



## BIOLOGY

### BOOKS - CENGAGE BIOLOGY (HINGLISH)

### ANATOMY OF FLOWERING PLANTS

#### Exercise

1. Tissue is the group of cell which are

A. Similar in origin, but dissimilar in form and  
function

B. Similar in origin and form, but dissimilar in function

C. Similar in origin, from function

D. Dissimilar in origin, but similar in form and function

**Answer: C**



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2. The father of plant anatomy who also coined the term tissue is

A. marcello Malpighi

B. N. Grew

C. Schleiden

D. Hanstein

**Answer: B**



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**3. Meristem is characterized by**

A. Isodimetric cells with cellulosic thin wall

B. Absence of intercellular space and vacuole

C. Absence of reserve food material, plastids,  
and ER

D. All of these

**Answer: D**



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**4. Secondary meristems are derived from**

A. Promeristem

B. Primary meristem

C. primary permanent tissue

D. Lateral meristem

**Answer: C**



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5. The intercalary meristems are in fact portions of

A. Lateral meristems

B. Secondary meristems

C. Apical meristems

D. Permanent tissues that become  
meristematic

**Answer: C**



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**6.** According to Haberlandt, cortex and pith are derived from

- A. Periblem
- B. Plerome
- C. Procambium
- D. Ground meristem

**Answer: D**



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7. Which one of the following theory in root is equivalent to Schmidt's theory ?

A. Tunica corpus theory

B. Histogen theory

C. Korper-keppe theory

D. Quiescent center theory

**Answer: C**



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8. The plane of division in tunica is

A. Anticlinal

B. Periclinal

C. Both anticlinal and periclinal

D. Peripheral division

**Answer: A**



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9. Root cap is derived from



A. Calyptrogen

B. Dermatogen

C. Protoderm

D. Periblem

**Answer: A**



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**10.** The primary growth in Equisetum stem occurs due to the activity of

A. Apical meristem

B. Intercalary meristem

C. Lateral meristem

D. Primordial meristem

**Answer: B**



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**11. Quiescent center in root meristem acts as**

A. Waiting meristems

B. Reserve meristems

C. Reservoir of growth hormones

D. Both 1 or 2

**Answer: D**



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**12.** Grass stem elongates by the activities of

- A. Apical meristem
- B. Intercalary meristem
- C. Lateral meristem
- D. Primordial metistm

**Answer: B**



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**13.** The term meristem was coined by

A. C. negeli

B. Mettenius

C. Schuepp

D. Schmidt

**Answer: A**



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14. The primary growth is affected by

- A. Primary cambium
- B. Apical meristems
- C. Cambium
- D. Secondary cambium

**Answer: B**



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15. The intercalary meristem is present in

A. Mint

B. Grasses

C. Bamboo

D. All of these

**Answer: D**



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**16.** The organization of shoot apex into tunica and corpus is determined largely on the basis of

- A. Regions of meristematic activity
- B. Planes of cell division
- C. Rate of shoot tip growth
- D. Phase of cell division

**Answer: B**



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17. The central region of root apex containing less active cells is known as

- A. Plerome
- B. Dermatogen
- C. Periblem
- D. Quiescent zone

**Answer: D**



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**18.** The valamen of orchid root is derived from the

- A. Phellogen of root
- B. Plerome of root
- C. Dermatogen of root
- D. Periblem of root

**Answer: C**



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19. According to the histogen theory, plerome gives rise to the

A. Epidermis

B. Cortex

C. Pith

D. Central stele

**Answer: D**



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20. Collenchyma differs from parenchyma in having

A. Living protoplasm

B. Cellulose walls

C. Vacuoles

D. Pectin and cellulose deposits at corners

**Answer: D**



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21. Collenchyma is a type of mechanical tissue but it is not as efficient as sclerenchyma. However, it has certain advantages like

- A. It offers no resistance to the growing organs
- B. It has the power of growth
- C. It is flexible
- D. Through it has the power of growth, it offers no resistance to the growing organs and it is flexible

**Answer: C**



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22. Walls of sclerenchyma are

A. Rigid

B. Lignified

C. Pectinized

D. Suberized

**Answer: B**



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23. Which one of the following is not a fundamental tissue ?

- A. Parenchyma
- B. Collenchyma
- C. Chlorenchyma
- D. Aerenchyma

**Answer: B**



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24. Plasmodesmate maintains cell-to-cell cytoplasmic connection, and is quite common in

- A. Parenchyma
- B. Collenchyma
- C. Sclereids
- D. Sclerenchyma fibers

**Answer: A**



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25. A parenchymatous cell that stores ergastic substances is called

A. Phragmoplast

B. Idioblast

C. Lequoplast

D. Amyloplast

**Answer: B**



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26. The mechanical tissue with high refractive index is

- A. Collenchyma
- B. Prosenchyma
- C. Sclerenchma
- D. Sclereids

**Answer: A**



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27. Which one of the following acts as water stronger tissue in succulent plants ?

- A. Parenchyma
- B. Aerenchyma
- C. Angular colenchyma
- D. Meristem

**Answer: A**



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28. Collenchyma is absent in

A. Root

B. Dicot stem

C. Monocots

D. Both 1 or 3

**Answer: D**



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29. Cell wall in dead mechanical tissue shows

A. Lignified nature

B. Cutinized nature

C. Pectose deposition

D. Hemicellulose deposition

**Answer: A**



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**30.** Find the correct match.

Column I

Column II

- |                     |       |               |
|---------------------|-------|---------------|
| (a) Brachysclereids | (i)   | Rod cells     |
| (b) Macrosclereids  | (ii)  | Girt cells    |
| (c) Bast fibres     | (iii) | cotton fibers |
| (d) Asterosclereids | (iv)  | Nelumbo       |

A.  $a \rightarrow ii, b \rightarrow i, c \rightarrow v, d \rightarrow iii$

B.  $a \rightarrow ii, b \rightarrow i, c \rightarrow v, d \rightarrow iv$

C.  $a \rightarrow i, b \rightarrow ii, c \rightarrow v, d \rightarrow iv$

D.  $a \rightarrow ii, b \rightarrow i, c \rightarrow iv, d \rightarrow v$

**Answer: B**



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**31. Bordered pits are found in**

A. Monocotyledons

B. Gymnosperms

C. Dicotyledons

D. All of these

**Answer: B**



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**32.** Sieve tubes are better suited for translocation, because

A. Possess a broader lumen and perforated cross walls

B. Are broader than longer

C. Possess bordered pits

D. Possess no end walls

**Answer: A**



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**33.** The presence of lignin in a cell is a characteristic of

A. Phloem

B. Woody tissue

C. All soft tissue

D. Cork

**Answer: B**



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**34.** Main water-conducting element of xylem in homoxyloous plants is

A. Trachea

B. Vessel

C. Tracheid

D. Xylem parenchyma



**Answer: C**



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**35. Vessels angiosperms are**

- A. Tepacenpaceae
- B. Trochodendraceae
- C. Winteraceae
- D. All of these

**Answer: D**



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36. Centripetal and centrifugal xylems are important features of

- A. Root and stem, respectively
- B. Exarch and endarch, respectively
- C. Endarch and exarch, respectively
- D. Both 1 and 2

**Answer: D**



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37. Callose plug and p-proteins are associated with

- A. Companion cells
- B. Sieve tube
- C. Phloem parenchyma
- D. Trachea

**Answer: B**



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38. Phloem parchyma is absent in

- A. Dicots and few monocots
- B. Monocots
- C. Monocots and dorsiventral leaf
- D. Gymnosperms

**Answer: B**



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**39.** The wood of gymnosperms is known as soft wood because

- A. It is very soft

B. It appears like a sponge

C. It can be bent easily

D. It does not possess vessels

**Answer: D**



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**40.** The percentage of tracheids in soft wood is

A. 5 – 10 %

B. 90 – 95 %

C. 15 – 25 %

D. 35 – 45 %

**Answer: B**



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**41.** Articulated laticifers are

A. Formed by the fusion of cells

B. A network like structure

C. Found in the plants which are the source of  
commercial rubber

D. All of these

**Answer: D**



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**42.** Secretory tissues that secrete proteolytic enzymes are found in

A. Nepenthes

B. Plumbago

C. Urtica

D. Polygonum

**Answer: A**



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43. In plants having longest vessel, oil glands are formed

- A. Lysigenously
- B. Schizogenously
- C. Schizolysisgenously
- D. None of these

**Answer: A**



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**44.** In trees, death of protoplasts is essential for a vital function such as

- A. Food transport
- B. Water transport
- C. Both 1 and 2
- D. Stomatal movements

**Answer: B**



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45. The pericycle of roots is never sclerenchymatous because it

- A. Does not act as a mechanical tissue in roots
- B. It is the place of the origin of root branches
- C. Gives rise to root hair
- D. Gives rise to root hair (when the root is young) and root branches (at maturity)

**Answer: B**



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46. Choose the correct statement regarding pericycle in dicot root.

