



BIOLOGY

BOOKS - MAXIMUM PUBLICATION

Anatomy of flowering plants

Exercise

1. Both apical and intercalary meristems are
which meristems

A. Primary

B. Secondary

C. Lateral

D. None of these

Answer: A



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2. Sclerieds present in

A. fruit wall of nuts

B. pulp of guava

C. seed coat of legumes

D. All of these

Answer: D



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3. Which of the following condition of xylem is present in both monocot and dicot stems

A. exarch

B. endarch

C. polyarch

D. mesaarch

Answer: B



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4. Bark does not include

A. secondary xylem

B. secondary phloem

C. periderm

D. both a and b

Answer: A



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5. Which is not a living tissue?

A. collenchyma

B. parenchyma

C. sclerenchyma

D. none of these

Answer: A



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6. What is the cells that make the leaves curl in plants during water stress?



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7. What part of the plant would show the following:

Radial vascular bundle

polyarch xylem

Well developed pith



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8. Fill in the blank

Apical meristem for elongation of stem, Lateral

meristem for _____





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9. While analysing the anatomy of a given slide, phloem, cambium and xylem are present. Identify the material.



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10. Tissues are specialised to perform mechanical function. They have thickening at corners, living and cellulose. Name it.



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11. What does the fascicular cambium gives rise to?



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12. Which type of meristems can be classified on the basis of positions in the plant body?



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13. Find the odd one and give:

Phellem, Phellogen, Phloem, Phelloderm



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14. Fill in the blank

Stem : Endarch :: Root : _____



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15. Fill in the blank

interfascicular cambium: secondary xylem::

cork cambium: _____



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16. Activity of cambium is different in two seasons and xylem vessels formed have narrow and wide lumens. Give the type of wood formed during the different seasons.



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17. What use are phloem fibres put to?



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18. Identify the plant grow from the data given below:

habitat tree

xylem vessels present

absence of companion cell in phloem

no fruits



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19. Ramu observed the growth of a plant in his garden .He realised that the plant grow both in length and width. Name the tissue responsible for the growth of the plant



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20. A cross-section of of plant materials show the following anatomical features under microscope.

Vascular bundles are radially arranged .

To which organ should it be assigned? Four xylem strands with exarch condition of the protoxylem. To which organ should it be assigned? Edit



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Vascular bundles are conjoint, scattered and surrounded by sclerenchymatous bundle sheaths.

Phloem parenchyma is absent . What will you identify it as?



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26. During the secondary thickening of a dicot stem, from the outer cortical region, a meristematic tissue is developed. Name this tissue and write the function of it.



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27. Analyse the table and arrange the matter in an appropriate order.

A	B	C
Monocot stem	Bulliform cells	Casparian thickening
Dicot stem	Radial	Protoxylem lacunae
Isobilateral leaf	Closed	Secondary thickening
Dicot root	Open	Epidermits



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28. Differentiate the following characters of dicot stem and monocot stem.

Differentiated cortex, Protoxylem lacuna present, open bundle, bundle Sheath, starch sheath, sclerenchymatous hypodermis, scattered bundles, V.Bs. arranged in ring, closed bundle, phloem parenchyma absent, presence of pith, collenchymatous hypodermis.



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29. Xylem is the complex tissue that transport water in plants.

Name the main components of xylem. Which of these is mostly likely suitable for conducting water?



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31. Examine the anatomy of two plants.

Xylem vessels and tracheids are seen.

Xylem vessels absent and tracheids present.



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32. Examine the anatomy of two plans.

Xylem vessels and tracheids are seen.

Xylem vessels absent and tracheids present.



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33. Identify the figure A and B and differentiate between A and B.



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34. Phloem is called the complex tissue while parenchyma is a simple tissue. Make the differences.



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35. When the cross section of a stem was examined, a student could notice collenchymatous hypodermis, Limited number of open vascular bundles, cortex, endodermis and pith.

(1) Identify the material.

(2) Draw the diagram of the material showing these parts and label.



