organs 2019 2nd term

- Complete the table with appropriate words.

2019 2nd term

- Choose the correct answer.

Casparian strips are present in ...

- Dicot root
- Dicot leaf
- Dicot stem
- Monocot stem 2020 March

- Choose the correct answer.

Vascular bundles which have cambium between xylem and phloem is called ____

- Open vascular bundle
- Closed vascular bundle
- Radial vascular bundle
- Peripheral vascular bundle 2020 Imp.

2 Marks Questions

- In an anatomy lab, Ramu and Salim were taking transverse sections (T.S.) of two specimens A and B respectively. Their observations are given in the table. Complete the table.

Specimen A	Specimen B
1a.Closed vascular bundles	1b.Open vascular bundles
2a.	2b.
3a.	3b.

2012 March

PREVIOUS QUESTIONS XI 2012-2022 : Chapter 4 - Anatomy of Flowering plants

2. Two types of plant specimens were given to students for microscopical observation. They were directed to note down the features they observed. Major features noted by students were summarised in the box below.

- a) Radial vascular bundles and are 20 in number
 b) Collateral vascular bundles arranged in the form of a ring and vascular bundles are few in number
 c) Xylem round in shape
 d) Xylem is exarch
 e) Cambium present in between xylem and phloem
 f) Xylem is endarch

- a) Name the two specimens.
 b) Substantiate your answer by picking up the features of specimens from the box and write them in two columns.

2013 Imp.

3. Stomata are small openings present in the epidermis of leaves. The stomata are bound by guard cells. Mention the role of guard cells in stomatal mechanism.

2014 Imp.

4. The internal anatomy of dicot and monocot stems show many differences. Mention any four differences between their vascular bundles.

2016 Imp.

5. The following are the characters of dicot stem and monocot stem. Identify the characters and write in appropriate column.

- a) Sclerenchymatous hypodermis
 b) Collenchymatous hypodermis
 c) Vascular bundles are conjoint, closed
 d) Vascular bundles are arranged in a ring

2017 Imp.

6. Anatomical features of a plant part are given below.

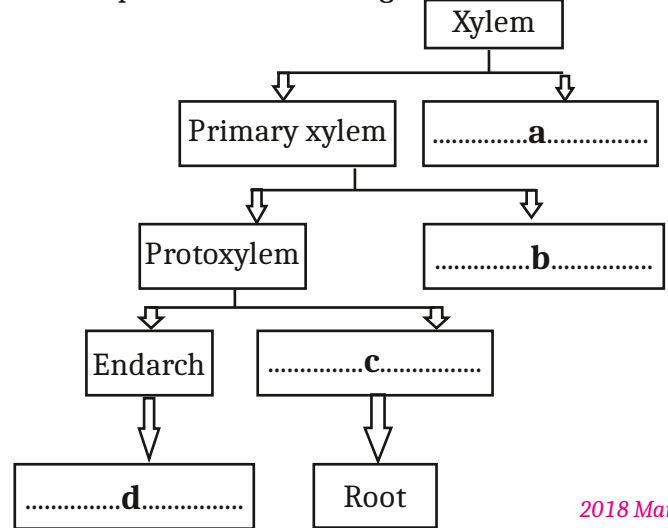
Collenchymatous hypodermis

Open vascular bundles

Identify the plant part and write other three features of the identified plant part.

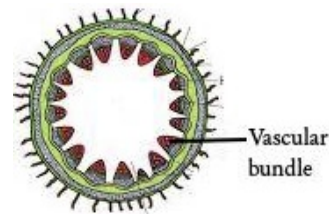
2017 2nd term

7. Complete the flowchart given below:



2018 March

8. Observe the T.S of a plant part given below:



Identify the plant part and explain any two features of its vascular bundles.

2018 Imp.

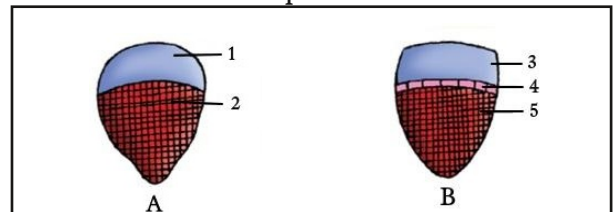
9. The opening and closing of stomata is aided by the peculiarities of bean shaped guard cells. Mention any two such peculiarities.