- A. It is parenchymatous.
- B. It gives rise to cork cambium.
- C. Casparing bands and passage cells
- D. Passage cells and starch

**Answer: D**



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47. Tissue commonly known as passport point or biological check post is characterised by

- A. Bulliform cells and raphides
- B. Cystolith and motor cells
- C. Casparian bands and passage cells
- D. Passage cells and starch

**Answer: c**



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**48.** Giruding experiment is not possible in maize and sugarcane because of

- A. Scattered vascular bundles
- B. Open vasular bundles
- C. Closed vasular bundles
- D. Both 1 and 3

**Answer: B**



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**49.** Vascular bundle with 2: 1 ratio of phloem and xylem is

- A. Collateral
- B. Bicollateral
- C. Amphivasal
- D. Amphicribal

**Answer: C**



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50. Root differs from stem in having

A. Parenchymatous cortex

B. Pith

C. Exarch xylem

D. Pericycle

**Answer: c**



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## 51. Find the correct match

### Column I

- (a) Dicots with scattered vascular bundles
- (b) Cortical vascular bundles
- (c) Medullary vascular bundles
- (d) Polystelic condition

### Column II

- (i) *Podophyllum* and *Peperomia*
- (ii) *Amaranthus* and *Boerhaavia*
- (iii) *Nyctanthus* and *Casuarina*
- (iv) *Primula* and *Dianthera*

A.  $a \rightarrow i, b \rightarrow iii, c \rightarrow ii, d \rightarrow iv$

B.  $a \rightarrow i, b \rightarrow ii, c \rightarrow iii, d \rightarrow iv$

C.  $a \rightarrow iii, b \rightarrow ii, c \rightarrow i, d \rightarrow iv$

D.  $a \rightarrow iv, b \rightarrow ii, c \rightarrow iii, d \rightarrow i$

**Answer: D**



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52. The vascular bundles in a dicot root are

- A. Radial and endarch
- B. Conjoint and exarch Concentric and exarch
- C. Concentric and exarch
- D. Radial and exarch

**Answer: D**



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**53.** A collateral vascular bundle is that

- A. Which has either phloem strand or xylem strand
- B. In which both xylem and phloem are present at the same radius
- C. In which both xylem and phloem are present with the xylem towards centre
- D. In which both xylem and phloem are present at different radii

**Answer: c**



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**54.** The vascular bundles in the stems of several dicots are conjoint, collateral, and open. In each of these bundles,

A. Xylem and phloem are on the same radius with phloem towards the pith and xylem towards the pericycle without a strip of cambium between them

B. Xylem and phloem are on the same radius with xylem towards the pith and phloem

towards the pericycle and a strip of cambium separates the two

C. Xylem completely surrounds the phloem on all sides but the two are separated by the cambium

D. Phloem completely surrounds the xylem and a strip of cambium separates the two

**Answer: B**



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55. In a dicot root, with tetraarch vascular bundles, lateral roots arise from the pericycle the two

- A. Opposite to phloem
- B. Opposite to protoxylem
- C. In between protoxylem and phloem
- D. Anwhere

**Answer: B**



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56. Which is not true for monocot stem ?

- A. Sclerenchymatous hypodermis
- B. Presence of water cavity in pith
- C. Conjoint collateral closed vascular bundles
- D. Presence of bundle sheath

**Answer: B**



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57. In leaf anatomy, phloem is directed towards

A. Upper epidermis

B. Lower epidermis

C. Middle part of vesicular bundles

D. Lateral side

**Answer: B**



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**58.** A leaf showing stmata and cuticle on upper epidermis, raphides in the mesophyll and diaphragm cells, belongs to a plant that probably is a

- A. Mesophyte
- B. Flating hydophyte
- C. Submerged hydrophyte
- D. Succulent xerophyte

**Answer: B**



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**59.** Knots in stems are formed due to

- A. Bacterial infection of wounds
- B. Injury caused by wounds



C. Outgrowth of secondary tissues caused by falling of branches

D. None of these

**Answer: C**



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**60.** Vascular cambium is a meristematic layer that cuts off

A. Primary xylem and primary phloem

B. Xylem vessels and xylem tracheids

C. Primary xylem and secondary xylem

D. Secondary xylem, secondary phloem, and medullary rays

**Answer: D**



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**61.** Balloon-like swellings formed by xylem parenchyma inside the xylem vessels through pits are

A. Tracheal plug

B. Tyloses

C. Callose

D. Both 1 and 2

**Answer: D**



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**62.** Secondary xylem and phloem in dicot stem are produced by

A. Procambium

B. Plerome

C. Vascular cambium

D. Apical meristems

**Answer: C**



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**63.** Derivatives of the secondary meristem in the steler region are

A. Phellem and phelloderm

B. Album and primary phloem

C. Duramen and Alburnum

D. Primary xylem and secondary phloem

**Answer: C**



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**64.** Secondary medullary rays are produced by

- A. Fusiform initial
- B. Interfascicular cambium
- C. Phellogen
- D. Ray initial

**Answer: D**



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**65.** What is the position of oldest secondary phloem ?

- A. Just outside the pericycle
- B. Just outside the vascular cambium
- C. Just below the pericycle
- D. Below the vascular cambium

**Answer: C**



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**66.** Heart wood

- A. It the oldest secondary xylem ring
- B. Lies near pith
- C. Is nonfunctional
- D. All of these

**Answer: D**



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**67.** Phellois are

A. Synonyms of phellem

B. Lignified cork cells

C. Suberized cork cells

D. Non-suberzed cork cells

**Answer: D**



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**68.** Vergin crok is



- A. The first formed periderm
- B. A lenticellate phellem
- C. A nonlenticellate periderm
- D. The last periderm

**Answer: A**



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**69.** Annual rings are distinct in plants growing in

- A. Typical region
- B. Temperate region

C. Grassland

D. Arctic region

**Answer: B**



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

A. Heart wood increases

B. Sap wood increases

C. Both increases

D. Both remain the same

**Answer: A**



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**71.** Cork is a derivative of

A. Cork cambium (phellongen) or extea

fascicular cambium

B. Vascular cambium

C. Fascicular cambium

D. Interfascicular cambium

**Answer: A**



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**72.** Growth rings are well marked in trees growing in

A. Simla

B. Chennai

C. Mumbai

D. Kolkata

**Answer: A**



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73. In a mature dicot stem which has undergone secondary growth, youngest layer of secondary xylem is situated

- A. Between pith and primary xylem
- B. Just outside vascular cambium
- C. Just inside vascular cambium
- D. Just inside cork cambium

**Answer: C**



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74. One cannot age a tree by its rings if that tree is located in which of the following forests

- A. Tropical deciduous
- B. Tropical evergreen
- C. Temperate deciduous
- D. Temperate evergreen

**Answer: B**



75. When secondary growth in thickness is initiated in a dicot root, which of the following happens first ?

A. Anticlinial division occurs so that cambium becomes circular

B. Parenchyma between xylem and phloem becomes meristematic.

C. Cambium initial between xylem and phloem divides.

D. Pericycle stands outside primary xylem divide.

**Answer: B**



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**76. Abnormal secondary growth is found in**

A. Deacaena

B. Triticum

C. Helianthus

D. Cucurbita

**Answer: A**



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77. A tumour-like tissue fo thin walled cells developing over the wounds is called

A. Tyioses

B. Gall

C. Cailose

D. Callus

**Answer: D**



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78. Find the incorrect matching.

A. Haematoxylin -Heart wood Haemataxylon  
carnpechianum

B. Santalin-Heart wood of Caesalpinia sappan

C. Brasilin-Pith of Caesalpinia sappan

D. Tannins-Heart wood of Acacia catechu  
(katha)

**Answer: C**



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**79.** Fibers are obtained from

- A. Xylem, phloem and sclerenchyma
- B. Xylem, phloem, sclerenchyma and epidermis
- C. Xylem, parenchyma, epidermis
- D. Xylem, parenchyma and endodermis

**Answer: A**



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**80.** The quiescent centre in root meristem serves  
as a

- A. Site for storage of food which is utilized during maturation
- B. Reservoir of growth hormones
- C. Reserve for the replenishment of the damaged cells of the meristem
- D. Region for the absorption of water

**Answer: C**



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**81. Root cap is derived from**

A. Calyptrogen

B. Pleurome

C. Periblem and histogen

D. Dermatogen

**Answer: A**



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**82.** Tunica corpus theory was proposed by

A. Schmidt

B. Strasburger

C. Negeli

D. Hofmeister

**Answer: A**



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**83.** Vascular cambium of the root is an example of

A. Apical meristem

B. Intercalary meristem

C. Secondary meristem

D. Root apical meristem

**Answer: C**



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**84.** Vascular cambium and cork cambium are the examples of

- A. Lateral meristem
- B. Apical meristem
- C. Elements of xylem and phloem
- D. Intercalary meristem

**Answer: A**



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85. Grass stem elongates by the activities of

- A. Primary meristem
- B. Secondary meristem
- C. Intercalary meristem
- D. Apical meristem

**Answer: C**



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**86.** The calyptrogen of the root apex forms

- A. Rhizoids
- B. Root nodule
- C. Root hairs
- D. Root cap

**Answer: D**



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**87.** Parenchymatous tissue is characterized by the

- A. Presence of uniform thickening
- B. Presence of thickening in the corners
- C. Presence of intercellular spaces
- D. Presence of lignified walls

**Answer: C**



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**88.** The difference in phloem of gymnosperms and angiosperms is due to

- A. Parenchyma

B. Eieve cell

C. Companion cell

D. Fibers

**Answer: C**



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**89.** Cork cambium is a

A. Secondary meristem

B. Apical meristem

C. Intercalary meristem

D. Primary mersitem

**Answer: A**



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**90.** The complex tissues include

A. Scleroids

B. Sclerenchyma

C. Secretory tissue

D. Collenchyma

**Answer: C**



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**91.** The cell wall of xylem cells is rich in

- A. Lipid
- B. Protein
- C. Lignin
- D. Starch

**Answer: C**



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92. Root cap is absent in

- A. Lithophytes
- B. Hyprophytes
- C. Xerophytes
- D. Mesophytes

**Answer: C**



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93. Which meristem helps in increasing girth?