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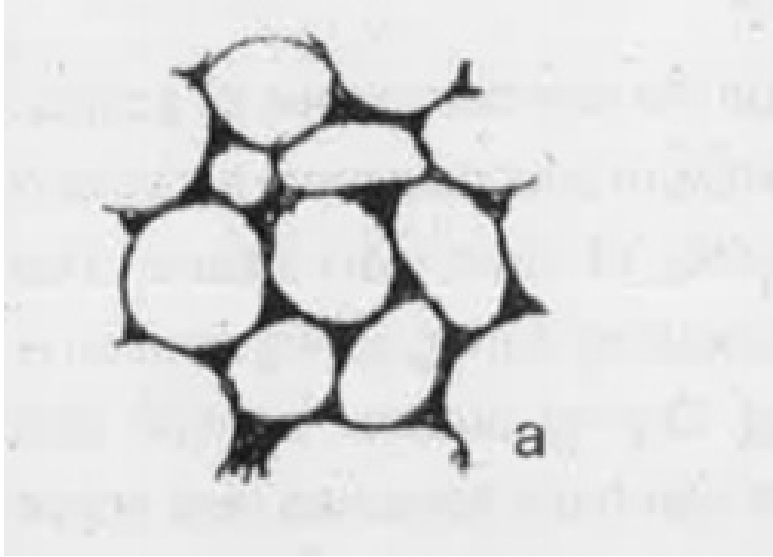
(1) Identify the material.

(2) Draw the diagram of the material showing these parts and label.



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37. Observe the diagrams and identify the tissue types.



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39. While doing anatomy practical, students observe ten following characters:

(i) Undifferentiated ground tissue.

(ii) Numerous vascular bundles and are scattered.

(iii) Sclerenchymatous hypodermis.

(iv) Presence of bundle sheath.

Identify the material. Write any one example of a plant having such characters.



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41. What is the function of phloem parenchyma?



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42. Activity of cambium is different in two seasons and xylem vessels formed have narrow and wide lumens. Give the type of wood formed during the different seasons.



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43. Mention the characteristic features of sieve tube members.



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44. It is difficult to open and close wooden doors and windows during rainy season.

What is the reason?



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45. Heart wood is resistant to micro organisms. Justify the statement.



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46. Simple tissues that perform mechanical support in plants and usually dead tissues.

Name the living simple tissue that provides mechanical support to plant organs. In which category of plants(dicots/monocots) do they found?



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47. What is present on the surface of the leaves which helps the plant prevent loss of water but is absent in roots?



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48. What is the epidermal cell modification in plants which prevents water loss?



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49. Find the odd one and give:

Phellem, Phellogen, Phloem, Phelloderm



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50. A transverse section of the trunk of a tree shows concentric rings which are known as growth rings. How are these rings formed? What is the significance of these rings?



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51. While eating peach or pear it is usually seen that some stone-like structures get entangled in the teeth, what are these stone-like structures called?



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52. We cannot find the woody trunk in monocot plants. Why?



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55. The product of photosynthesis is transported from the leaves to various parts of the plants and stored in some cell before being utilised. What are cells tissues that store them?



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56. Name the kind of vascular bundle in Fig. a and b.



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57. Heart wood is resistant to micro organisms. Justify the statement.



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58. Cambial ring is responsible for the formation of secondary vascular tissues both in Dicot stem and Dicot root. Differentiate the origin of cambial ring in Dicot stem and Dicot root.



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59. Give reason

(a) Grittiness nature of sapola fruit pulp.

(b) Increase thickness of stem in Teak and not in coconut.



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61. Match the following.

Match the following.

A	B	C
1. guard cell	Suberin	Stem
2. conjoint	Stomata	Casparian stripe
3. endodermis	Vascular bundle	Subsidiary cell



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62. You may have observed droplets of water at the tip of the leaves of grasses during early morning. Your sister told its dew drop.

As a science student do you agree with her?

Explain. Compare this with the process of transpiration.



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63. Activity of cambium is different in two seasons and xylem vessels formed have narrow and wide lumens. Give the type of wood formed during the different seasons.



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65. Fill in the blank

interfascicular cambium: secondary xylem::

cork cambium: _____



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66. Identify the following diagram and write its function.



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67. Where are companion cells located in the flowering plants? What are their functions?



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68. Xylem is the complex tissue that transport water in plants.

Name the main components of xylem. Which of these is mostly likely suitable for conducting water?