2018 Imp.

10. Which are the different types of cells present in xylem tissue?

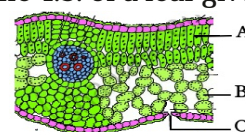
2018 2nd term

11. Identify the types of vascular bundles given below and label the parts.



2018 2nd term

12. Observe the T.S. of a leaf given below:



(a) Label A, B and C.

(b) Identify the type of leaf.

2019 Model

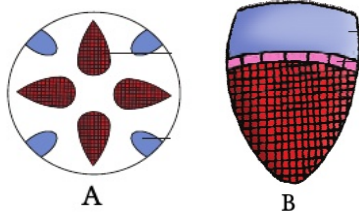
PREVIOUS QUESTIONS XI 2012-2022 : Chapter 4 - Anatomy of Flowering plants

13. Notice the three simple tissues given below.

- Sclerenchyma
- Parenchyma
- Collenchyma

Identify and write the tissue that consists of cells that are thickened at the corners. Write the function of this tissue. 2019 March

14. Observe the diagrams showing various types of vascular bundles. Identify and differentiate A and B.



2019 2nd term

15. Write any two anatomical differences between stem and Root of Angiosperms. 2021 Model

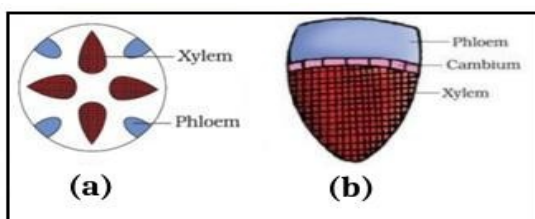
16. Write the difference between spring wood and autumn wood. 2021 Model

17. Xylem is a conducting tissue seen in higher plants. Write the names of four elements of Xylem. 2021 Model

18. Differentiate endarch and exarch xylem. 2021 Sept.

19. Differentiate between Heartwood and Sapwood. 2021 Sept.

20. Observe the figure. Identify the types of vascular bundles.



2021 Sept.

21. What are simple tissues? Write two examples. 2021 Imp.

22. The tissue between the upper and lower epidermis in dorsio-ventral leaf is called mesophyll tissue.

(a) Name the two types of cells seen in mesophyll tissue.

(b) What is the function of mesophyll tissue? 2021 Imp.

23. Given below are some characteristics of dicot root and dicot stem. Arrange them under suitable columns in the table provided.

- Presence of casparian strips.
- Vascular bundles arranged in the form of a ring.
- Two or four xylem and phloem patches.
- Conjoint, open, vascular bundles with endarch protoxylem.

Dicot root	Dicot stem
•	•
•	•

2021 Imp.

24. Name the four different components of phloem in angiosperms. 2022 Model

25. What are bulliform cells? Mention their function. 2022 Model

26. List out the four components of xylem in angiosperms. 2022 June

27. How do conjoint vascular bundles differ from radial vascular bundles? 2022 June

3 Marks Questions

- Dicot plants show secondary growth in their stem and root.
 - Name the meristems that causes secondary growth in vascular region and cortex
 - Comment on the activity of this meristem 2012 Imp.
- Some tissues in plants are not able to divide further.
 - Suggest name of such tissues
 - Give any three examples
 - List the difference between epidermal tissue system of roots and leaves. 2012 Imp.
- In the anatomy lab, Eugen observed the following features in the T.S. of a plant part.
 - Radial and polyarch xylem bundles
 - Parenchymatous (homogenous) cortex
 - Large pith
 - Epidermis with epidermal hairs
 - Pericycle
 - Endodermis with casparian strips
 - Identify the plant. ($1\frac{1}{2}$)
 - Re-arrange the given regions from the periphery to the centre in their correct sequence. ($1\frac{1}{2}$)
 - Give an account of casparian strips. (1) 2013 March.