- A. Lateral meristem
- B. Intercalary meristem
- C. Primary meristem
- D. Apical meristem

**Answer: B**



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94. Vessels are major water conducting cells in

- A. Xylem of angiosperms
- B. Xylem of gymnosperms
- C. Both 1 and 2
- D. None of these

**Answer: A**



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**95.** Passage cells are found in

- A. Dicot stem
- B. Aerial root



C. Monocot root

D. Monocot stem

**Answer: A**



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**96.** Vessels are found in

A. All pteridophyta

B. All angiosperms

C. Some gymnosperms

D. Both 1 and 2

**Answer: C**



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**97.** Axillary bud and terminal bud are derived from the activity of

- A. Parenchyma
- B. Lateral meristem
- C. Apical meristem
- D. Intercalary meristem

**Answer: D**



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98. Which is correct?

- A. Tarcheids are unicellular with wide lumen.
- B. Vessels are multicellular with wide lumen.
- C. Tracheids are multicellular with narrow lumen.
- D. Vessels are unicellular with narrow lumen.

**Answer: B**



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99. Diffuse porpus woods are characterstics of plans growing in

- A. Alpine regions
- B. Cold winter regions
- C. Temperate regions
- D. Tropical regions

**Answer: D**



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**100.** Porous wood contains mainly

A. Fibers

B. vessels

C. Tracheids

D. Solid secretion

**Answer: B**



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**101.** Bordered pits are found in

A. Monocotyledons

B. Gymnosperms

C. Dicotyledons

D. Pteridophytes

**Answer: B**



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**102.** Which of the following is known as wood

A. Primary xylem

B. Secondary xylem

C. Secondary phloem

D. Cambium

**Answer: B**



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**103.** Conducting part of phloem according to Haberlandt (1914) is

A. Hadrom

B. Laptom

C. Sterom

D. Bark

**Answer: B**



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**104.** Epidermis in stem is produced from

- A. Potoderm
- B. Procambium
- C. Ground meristem
- D. Calyptrogen



**Answer: A**



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**105.** Trabaculae is the transformation of

A. Pericycle

B. Endodermis

C. Xylem

D. Phloem

**Answer: B**



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**106.** Which of the following is absent in the primary and secondary structure of stem of Pinus

- A. Sieve tubes
- B. Mucilage duct
- C. Companion cells
- D. Phloem parenchyma

**Answer: C**



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107. Epiblema in roots is derived from

- A. Protoderm
- B. Procambium
- C. Ground meristem
- D. Calyptragen

**Answer: A**



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108. Procambium forms

- A. Only primary vascular bundles
- B. Only vascular cambium
- C. Only cork cambium
- D. Primary vascular bundles and vascular cambium

**Answer: A**

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**109.** Periblem produces

- A. Cortex

B. Pericycle

C. Vascular strand

D. Both 1 and 2

**Answer: A**



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**110.** Cells taking part in the conduction of ssap are

A. Sieve tubes

B. Tracheae

C. Sieve cells

D. Stone cells

**Answer: B**



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**111.** The function of vessels is

- A. Conduction of water and mineral
- B. Conduction of food
- C. Mechanical strength
- D. All of the above

**Answer: A**



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**112.** Why cambium is considered as lateral meristem?

- A. Because it gives rise to lateral branches.
- B. Because it increases the girth of a plant.
- C. Because it increases the length of a plant.
- D. None of these

**Answer: B**



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**113.** Aerenchyma is helpful to plants by -

- A. Providing buoyancy in hydrophytes
- B. Promoting photosynthesis
- C. Giving mechanical strength to plants
- D. Giving flexibility to plants

**Answer: A**



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**114.** The chief function of sieve tubes is

- A. To translocate the organic materials manufactured in the leaves
- B. To conduct minerals
- C. To transport water from root to leaves
- D. To help to plant in forming wood

**Answer: A**



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**115.** At maturity, which of the following is non-pnucleated?

- A. Sieve cell
- B. Companion cell
- C. Palisade cell
- D. Cortical cell

**Answer: A**



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**116.** Which combination of tissues act together to provide the support to the hypocotyl of a seedling

- A. Xylem and phloem fibers
- B. Epidermis and parenchyma
- C. Xylem and parnchuyma
- D. Epidrmis and collenchyma

**Answer: D**



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**117.** Senescence and death are essential in the functioning of

A. Sieve tubes

B. Companion cells

C. Both 1 and 2

D. Xylem and sclerenchyma cells

**Answer: D**



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**118.** The layer of cells outside the phloem meant for giving rise to the root branches is called

- A. Combium
- B. Corpus
- C. Endodermis
- D. Percycle

**Answer: D**



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**119.** Lateral roots originate from

- A. Endodermal cells lying against phloem
- B. Cortex
- C. Pericycle cells lying against protoxylem
- D. Cork cambium

**Answer: C**



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**120.** In free floating plant , the stomata are

A. Absent

B. Present on upper surface

C. Present on both the surfaces

D. Present on lower surface

**Answer: B**



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**121.** Which of the following do not have stomata

A. Xerophytes

B. Mesophytes

C. Hydrophytes

D. Submerged hydrophytes

**Answer: D**



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**122.** Passage cells are present in

A. Epidermis

B. Endodermis

C. Xylem

D. Lenticels and hydathodes



**Answer: B**



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**123.** Velamen tissue in orchids is found in

A. Shoot

B. Root

C. Leaves

D. Flowers

**Answer: B**



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**124.** Which of the following have sunken stomata

A. Nerium

B. Mangifera

C. Hydrilla

D. Zea mays

**Answer: A**



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**125.** Vascular bundles in the stem of Cucurbita or Lagenaria are

- A. Collateral
- B. Bicollateral
- C. Radial
- D. Inverted

**Answer: B**



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**126.** The bicollateral vascular bundle is the characteristic feature of plants belonging to the family

A. Cruciferae

B. Liliaceae

C. Cucurbitaceae

D. Malvaceae

**Answer: C**



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127. passage cells occur in

- A. Monocot root
- B. Dicot root
- C. Monocot stem
- D. Both 1 and 2

**Answer: D**



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128. stomata in water lily and podostemon occur respectively of

A. Lower leaf surface and absent on upper leaf surface

B. Upper leaf surface and absent on lower leaf surface

C. Both leaf surfaces

D. Absent in both

**Answer: B**



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**129.** Root hairs are found

A. In the zone of maturatin

B. On adventitious roots

C. On the root cap

D. ON the apical meristem

**Answer: A**



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**130.** A concentric amphivasal (leptocentric)

vascular bundle is one in which

- A. Centrally located phloem is surrounded by the xylem of xylem surround phloem
- B. Centrally located xylem is surrounded by phloem
- C. Xylem is flanked by phloem on the interior and exterior side only
- D. phloem is flanked by the xylem on interior side only

**Answer: A**



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**131.** Vascular bundles in which phloem is found on both sides of xylem are called (In which of the following phloem occurs in two patches

A. Collateral

B. Bicollateral (amphiphloic)

C. Radial

D. Amphicribal

**Answer: B**



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**132.** Pericycle in roots is responsible for

A. The formation of lateral roots

B. Providing mechanical support

C. The formation of vesicular bundle from  
cortex

D. The formation of vascular bundle from  
endodermis

**Answer: A**



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**133.** monocot stem has

- A. Bicollateral closed vascular bundles
- B. Bicollateral open vascular bundles
- C. Collateral open vascular bundles
- D. Collateral closed vascular bundles

**Answer: D**



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**134.** In monocot roots which types of vascular bundles are found

- A. Collateral, conjoint, and closed
- B. Radial vascular bundles with exarch xylem
- C. Bicollateral, conjoint, and closed
- D. Radial vascular bundles with endarch xylem

**Answer: B**



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**135.** Exarch and polyarch vascular bundles occur in

A. Monocot stem

B. Monocot root

C. Dicot stem

D. Monocot stem

**Answer: B**



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**136.** Vascular bundles are scattered in

A. Bryophytes

B. Dicot root

C. Dicot stem

D. Monocot stem

**Answer: D**



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**137.** Dorsiventral leaf has

A. Stomata on both sides

B. Stomata on the lower surface

C. Stomata on the upper surface

D. No stomata

**Answer: A**



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**138.** In the leaf vascular bundles are found in the

A. Veins

B. Palisade tissue

C. Lower epidermis

D. Upper epidermis

**Answer: A**



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**139.** In a dicotyledonous stem, the sequence of tissues from the outside to the inside is