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69. Fill in the blank

Stem : Endarch :: Root : _____



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70. If one debarks a tree, what parts of the plant is being removed?



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71. Some anatomical details of a material are given below

vascular bundles are conjoint and open, medullary rays are present, hypodermis collenchymatous, cortex heterogenous.

Identify the material. Name the tissue given above from which interfascicular cambium develops during secondary growth.



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73. During the secondary thickening of a dicot stem, from the outer cortical region, a meristematic tissue is developed. Name this tissue and write the function of it.



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74. Distinguish between heartwood and sapwood.



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75. A portion of transverse section of maize stem is shown in the diagram. Label a,b,c,d,e,f,g,h and i



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76. Distinguish between heartwood and sapwood.



Watch Video Solution

77. Fill in the blank

Stem :Endarch :: Root : _____



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78. Match the column A with B and C .

A (Collenchyma , Cambium, Sieve tube)

B(Lateral meristem, Companion cell, Thickened

at corners) C (Food Conduction, Hypodermis

of dicot stem, secondary growth)



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79. Match the following :

(Column A) - Nostoc, Gonyaulax, Chlorella,
Cycas, Rhizophora, Funaria

(Column B) - Protonema, respiratory root, red
tide, Space travelers, heterocyst, Coralloid root



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80. Grasses are capable of regeneration in spite of continuous grazing by cattle. Suggest the reason for it.



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81. In most woody trees, epidermis breaks to form a lens shape opening. Name this opening that permits gaseous exchange.



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82. You may have observed droplets of water at the tip of the leaves of grasses during early morning. Your sister told its dew drop.

As a science student do you agree with her?

Explain. Compare this with the process of transpiration.



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Explain. Compare this with the process of transpiration.



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84. What is the cells that make the leaves curl in plants during water stress?



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85. Teacher asked Gopi to name the layer from which root hairs and lateral roots arise respectively.



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

Specimen A	Specimen B
1a. Closed vascular bundle വാസ്കുലാർ ബണ്ടിലുകൾ ക്ലോസ്ഡ് ആണ്	1b. Open vascular bundle വാസ്കുലാർ ബണ്ടിലുകൾ ഓപ്പൺ ആണ്
2a.	2b.
3a.	3b.



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87. The following is a list of characteristics features of angiosperms and gymnosperms. Those characters that belong to gymnosperms.

- (a) Tracheids alone from the conducting elements in xylem
- (b) production of fruits.
- (c) naked seeds
- (d) cones are seen
- (e) flowers absence
- (f) xylem mainly contains vessel
- (g) double fertilization present



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90. Some tissues in plants are not able to divide further.

(a) Suggest the name of such tissues.

(b) Give any three examples.

(c) List the difference between epidermal tissue system of roots and leaves.



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93. In the anatomy lab. Eugin observed the following features in the T.S of a plant part.

a) Radial and polyarch xylem bundles

b) Parenchymatous (homogenous) cortex

c) Large pith

d) Epidermis with unicellular hairs

e) Pericycle

f) Endodermis with casparian strips.

i) Identify the plant part.

ii) Re-arrange the given regions from the periph-ery to the center in their correct

sequence.

iii) Give an account of casparian strips.



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- c) Large pith
- d) Epidermis with unicellular hairs
- e) Pericycle
- f) Endodermis with casparian strips.
- i) Identify the plant part.
- ii) Re-arrange the given regions from the periphery to the center in their correct sequence.
- iii) Give an account of casparian strips.



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100. In the anatomy lab. Eugin observed the following features in the T.S of a plant part.

a) Radial and polyarch xylem bundles

b) Parenchymatous (homogenous) cortex

c) Large pith

d) Epidermis with unicellular hairs

e) Pericycle

f) Endodermis with casparian strips.

i) Identify the plant part.

ii) Re-arrange the given regions from the periph-ery to the center in their correct

sequence.

iii) Give an account of casparian strips.



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101. Match the following columns A and B.



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102. Stomata are small openings present in a epidermis of leaves. The stomata are bound by

guard cells. Mention the role off guard cells in stomatalmechanism.



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



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104. Name the three basic tissue systems in the flowering plants. Give the tissue names under each system.