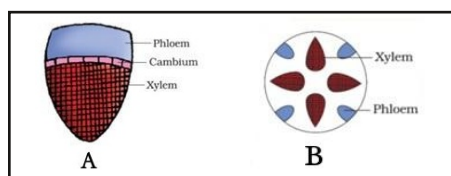
PREVIOUS QUESTIONS XI 2012-2022 : Chapter 4 - Anatomy of Flowering plants

4. Match the following columns A and B.

A	B
a) Companion cells	i) Stomata
b) Lenticels	ii) Chlorophyll bearing cells
c) Bulliform cells	iii) Casparian strips
d) Subsidiary cells	iv) Present between xylem and phloem
e) Mesophyll cells	v) Phloem tissue
f) Endodermal cells	vi) Empty, colourless cells
	vii) Exchange of gases

2014 March

5. The following figures show two types of vascular bundles:



- a) Identify the vascular bundles A and B
b) Briefly explain A and B in one or two sentences.

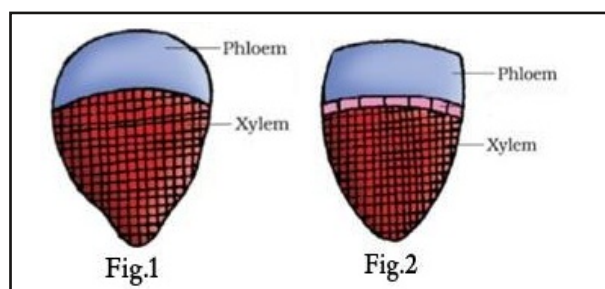
2014 Imp.

6. In a dicotyledonous stem, secondary growth takes place at two regions by the activity of two lateral meristems.

- a) Identify the two lateral meristems.
b) List the new tissues formed from each of these meristems.

2015 March

7.



Identify the types of vascular bundle in figure 1 and 2. Write the features of each vascular bundle.

(Hint : Any two points each) 2015 Imp.

8. Distinguish between leaf anatomy of dicot leaf and monocot leaf.

(Hint : Any three points each) 2015 Imp.

9. How does periderm develop in dicot stem and replace the outer broken cortical and epidermal layers?

2016 March

10. In dicot stem, both intrafascicular and interfascicular cambium form a ring of vascular cambium. Explain the activity of this cambial ring.

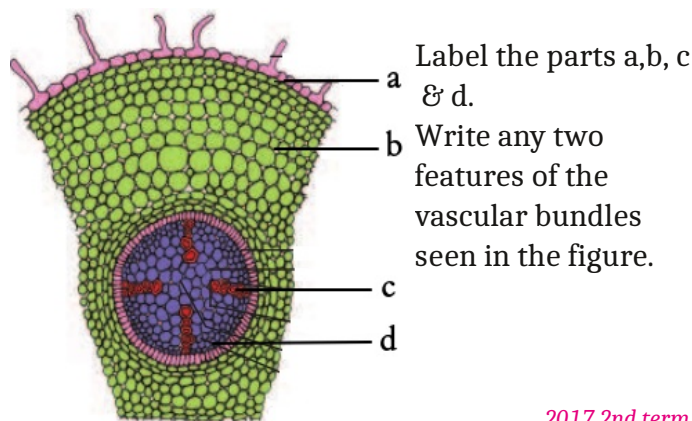
2016 March

11.a) The tissues involved in secondary growth of dicot plants are vascular cambium and.....

b) Compare the formation of vascular cambium in dicot stem and dicot root.

2017 March

12. Observe the diagram given below.



Label the parts a, b, c & d.

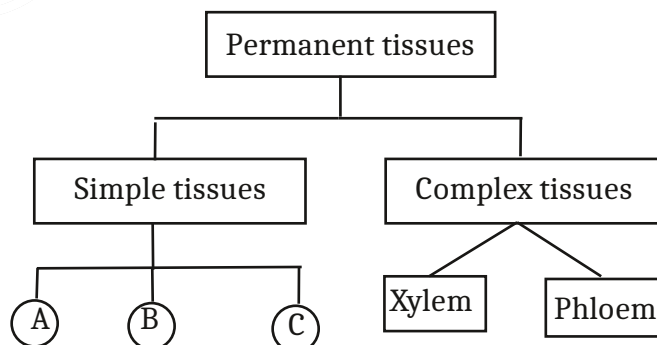
Write any two features of the vascular bundles seen in the figure.