- A. Phellem-Pericycle-Endodermis-Phloem
- B. Phellem-Phloem-Endodermis-Pericycle
- C. Phellem-Endodermis-Pericycle-Phloem
- D. Pericycle-Phellem-Endodermis-Phloem

**Answer: C**





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**140.** hypodermis in monocotyledonous stem is

- A. Parenchymatous
- B. Chlorenchymatous
- C. Collenchymatous
- D. Sclerenchymatous

**Answer: D**



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**141.** in a dorsiventral leaf, protoxylem and metaxylem are located respectively

- A. Abaxial and adaxial sides
- B. Adaxial and abaxial sides
- C. Adaxial and adaxial sides
- D. Abaxial and abaxial sides

**Answer: B**



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**142.** interfascicular cambium is situated

A. Outside the vascular bundles

B. In medullary rays

C. Inside the vascular bundles

D. In between the vascular bundles

**Answer: C**



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**143.** The waxy substance associated with cell walls of cork cells is or cork cells are impervious to water because of the presence or what is deposited on cork cells

A. Cutin

B. Suberin

C. Lignin

D. Hemicellulose

**Answer: B**



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**144.** The functional xylem of dicot tree is

A. Transpiration

B. Guttation

C. Bleeding

D. Gaseous exchange

**Answer: A**



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**145.** main function of lenticel is

A. Transpiration

B. Guttation

C. Bleeding

D. Gaseous exchange

**Answer: B**



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**146.** Heart wood or duramen is

- A. Outer region of secondary xylem
- B. Inner region of secondary xylem
- C. Outer region of secondary phloem
- D. Inner region of secondary phloem

**Answer: B**



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**147.** Wood is a common name of

- A. Phloem
- B. Secondary xylem
- C. Cambium
- D. Vascular bundles

**Answer: B**



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**148.** Cambium is most active in

A. Pistia

B. Rose

C. Asparagus

D. Dahlia

**Answer: A**



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**149.** Spwoood is the



- A. Outer functional part of secondary xylem
- B. inner nonfunctional part of secondary xylem
- C. Outer as well as inner part of secondary xylem
- D. None of the above

**Answer: A**

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**150.** Tyloses are

- A. Wound-healing secretions

B. Responsible for plugging the lumen of vessels

C. Special epidermal hairs covering stomata in xerophytes

D. Callus secretion on sieve plates

**Answer: B**



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**151.** Leaves are situated on

A. Nodes

B. Internodes

C. Tip

D. None of these

**Answer: A**



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**152.** Which of the following cell is totipotent

A. Meristem

B. Sieve tube

C. Collenchyma

D. Xylem vessel

**Answer: B**



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**153.** Commercial cork is obtained from

A. Mango

B. Oak (*Quercus suber*)

C. *Ficus religiosa*

D. *Pinus*

**Answer: C**



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**154.** Which of the following tissue is present in the leaves of Pinus and serve to conduct water and food

A. Xylem

B. Phloem

C. Transfussion tissue

D. Conducting tissue

**Answer: C**



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**155. Protosteles are found in**

- A. Bryophyta
- B. Gymnosperms
- C. Pteridophyta
- D. Angiosperms

**Answer: D**



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**156.** Stele consists of

A. Phloem

B. Xylem

C. Pericycle

D. All of the above

**Answer: D**



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157. The lightest wood is

- A. *Cereus giganteus*
- B. *Ochroma lagopus*
- C. *Hardwickia binata*
- D. *Cycas*

**Answer: B**



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**158.** The stems of hydrophytic plants are soft and weak because of the poor development of

- A. Pith and supporting parenchyma
- B. Phloem and companion cells
- C. Xylem and supporting tissue
- D. Cortex and endodermis

**Answer: C**



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**159.** Tunica corpus theory was proposed by

A. Schmidt

B. negeli

C. Hanstein

D. Wolf

**Answer: A**



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**160.** Cork combium represents

A. Secondary meristem

B. Primary meristems

C. Intercalary meristem

D. Apical meristem

**Answer: A**



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**161.** Cambium produces growth in

A. Branches

B. Girth

C. Pith

D. cortex

**Answer: B**



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**162.** Vascular bundles grow from

A. Protoderm

B. Periderm

C. Ground meristem

D. Procambium

**Answer: D**



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**163.** Tunica corpus theory is related with

- A. Root apex
- B. Root cap
- C. Shoot apex
- D. Secondary growth

**Answer: C**



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**164.** Which meristem helps in increasing girth?

- A. Lateral meristem/cambium
- B. Intercalary meristem
- C. Primary meristem
- D. Apical meristem

**Answer: A**



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**165. Procambium forms**

- A. Only primary vascular bundles
- B. Only vascular cambium
- C. Only cork cambium
- D. Primary vascular bundles and vascular cambium

**Answer: A**



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**166.** Intercalary meristem results in

- A. Secondary growth
- B. Primary growth
- C. Apical growth
- D. Secondary thickening

**Answer: B**



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**167.** Histogen tissues are classified on the basis of



- A. Plane of division
- B. Type of cells they from
- C. Position
- D. Origin

**Answer: B**



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**168.** Meristematic cells have

- A. Thin cell walls and large intercellular spaces
- B. Thin cell walls and no intercellular spaces

C. Thick cell walls and large intercellular spaces

D. Thick cell walls and small intercellular spaces

**Answer: B**



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**169.** Quiescent center is the region root apex which is

A. Actively dividing

B. Water absorption area

C. Inactive cells

D. Root hair cells

**Answer: C**



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**170.** Which one of the following is not formed from procambium?

A. Xylem

B. Phloem

C. Intrafascicular cambium

D. Interfascicular cambium

**Answer: D**



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**171.** Which is an example of secondary meristem ?

A. Xylem

B. Phloem

C. Epidermis

D. Cork cambium

**Answer: D**



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172. The outermost primary meristem gives rise to

- A. Epidermis
- B. Procambium
- C. Ground meristem
- D. All the above

**Answer: A**



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**173.** The vascular cambium of dicot stem is

- A. Apical meristem
- B. Intercalary meristem
- C. Local meristem
- D. Secondary meristem

**Answer: C**



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174. The cells of quiescent center have lower concentration of

A. DNA

B. Proteins

C. RNA

D. All the above

**Answer: D**



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175. Intercalary meristem is a derivative of

- A. Promeristem
- B. Primary meristem
- C. Lateral meristem
- D. Secondary meristem

**Answer: D**



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**176.** The dividing cells not yet committed to becomes specific cell type are

- A. Repidermal cells
- B. Ground cells
- C. Periderm cells
- D. Meristem cells

**Answer: D**



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177. Shoot apical meristem occurs over the tip of

A. Root

B. Radicle

C. Plumule

D. Mesocotyl

**Answer: C**



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**178.** In a dicot root, vascular cambium originates from

- A. Procambium
- B. Cambium
- C. Promeristem
- D. Protoderm

**Answer: A**



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**179.** The length of different internodes in a culm of sugarcane is variable because

A. Shoot apical meristem

B. Position of axillary buds

C. Intercalary meristem

D. Size of leaf lamina at the node below each internode

**Answer: C**



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**180.** Lateral meristems are

- A. Phellogen and procambium
- B. Procambium and dermatogen
- C. Fascicular cambium nd procambium
- D. Fascicular cambium and cork cambium

**Answer: D**



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**181.** Interfascicular cambium is

A. Intercalary meristem

B. Secondary meristem

C. Apical meristem

D. Noncalary meristem

**Answer: B**



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**182.** Histogens are component of or The histogens are differentiated in

A. Secondary phellogen

B. Apical meristem

C. Lateral meristem

D. Intercalary meristem

**Answer: B**



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**183.** The cambium which produces cork is known as

Or

The common bottle cork is a product of

Or

The meristem that is parallel to the longitudinal axis of the plant is

- A. Procambium
- B. intercalary meristem
- C. Phellogen
- D. Apicl meristem

**Answer: C**



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**184.** Which of the following tissues has dead cells ?



A. Collenchyma

B. Sclerenchyma

C. Parenchyma

D. Phloem

**Answer: B**



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**185.** Albuminous cells occur in

A. Xylem

B. Phloem

C. Cortex

D. Conjunctive parenchyma

**Answer: B**



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**186.** Which group possesses vessels in its xylem ?

A. Pteridophytes

B. Angiosperms

C. Gymnosperms

D. Both 1 and 2

**Answer: B**



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**187.** The only plant cells without nuclei among the following are

Or

The tissue which is living but does not possess nucleus in mature stage is

A. Cambium

B. Xylem vessels elements

C. Root hairs

## D. Companion cells

**Answer: B**



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**188.** The epidermal fibers of economic importance belong to

A. Cotton

B. Flax

C. Hemp

D. Coir

**Answer: A**



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**189.** Several tubes are constituent of

A. Wood

B. Vascular cambium

C. Phellem

D. Bast

**Answer: D**



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**190.** A closed collateral bundle is one where

- A. Xylem and phloem occur on different radii
- B. Collateral bundle occurs without cambium
- C. Xylem and phloem are separated by cambium
- D. Collateral bundle occurs with cambium

**Answer: B**



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**191.** Anatomically jute fibres are

- A. Xylem fibers
- B. Cortial fibers
- C. Pith fibers
- D. phloem fibers

**Answer: B**



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**192.** The commercial jute fibres are obtained from

- A. Primary phloem
- B. Secondary phloem
- C. Secondary xylem
- D. Primary xylem

**Answer: B**



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**193.** Which of correct ?