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105. the transverse section of a plant material shows the following anatomical feature:

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108. Interfascicular cambium is a

A. primary meristematic tissue

B. primordial meristem

C. type of protodenn

D. secondary meristematic tissue

Answer: D



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109. In an annual ring, the light coloured part is known as

A. early wood

B. latewood

C. heartwood

D. sapwood

Answer: A



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110. The layer of cell outside the phloem meant for giving rise to the root branches is called

A. cambium

B. cork

C. endodermis

D. pericycle

Answer: D



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111. Cork cambium of dicot originates from

A. epiblema

B. pericycle

C. cambium of vascular bundles

D. endodermis

Answer: B



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112. Alburnum is otherwise known as

A. periderm

B. heartwood

C. sapwood

D. cork

Answer: B



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113. Duramen is present in

- A. inner region of secondary wood
- B. part of sapwood
- C. outer region of secondary wood
- D. region of pericycle

Answer: A



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114. Which one of the following is a current sequence of tissue present in dicot stem during secondary growth

A. phellogen, cork, primary cortex, secondary cortex

B. Cork, primary cortex, secondary cortex, phellogen

C. primary cortex, secondary cortex,
phellogen, cork

D. secondary cortex, phellogen, cork,
primary cortex

Answer: D



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115. The meristem responsible for extra stelar secondary growth in dicot stem is

A. interfascicular cambium

B. intrafascicular cambium

C. intercalary meristem

D. phellogen

Answer: D



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116. The following is a list of characteristics features of angiosperms and gymnosperms.

Those characters that belong to

gymnosperms.

(a) Tracheids alone from the conducting elements in xylem

(b) production of fruits.

(c) naked seeds

(d) cones are seen

(e) flowers absence

(f) xylem mainly contains vessel

(g) double fertilization present

A. are the dominant cell type of xylem in

angiosperm

B. are primarily found in mosses and liverworts

C. are responsible for water conduction and support in many land plants

D. first appeared during Palaeozoic era

Answer: C



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117. In the following, how sapwood is converted into heart wood?

- A. By degeneration of protoplast of living cell
- B. Tyloses formation
- C. By deposition of resin, oil, gums etc
- D. All of the above

Answer: D



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118. As secondary growth proceeds in a dicot stem, the thickness of

A. sapwood increases

B. heartwood increases

C. both sapwood and heartwood increases

D. both heartwood and sapwood remains
the same

Answer: C



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119. Which is not a characteristic of plants cell wall?

A. found only in the sporophyte phase of a life cycle

B. among other compounds contains compounds built of simple sugar

C. may contain enzyme that are biologically active

D. often contain strengthening polymer

Answer: A



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120. Identify the correct order of the component reference to their arrangement from outer side to inner side in a woody dicot stem.

1.secondary cortex 2. Autumn wood

3.secondary phloem 4. phellem

A. 2,3,1,4

B. 3,4,2,1

C. 4,1,3,2

D. 1,2,4,3

Answer: C



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121. Removal of ring wood of tissue outside the vascular cambium from the tree trunk kill it because

A. water cannot move up

B. food does not travel down and root
become starved

C. shoot become starved

D. annual rings are not produced

Answer: B



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122. Which tissue gives rise to secondary growth?

- A. Apical meristem
- B. Adventitious root
- C. Germinating seed
- D. vascular cambium

Answer: D



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123. Growth rings are formed due to activity of

A. extrastelar cambium

B. intrastelar cambium

C. interstelar cambium

D. both(b) and (c)

Answer: D



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124. A nail is driven into the trunk of a 30 years old tree at a point I in above the soil level. The tree grows in height at the rate of 0.5 m a year. After 3 year nail will be

- A. 1m above the soil
- B. 1.5 m above the soil
- C. 2m above the soil
- D. 2.5 m above the soil

Answer: A



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125. In which of the following there is no differentiation of bark, sapwood and heartwood?

A. ashok

B. neem

C. mango

D. date palm

Answer: D





126. A tree grows at the rate of 0.5m per year.

What will be the height of the board fixed at

1.5m above the base five years ago?

A. 4.0m

B. 3.5m

C. 1.5m

D. 4.5m

Answer: C



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127. Secondary phloem remains functional generally

- A. for one year
- B. for less than one year
- C. for many year
- D. as long as plant is alive

Answer: D



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