2017 2nd term

13. Girth of a stem increases due to the activity of cambial ring. Explain the process of formation of cambial ring and its activity.

2017 2nd term

14. Observe the flow chart given below:



- a) Identify A, B, C. Write the function of B.
b) Differentiate endarch and exarch xylem.

2018 Model

15. Periderm is constituted by three kinds of tissues. Name them. Write one peculiarity of each of them.

2018 Model

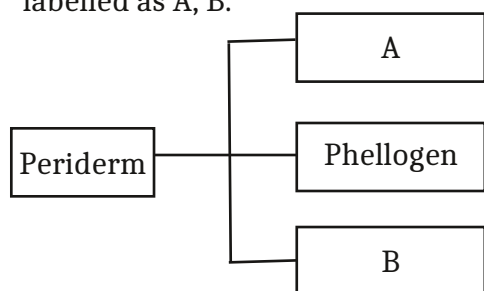
16. The tissue found between the upper and lower epidermis of a leaf is called mesophyll.

- a) Write the type of cells found in this tissue in a dicot leaf.
b) Mention two differences between a dicot leaf and monocot leaf.

2018 March

PREVIOUS QUESTIONS XI 2012-2022 : Chapter 4 - Anatomy of Flowering plants

- 17.(a) A flow chart showing different layers of periderm is given below. Identify the layers labelled as A, B.



- (b) Write down two peculiarities of phellogen.
2019 Model

- 18.Observe the terms given below:

Xylem, Root hairs, Pith, Stomata, Cambium, Bulliform cells.

From this, identify and write the structures seen in epidermal tissue system. Write their functions.

(Hint : 3 structures) *2019 March*

- 19.The following are the anatomical features of flowering plants. Arrange these features in the table given below:

- Exarch xylem
- Presence of hypodermis
- Palisade parenchyma cells
- Conjoint and open vascular bundles
- Endodermis with casparian strips
- Large empty bulliform cells

STEM	ROOT	LEAF
•	•	•
•	•	•

2019 Imp.

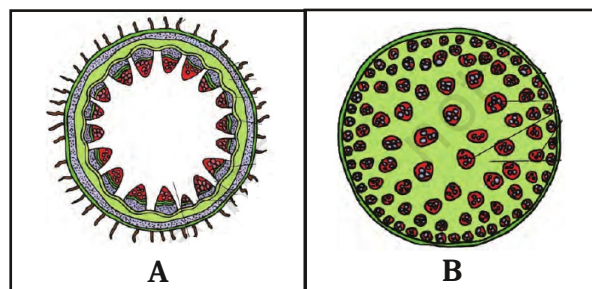
- 20.Anatomical features of two plant specimens are given below:

- Name the two specimens.
- Substantiate your answer by arranging them in two columns.

More than six radial vascular bundles
Large number of vascular bundles arranged in the form of a ring
Xylem round in shape
Xylem is exarch
Cambium present between Xylem and Phloem
Xylem is endarch

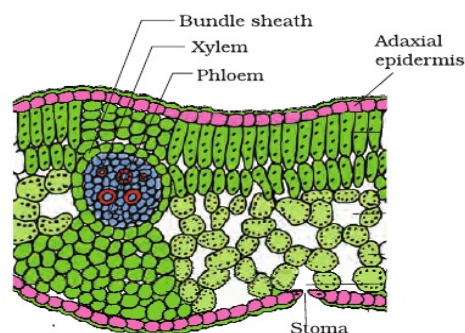
2019 2nd term

- 21.Following are the diagrams showing primary structure of dicot stem (A) and monocot stem (B).Write any three differences between them.



2020 Model

- 22.Observe the figure given below:



- Write any three features on mesophyll cells from the figure.
2020 March

- 23.Arrange the following anatomical characters in appropriate column:

Conjoint vascular bundle
Upper and lower epidermis
Exarch xylem
Radial vascular bundles
Endarch xylem
Ground tissue is called mesophyll

Stem	Root	Leaf

2020 Imp.