- A. Tracheids are unicellular with wide lumen
- B. Vessels are multicellular with wide lumen



C. Tracheids are unicellular with narrow lumen

D. Vessels are multicellular with narrow lumen

**Answer: B**



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**194.** Which one of the following statements pertaining to plant structure is correct

A. Cork lacks stomata but lenticels carry out transpiration

B. Passage cells help in transfer of food from cortex to phloem

C. Sieve tube elements possess cytoplasm but no nuclei

D. The shoot apical meristem has a quiescent center.

**Answer: A**



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**195.** Identify the plant tissue in which lignin is absent

- A. Collenchyma
- B. Sclerenchyma fibers
- C. Sclereids
- D. Xylem tracheids

**Answer: A**



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**196.** Pith is a central part of the ground tissue generally made up of

- A. Collenchyma
- B. Parenchyma
- C. Chlorenchyma
- D. Sclerenchyma

**Answer: B**



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**197.** Vascular bundles having phloem on the periphery of both outer and inner cambium are

- A. Bicollateral closed
- B. Bicollateral open
- C. Radial
- D. Biradial

**Answer: B**



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**198.** Which pair has lignin in both?

- A. Tracheids and collenchyma
- B. Schlerenchyma and sieve tube
- C. Schlerenchyma and tracheids
- D. Parenchyma and endodermis

**Answer: C**



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**199.** Which of the following components of xylem is living

- A. Xylem tracheids
- B. Xylem vessels
- C. Prenchyma
- D. None of these

**Answer: C**



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200. Which is least differentiated ?

- A. Simple tissues
- B. Parenchyma
- C. Circulatory tissue
- D. Complex tissues

**Answer: B**



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201. The term parenchyma was coined by



A. Hooke

B. Schleiden

C. Grew

D. Mettenius

**Answer: C**



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**202.** Companion cells are found in

A. Epidermis

B. Cambium

C. Xylem

D. Phloem

**Answer: D**



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**203.** A common structural feature of vessel elements and sieve tube elements is

A. Enucleate condition

B. Presence of p-protein

C. Thick secondary wall

D. Pores on lateral walls

**Answer: A**



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**204.** In the sieve elements, which one of the following is the most likely function of P-protein-

- A. Autolytic enzymes
- B. Sealing mechanism on wounding
- C. Providing energy of active translocation
- D. Deposition of callose on sieve plates

**Answer: B**



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**205.** Bicolateral conjoint cascular bundle possesses

- A. Xylem and phloem on alternate radii
- B. Phloem surrounding xylem
- C. xylem surrounding phloem
- D. Xylem and phloem on the same radius with two groups of phloem, on the two sides of xylem

Answer: D



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**206.** Match the following in column I with column II and choose the correct combination

Column I	Column II
A. Xylem vessels	1 Store food materials
B. Xylem tracheids	2 Obliterated lumen
C. Xylem fibre	3 Perforate plates
D. Xylem parenchyma	4 Chisel-like ends

A.  $a \rightarrow iii, b \rightarrow ix, c \rightarrow ii, d \rightarrow i$

B.  $a \rightarrow iv, b \rightarrow iii, c \rightarrow ii, d \rightarrow i$

C.  $a \rightarrow iii, b \rightarrow i, c \rightarrow iv, d \rightarrow iii$

D.  $a \rightarrow i, b \rightarrow ii, c \rightarrow iii, d \rightarrow iv$

**Answer: A**



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**207.** Bordered pits are elongated transversely and arranged in vertical series. The pattern is known as

- A. Scalariform pitting
- B. Intervascular pitting
- C. Reticulate thickening
- D. Oblique pitting

**Answer: A**



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**208.** Trichomes take part in

- A. Transpiration and exchange of gases
- B. Protection and reduction of transpiration
- C. Exudation of water drops
- D. Desiccation

**Answer: B**



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209. Simple sieve plate occurs in

A. Cucurbita

B. Vitis

C. pyrus

D. Prunus

**Answer: A**



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**210.** Lacunate collenchyma occurs in

A. Lecas

B. Monstera

C. Cucurbita

D. Sombucus

**Answer: C**



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**211.** Angiosperm lacking vessels is

A. Mangifera

B. Dillenia

C. Magnolia

D. Drimys

**Answer: D**



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**212.** Rod shaped elongated sclereids found in the seed coats of pulses are known as

A. Macrosclereids

B. Brachysclereids

C. Osteoscreids

D. Asterosclereids

**Answer: A**



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**213.** Xylem produced through centrifugal differentiation is

A. Exarch

B. Endarch

C. Measarch

D. Centrarch

**Answer: D**



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**214.** Which is wrong about sieve tube elements ?

A. Peripheral cytoplasm and large vacuole.

B. Perforated end wall becomes impregnated with lignin.

C. P-proteins occurs evenly distributed throughout lumen.

D. Absence of nucleus at maturity.

**Answer: B**



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**215.** Vessels and Companion cells are characteristics of

A. Thallophytes

B. Bryophytes

C. Pteridophytes

D. Angiosperms

**Answer: D**



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**216.** Which ones are correct

A. Uneven thickening of cell wall is characteristic of sclerenchyma

B. Periblem froms cortex of stem and root

C. Tracheids are chief water conducting elements in gymnosperms

D. Companion cell is devoid of nucleus at maturity

**Answer: A**



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**217.** In a vascular bundle, xylem shows centripetal development. It is

A. Centrarch

B. Mesarch

C. Endarch

D. Exarch

**Answer: C**



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**218.** Which pair has lignin in both?

A. Tracheid and collenchyma

B. Sclerenchyma and sieve tube

C. Sclerenchyma and tracheids



## D. Parenchyma and endodermis

**Answer: C**



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**219.** Parenchymatous cells filling the space between dermal and vascular tissue is

- A. Groun tissues
- B. Epidermal tissues
- C. Pith
- D. Vascular bundles

Answer: A



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220. Match the column

Column I		Column II
(a) Extrafoliar nectaries	(i)	Acharas
(b) Schizogenous cavities	(ii)	Tropaelum
(c) Laticiferous ducts	(iii)	Passiflora
(d) Hydatodes	(iv)	Eucalyptus
	(v)	Pinus

A.  $a \rightarrow iii, b \rightarrow i, c \rightarrow ii, d \rightarrow iv$

B.  $a \rightarrow iii, b \rightarrow v, c \rightarrow i, d \rightarrow ii$

C.  $a \rightarrow ii, b \rightarrow i, c \rightarrow iii, d \rightarrow iv$

D.  $a \rightarrow v, b \rightarrow ii, c \rightarrow i, d \rightarrow iii$

**Answer: B**



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**221.** Senescence as an active developmental cellular process in the growth and functioning of a flowering plant, is indicated in

- A. Annual plants
- B. Floral parts
- C. Leaf abscission

## D. Vessels and tracheids

**Answer: C**



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**222.** The plant tissues commonly found in fruit walls of nuts and pulp of some fruits like guava are termed as

Or

pear fruits are gritty due to the presence of

Or

Tissue composed of non-parenchymatous cells and have isodiametric or irregular shape is called

A. Fibers

B. Sclereids

C. Tracheids

D. Vessels

**Answer: B**



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**223.** At maturity the sieve plates become impregnated with

A. Cellulose

B. Suberin

C. Callose

D. Lignin s

**Answer: C**



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**224.** Consider the following statement and choose the correct option

(i) The thread like cytoplasmic strands, running from one cell to other is known as plasmodesmata

(ii) Xylem and phloem constitute the vascular bundle of the stem

(iii) The first form xylem elements are described as metaxylem

(iv) Radial vascular bundles are mainly found in the leaves

A. a, b true, c , d wrong

B. d true, a, b, c wrong

C. d true, a, b, d wrong

D. b true, a, c, d wrong

**Answer: A**



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**225.** Which of the following tissues consist of living cells

A. Vessels

B. Tracheids

C. Companion cells



## D. Sclerenchyma

**Answer: C**



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**226.** The activity of sieve tubes is remotely controlled by the nucleus of

A. Phloem parenchyma

B. Companion cells

C. Phloem fibers

D. Both phloem parenchyma and phloem fibres

**Answer: B**



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**227.** Find the incorrect statement.

- A. Root hairs are unicellular elongations.
- B. Trichomes are only unicellular elongations.
- C. Trichomes are unicellular or multicellular elongations.
- D. Root hairs absorb water and minerals.

**Answer: B**



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**228.** The arrangement of xylem in stem is

A. Endarch

B. Mesarch

C. Exarch

D. Both 1 and 2

**Answer: A**



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229. Which of the following is not a part of epidermal tissue system

- A. Trichomes
- B. Companion cells
- C. Guard cells
- D. Subsidiary cells

**Answer: B**



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230. Which of the following statements is true ?

A. Collenchyma occurs in layers below epidermis.

B. Xylem parenchyma cells are living, thin, walled, and lignified.

C. Sclerenchyma cells are usually dead and without protoplasts.

D. Companion cells are specialized sclerenchyma cells.

**Answer: C**



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**231.** Companion cells are closely associated with

Or

Transport of food material in higher plants takes place through

- A. Companion cells
- B. Sieve elements
- C. Tracheids
- D. Transfusion tissue

**Answer: B**



**Watch Video Solution**

**232.** Cotton fiber is basically a type of

- A. Trichome
- B. Scale
- C. Dried seed coat
- D. Non-glandular hair

**Answer: A**



**Watch Video Solution**

**233.** Heart wood is the

- A. Outer part of secondary xylem
- B. Inner part of secondary xylem
- C. Outer part of secondary phloem
- D. Inner part of secondary phloem

**Answer: B**



**Watch Video Solution**

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

- A. Heart wood increases



- B. Sap wood increases
- C. Both increase
- D. Both remain the same

**Answer: C**



**Watch Video Solution**

**235.** The bark of tree comprises

- A. All the tissue outside the vascular cambium
- B. All the tissue outside the cork cambium
- C. Only the cork

D. The cork and secondary cortex

**Answer: A**



**Watch Video Solution**

**236.** Well developed pith is found in

- A. Monocot root and monocot stem
- B. Monocot stem and dicot root
- C. Monocot root and dicot stem
- D. Dicot rot and dicot stem

**Answer: C**



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**237.** Cork is formed from

- A. Cork cambium (phellogen)
- B. Vascular cambium
- C. Phloem
- D. Xylem

**Answer: A**



**Watch Video Solution**

**238.** The function of cork cambium (phellogen) is to produce

- A. Secondary xylem and secondary phloem
- B. Cork and secondary cortex
- C. Secondary cortex and phloem
- D. Cork

**Answer: B**



**Watch Video Solution**

**239.** monocot root differs from dicot root in having

- A. Open vascular bundles
- B. Scattered vascular bundles
- C. Well-developed pith
- D. radially arranged vascular bundles

**Answer: C**



**Watch Video Solution**

**240.** where do the casparian bands occur

A. Epidermis

B. Endodermis

C. Percyle

D. Phloem

**Answer: B**



**Watch Video Solution**

**241.** growth/annual rings are formed by the activity  
of

A. Cambium

B. Xylem

C. Phloem

D. Both xylem and phloem

**Answer: A**



**Watch Video Solution**

**242.** Tyloses are found in

A. Secondary xylem

B. Secondary phloem

C. Callus tissue

D. Cork cells

**Answer: D**



**Watch Video Solution**

**243.** exchange of gases between air and the internal tissues of older corky stems takes place through

A. Sieve tube

B. Pits

C. Stomata



D. Lenticels

**Answer: B**



**Watch Video Solution**

**244.** Lateral roots originate from

A. Epiblema

B. Pericycle

C. Cortex

D. Endodermis

**Answer: B**



**Watch Video Solution**

**245.** sunken stomata occur in

A. Mesophytes

B. Xerophytes

C. Hygrophytes

D. Hydrophytes

**Answer: D**



**Watch Video Solution**

**246.** Mesophyll is differentiated in to palisade and spongy tissues in

- A. Extermely xerphytic leaves
- B. Hydrophytic leaves
- C. Moncot leaves
- D. Dicot leaves

**Answer: B**



**Watch Video Solution**

**247.** Bulliform or motor cells are present in

- A. Upper epidermis of dicot leaves
- B. Upper epidermis of monocot leaves
- C. Lower epidermis of monocot leaves
- D. Lower epidermis of dicot leaves

**Answer: B**



**Watch Video Solution**

**248.** meristem present in a vascular bundle is

A. Fascicular/Intrafascicular cambium

B. Intrafascicular cambium

C. Phellogen

D. Procambium

**Answer: A**



**Watch Video Solution**

**249.** Fusiform initials form

A. Vascular rays

B. primary phloem

C. Tracheary elements

D. Ray parenchyma

**Answer: C**



**Watch Video Solution**

**250.** outer lighter coloured/alburnum region of wood is

A. Autumn wood

B. Spring wood

C. Heart wood

D. Sapwood

**Answer: D**



**Watch Video Solution**

**251.** cork cambium is also called

A. phelloderm

B. Phellem

C. Periderm

D. Phellogen

**Answer: D**



**Watch Video Solution**

252. periderm is produced by

- A. Vascular cambium
- B. Fascicular cambium
- C. Phellogen
- D. Intrafascicular cambium

**Answer: C**



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**253.** Common features between lenticels and hydathodes are

- A. They allow exchange of gases
- B. They always remain closed
- C. They is no regulation of their opening and closing
- D. They occur on the same organ of the plant

**Answer: A**



**Watch Video Solution**

254. endodermis of dicot stem is also called

- A. Bundle sheath
- B. Starch sheath
- C. Mesophyll
- D. Water channel

**Answer: B**



**Watch Video Solution**

255. Endodermis is a part of

A. Medulla

B. Stele

C. Cortex

D. Exodermis

**Answer: C**



**Watch Video Solution**

**256.** The functional xylem of dicot tree is

A. Sap wood

B. Autumn wood

C. Heart wood

D. Hard wood

**Answer: A**



**Watch Video Solution**

**257.** Tyloses thickenings are seen in

A. Ray parenchyma

B. Collenchyma

C. Phloem cells

D. Ray parenchyma and xylem cells

**Answer: D**



**Watch Video Solution**

**258.** Casparian strips contain

A. Cutin

B. Pectin

C. Suberin

D. Wax

**Answer: C**



**Watch Video Solution**

259. A monocot showing secondary growth is

- A. Coconut
- B. Sugarcane
- C. Maize
- D. Yucca

**Answer: D**



**Watch Video Solution**

**260.** Scattered vascular bundles occur in

A. Pteridophytes

B. Gymnosperms

C. Monocots

D. Dicots

**Answer: C**



**Watch Video Solution**

**261.** vascular cambium of stem is

- A. Primary meristem
- B. Partly primary and secondary
- C. Secondary meristem
- D. Intercalary meristem

**Answer: B**



**Watch Video Solution**

**262.** inner darker, hardened portion of secondary xylem that cannot conduct water in older dicot stem is called



A. Alburnum

B. Sast

C. Duramen

D. Wood

**Answer: C**



**Watch Video Solution**

**263.** Epiblema is the name of the epidermis of

A. Leaf

B. Stem

C. Dicot root

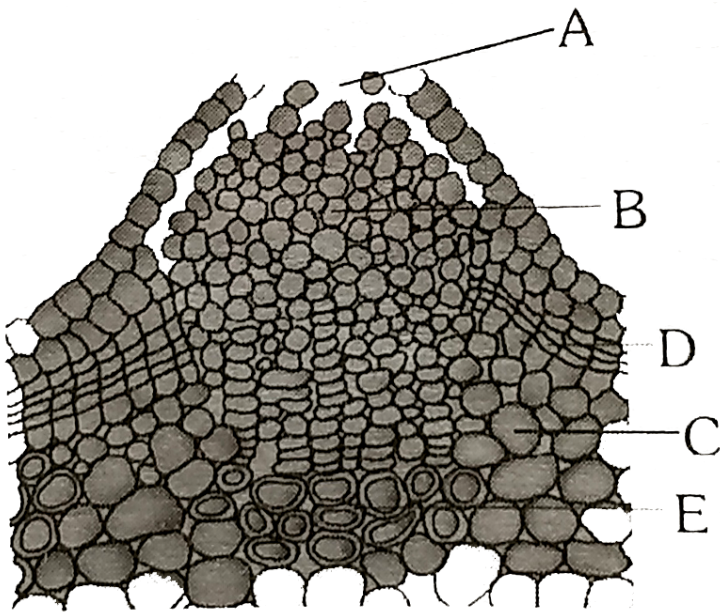
D. Both dicot and monocot roots

**Answer: D**



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**264.** Identify the correct combination of labelling a lenticel



A. 1 → pore, 2 → complementary cells, 3 → cork, 4 → cork cambium, 5 → secondary cortex

B. 1 → pore 2 → secondary cortex, 3 → cork, 4 → cork cambium, 5 →

complementary cells

C. 1 → pore, 2 → cork cambium, 3 →  
secondary cortex, 4 → cork, 5 →

complementary cells

D. 1 → pore, 2 → cork, 3 → complementary  
cells, 4 → cork cambium, 5 → secondary  
cortex

**Answer: A**



**Watch Video Solution**

**265.** Read the different components from (A) to (D) in the list given below and tell the correct order of the components with reference to their arrangement from outer side to inner side in a woody dicot stem

(A) Secondary cortex , (B) Wood

(C) Secondary phloem , (D) Pith

A. b, c, a, d

B. d, a, c, b

C. a, b, d, c

D. c, d, b, a

**Answer: B**



**Watch Video Solution**

**266.** palisade parenchyma is present on both sides  
in

A. Nerium

B. Eucalyptus

C. Wheat

D. Both 1 and 2

**Answer: D**



Watch Video Solution

267. Tyloses are ballon-like ingrowth in vessels developing from adjoining

- A. Parenchyma through pits in vessel wall
- B. Parenchyma through general surface of vessel wall
- C. Fibers through general surface of vessel wall
- D. Fibers through pits in vessel wall

**Answer: A**



**268.** Casparian thickenings are found in the cells of

Or

In dicot roots, cells of which region show casparian strips

- A. Pericycle of stem
- B. Endodermis of stem
- C. Pericycle of root
- D. Endodermis of root

**Answer: D**





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**269.** The large , empty and colourless cells present at intervals on the upper surface of grass leaf are called

- A. Accessory cells
- B. Bulliform cells
- C. Palisade parenchyma
- D. Spongy parenchyma

**Answer: B**



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**270.** Which of the following statement is / are not true

- A. Cork cambium is otherwise called phellogen
- B. Cork is otherwises called phellem
- C. Secondary cortex is otherwise called peirderm
- D. Cork cambium, cork and secondary cortex are collectively called phelloderm

A. b and d only

B. b anc c only

C. c and b only

D. a and b only

**Answer: C**



**Watch Video Solution**

**271.** collateral open vascular bundles and eustele are found in

- A. Dicot root
- B. Dicot stem
- C. Monocot stem
- D. Mococot root

**Answer: B**



**Watch Video Solution**

**272.** radial vascular bundles occur in

- A. Dicot root
- B. Monocot root
- C. All roots
- D. Dicot stem

**Answer: C**



**Watch Video Solution**

273. vascular cambium produces

- A. Secondary xylem and secondary phloem
- B. Secondary xylem only
- C. Secondary phloem only
- D. Primary xylem and primary phloem

**Answer: A**



**Watch Video Solution**

274. phellogen is also known as

A. Vascular cambium

B. Periderm

C. Cork cambium

D. Apical cambium

**Answer: C**



**Watch Video Solution**

275. Which of the following statement is / are not true

- A. Cork cambium is otherwise called phellogen
- B. Cork is otherwises called phellem
- C. Secondary cortex is otherwise called peirderm
- D. Cork cambium, cork and secondary cortex are collectively called phelloderm

A. a and d only

B. a and b only

C. b and c only

D. b and d only

**Answer: A**



**Watch Video Solution**

**276.** cambium ring consists of

- A. Interfascicular cambium
- B. Intrafascicular cambium
- C. Both 1 and 2
- D. Phellodern

**Answer: C**



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277. in autumn or winter, cambium produces

- A. Sapwood
- B. Heart wood
- C. Early wood
- D. Late wood

**Answer: D**



**Watch Video Solution**

**278.** cells of Grass leaves which help in minimising cuticular transpiration are

- A. Bulliform cells
- B. Guard cells
- C. Secondary meristem
- D. Endodermal cells

**Answer: A**



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**279.** Cork cambium is a

- A. Primary meristem
- B. Apical meristem
- C. Secondary meristem
- D. Intercalary meristem

**Answer: C**



**Watch Video Solution**

**280.** secondary growth is best observed in

A. Teak/and pine

B. Deodar and fern

C. Wheat and maidenhair fern

D. Sugarcane and sunflower

**Answer: A**



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**281.** Consider the following statement

(A) In a dicot root, the vascular bundles are collateral and endarch

(B) The inner most layer of cortex in a dicot root is

endodermis

(C) In a dicot root, the phloem masses are separated from the xylem by parenchymatous cells that are known as the conjunctive tissue

Of these statement given above

A. a true, b, c false

B. b true, a, c false

C. false, b, c true

D. b false, a, c true

**Answer: C**



**Watch Video Solution**

282. closing layer of lenticels show deposition of

A. Cutin

B. Lignin

C. Pectin

D. Suberin

**Answer: D**



**Watch Video Solution**

283. what differentiates a dicot leaf from monocot leaf

- A. Stomata only one of upper side
- B. Differentiation of palisade and spongy parenchyma
- C. Parallel venation
- D. Stomata on the upper and lower sides

**Answer: B**



**Watch Video Solution**

284. cellular layers form outside to inside in old dicot stem are

- A. Epidermis, phellem, phellogen, phelloderm
- B. Epidermis, hypodermis, cortex, endodermis
- C. Epidermis, phellogen, phellem, endodermis
- D. Epidermis, hypodermis, phellogen, phelloderm

**Answer: A**



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285. older resin-clogged central secondary xylem and younger outer secondary xylem are respectively known as

- A. Alburnm and duramen
- B. Duramen and alburnum
- C. Autumn wood and springwood
- D. Springwood and autmn wood

**Answer: B**



**Watch Video Solution**

**286.** Which character is not associated with plant where shall studies inbreeding depression while Miller and Letham extracted a hormone from its seeds ?

- A. Atactostele in stem
- B. Bundle sheath in leaf
- C. Chromosome number 30 in endosperm
- D. Medulla absent in root

**Answer: C**



**View Text Solution**

**287.** Condition found in the roots of a plant having assimilatory submerged roots and spongy petioles

A. Tetarch

B. Tricrch

C. Monarch

D. Mature stem

**Answer: C**



**Watch Video Solution**

**288.** Cuticle is absent in

A. Mesophytes

B. Young roots

C. Leaves

D. Mature stem

**Answer: B**



**Watch Video Solution**

**289.** in an annual ring , the light coloured part is

A. Heart wood

B. Sapwood

C. Early wood

D. Late wood

**Answer: C**



**Watch Video Solution**

**290.** Which of the following statements are correct about heartwood?

(i). It does not help in water conduction

(ii). It is also called alburnum

(iii). It is light in colour and is very soft

(iv). It has tracheary elements which are filled with tannins, resins etc.

A. b,c,d

B. a, b,c

C. b, d

D. a, d

**Answer: D**



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**291.** pith parenchyma generally lacks

A. Vacuole

B. Chloroplasts

C. Mitochondria

D. Nucleus

**Answer: B**



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**292.** Tetrarch bundles occur in

A. Leaf of *Cicer arietinum*

B. Leaf of *Pisum sativum*

C. Root of Cicer arietinum

D. Root of Zea mays

**Answer: C**



**Watch Video Solution**

**293.** which is not part of periderm

A. Phellogen

B. Cork

C. Secondary cortex

D. Wood



**Answer: D**



**Watch Video Solution**

**294.** lenticles are patches of

- A. Loose cells in leaves
- B. Loose calls on bark for aeration
- C. Subsidiary cells of stomata
- D. Cells for respiration of epiphytes

**Answer: B**



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295. conjoint and closed vascular bundles with no phloem parenchyma are observed in

- A. Monocot stem
- B. Dicot stem
- C. Monocot root
- D. Dicot root

**Answer: A**



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296. Match the column and choose the correct combination

**Column I**

- (a) Endodermis
- (b) Stomata
- (c) Sieve tube
- (d) Periderm
- (5) Mesophyll

**Column II**

- (i) Companion cell
- (ii) Lenticel
- (iii) Palisade cell
- (iv) Passage cell
- (v) Accessory cell

A.  $a \rightarrow iv, b \rightarrow v, c \rightarrow ii, d \rightarrow i, e \rightarrow iii$

B.  $a \rightarrow v, b \rightarrow iii, c \rightarrow i, d \rightarrow ii, e \rightarrow iv$

C.  $a \rightarrow ii, b \rightarrow v, c \rightarrow iii, d \rightarrow iv, e \rightarrow i$

D.  $a \rightarrow iv, b \rightarrow v, c \rightarrow i, d \rightarrow ii, e \rightarrow iii$

**Answer: D**



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**297.** Arrange the following in the order of their location from periphery to centre in the entire dicotyledonous plant body

(i) Fusiform cells

(ii) Trichoblasts

(iii) collonytes tyloses

(iii) colloocytes

(iv) Tyloses

The correct sequence is

A. b, c, a, d

B. a, b, c, d

C. d, a, b, c

D. c, b, a, d

**Answer: A**



**Watch Video Solution**

**298.** The structure absent in monocot is

A. Sieve tubes

B. Pith

C. Cambium

D. Vessels

**Answer: C**



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**299.** Which of the following is not correct ?

- A. Early wood is characterized by a large number of xylary elements.
- B. Late wood is characterized by a large number of xylary elements.
- C. Early wood is characterized by vessels with narrower cavities.

D. Late wood is characterized by vessels with narrow cavities.

**Answer: C**



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**300.** Medullary rays are made up of

- A. Fibers
- B. Tracheids
- C. Sclerencyma cells
- D. Parenchymatous cells

**Answer: D**



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**301.** heart wood differs from sapwood in

- A. The absence of vessels and parenchyma
- B. Having dead and non-conducting elements
- C. Being susceptible to pests and pathogens
- D. The presence of rays and fibers

**Answer: B**



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**302.** What is the characteristics of a vascular bundle of monocot stem -

- A. Open and surrounded by a sclerenchymatous bundle sheath
- B. Closed and not surrounded by bundle sheath
- C. Closed and surrounded by bundle sheath
- D. Open and not surrounded by a bundle sheath

**Answer: C**



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**303.** Pith is not well developed in

- A. Monocot stem
- B. Monocot root
- C. Dicot stem
- D. Dicot root

**Answer: D**



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**304.** In ficot root

A. Vascular bundles are scattered with cambium

B. Vascular bundles are open and arranged in a ring

C. Xylem and phloem are radial

D. Xylem is always endarch

**Answer: C**



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**305.** The dicot root is identified by the presence of

A. Ecarch xylem

B. 2-6 radial vascular bundles

C.  $> 6$  radial vascular bundles

D. Absence of pith and endodermis

**Answer: B**



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**306.** There of less than six radial vascular bundles are present in

A. Monocot stem

B. Dicot stem

C. Monocot root

D. Dicot root

**Answer: D**



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**307.** A dicot root differs from a monocot root in which of the following -

A. Presence of piliferous layer

B. Presence of exodermis

C. Presence of ill-developed pith

D. Separate radial vascular bundle

**Answer: C**



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**308.** Exarch and polyarch vascular bundles occur in

A. Dicot stem

B. Dicot root

C. Monocot stem

D. Monocot root

**Answer: D**



**Watch Video Solution**

**309.** Water cavity & V or Y- shaped xylum occurs in

-

- A. Dicot stem
- B. Monocot root
- C. Monocot stem
- D. Dicot root

**Answer: C**



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**310.** In which of the following order, an exarch xylem develops-

A. Centripetal

B. Centrifugal

C. Both centripetal and centrifugal

D. Irregular

**Answer: A**



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**311.** Hard bast (Bundle cap )occurs in -

A. Sunflower stem

B. Wheat stem

C. Sunflower root

D. Both 1 and 2

**Answer: A**



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**312.** Amphicribral vascular bundles are

- A. Endarch
- B. Exarch
- C. Mesarch
- D. All of these

**Answer: C**



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**313.** Vascular bundles in cucurbita stem are -

- A. Bicollateral & open
- B. Bicollateral & closed

C. Colateral & open

D. Amphivasal

**Answer: A**



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**314.** Position of xylem & phloem in leaf respectively

-

A. Abaxial & Adaxial

B. Adaxial & Abaxial

C. Both adaxial

D. Both abaxial

**Answer: B**



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**315.** Articulated latex vessels occur in

A. Hevea

B. Colotropis

C. Euphorbia

D. Tamarindus

**Answer: A**



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**316.** A layer of suberised cells below the epidermis of root of certain plants is

- A. Second epidermis
- B. Hypodermis
- C. Exodermis
- D. Endodermis

**Answer: C**



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**317.** The function of hypodermis is

- A. Protection
- B. Hardness
- C. Support
- D. Storage

**Answer: C**



[Watch Video Solution](#)

**318.** In leaves, the vascular bundles are

- A. Bicollateral & open
- B. Collateral & open
- C. Collateral & closed
- D. Radial & exarch

**Answer: C**



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**319.** Vascular bundles are found scattered in ground tissue in -

- A. Maize stem
- B. Sunflower stem
- C. Germ root
- D. Isobilateral leaf

**Answer: A**



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**320.** Lacunar collenchyma is specifically present in hypodermis of

- A. Cucurbita stem



B. Sunflower stem

C. Brinjal stem

D. None Of The Above

**Answer: A**



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**321.** The hypodermis present in maize stem is -

A. Parenchymatous

B. Collenchymatous

C. Sclerenchymatous

D. Meristematic

**Answer: C**



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**322.** Passage cells are found in endodermis of -

A. Dicot stem

B. Monocot stem

C. Dicot root

D. Moncot root

**Answer: D**



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**323.** Pith is produced by

- A. Ground meristem
- B. Procambium
- C. Periblem
- D. Dermatogen

**Answer: A**



**Watch Video Solution**

**324.** Sugar transport elements of gymnosperms & pteridophytes are -

- A. Sieve cells
- B. Sieve elements
- C. Sieve tubes
- D. Sieve tube elements

**Answer: A**



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**325.** When protoxylem faces pericycle , it is called-

- A. Endarch
- B. Mesarch
- C. Exarch
- D. Polyarch

**Answer: C**



**Watch Video Solution**

**326.** Fatty substance found on epidermal cell walls is

A. Cutin

B. Suberin

C. Wax

D. Both 1 and 2

**Answer: A**



**Watch Video Solution**

**327.** Which of the following are simple tissues

A. Parenchyma, xylem, and phloem

B. Parenchyma, collenchyma, and sclerenchyma

C. Parenchyma, xylem, and collenchyma

D. Parenchyma, xylem, and sclerenchyma

**Answer: B**



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**328.** Vascularization in plants occurs through

A. Differentiation of procambium followed by primary phloem and then primary xylem

B. Differentiation of procambium followed by development of xylem and phloem

C. Simultaneous differentiation of procambium, xylem, and phloem

D. Differentiation of procambium which is immediately followed by the development of secondary xylem and secondary phloem

**Answer: B**

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**329.** Raphides are needle-like crystals of calcium oxalate which are specially found in



A. Dahlia

B. Pistia

C. Asparagus

D. All of the above

**Answer: B**



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**330.** Wound healing is due to

A. Primary meristem

B. Secondary meristem

C. Ventral meristem

D. All of the above

**Answer: A**



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**331.** The outermost primary meristem gives rise to

A. Epidermis

B. Procambium

C. Ground meristem

D. All of the above

**Answer: D**



**Watch Video Solution**

**332.** Tyloses thickenings are seen in

- A. Phloem cells
- B. Ray parenchyma only
- C. Collenchyma
- D. Ray parenchyma and xylem cells

**Answer: D**



**Watch Video Solution**

**333.** The exchange of gases in old stems takes place from

- A. Stomata
- B. hydrotodes
- C. Lenticels
- D. Passage cells

**Answer: C**



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**334.** The most primitive type of stele is

- A. Eusele
- B. Solenostele
- C. Protostele
- D. Siphonostele

**Answer: C**



**Watch Video Solution**

**335.** Inulin and raphide crystals are which type of plant products ?

A. Excretory

B. Inorganic

C. Respiratory

D. Reserve material

**Answer: D**



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**336.** Which one of the following show origin and evolution of steles

A. Bryophytes

B. Pteridophytes

C. Gymnosperms

D. Angiosperms

**Answer: C**



**Watch Video Solution**

**337.** Quiescent centre is found in

A. Stem

B. Root

C. Leaves

D. None of these

**Answer: D**



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**338.** Aerenchyma is found in

A. Lithophytes

B. Hydrophytes

C. Sciophytes

D. Xerophytes



**Answer: D**



**Watch Video Solution**

**339.** Cuticles is secreted by

A. Epidermis

B. Endodermis

C. Both 1 and 2

D. Hypodermis

**Answer: D**



**Watch Video Solution**

**340.** If four radial vascular bundles are present, then the structure will be

- A. Monocot stem
- B. Monocot root
- C. Dicot stem
- D. Dicot root

**Answer: D**



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**341.** vessels occur in

- A. All angiosperms, all gymnosperms, and some pteridophytes
- B. All angiosperms and some gymnosperms
- C. Most angiosperms, a few gymnosperms and pteridophytes
- D. All pteridophytes

**Answer: C**



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**342.** Removal of ring wood of tissue outside the vascular cambium from the tree trunk kills it because

A. Water cannot move up

B. Food does not travel down and root becomes starved

C. Shoot becomes starved

D. Annual rings are not produced

**Answer: B**



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**343.** Tracheids and bessel's are related to

A. Xylem

B. Phloem

C. Both

D. None of these

**Answer: B**



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**344.** Cells of quiescent centre are characterized by

- A. Dense cytoplasm and prominent nuclei
- B. Light cytoplasm and small nuclei
- C. Dividing regularly to add to the corpus
- D. Dividing regularly to add to tunica

**Answer: B**



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**345.** Apical meristem of root is present

- A. Only in radicles
- B. Only in tap roots

C. Only in adventitious roots

D. In all the roots

**Answer: D**



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**346.** In a longitudinal section of a root, starting from the tip upward, the four zones occur in the following order

A. Cell division, cell enlargement, cell maturation, root cap

B. Cell division cell maturation, cell enlargement,  
root cap

C. Root cap, cell division, cell enlargement, cell  
maturation

D. Root cap, cell division, cell maturation, cell  
enlargement

**Answer: C**



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**347.** Growth rings are formed by the activity of



A. Extrastelar cambium

B. Intrasteler cambium

C. Interstelar cambium

D. Both 2 and 3

**Answer: D**



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**348.** Which of the following is correct sequence of layers in typical monocot root (from outer surface to inside)

- A. Epiblem, endodermis, cortex, pericycle
- B. Pericycle, corted, endodermis, epiblema
- C. Epiblems, cortex, endodermis, pericycle
- D. Epiblems, pericycle, cortex, endodermis

**Answer: C**



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**349.** Quiescent centre is found in

- A. Shoot apex
- B. Root apex

C. Both A and B

D. Meristematic tissue

**Answer: B**



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**350.** P-protein occurs in

A. Sieve tube elements

B. Tracheids

C. Vessels

D. Phloem parychma

**Answer: A**



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**351. Collenchyma is**

- A. Living with no reserve food
- B. Living with protoplasm
- C. Dead and hollow
- D. Dead with reserve food

**Answer: B**



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**352.** Exarch and polyarch vascular bundles occur in

- A. Monocot stem
- B. Monocot root
- C. Dicot stem
- D. Dicot root

**Answer: B**



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**353.** endodermis takes part in

- A. Providing protectin
- B. Preventing water loss from stele
- C. maintaining rigidity
- D. All the above

**Answer: B**



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**354.** Length of petiole increases by the acitivity of

- A. Apical meristem
- B. Lateral meristem
- C. Intercalary meristem
- D. All the above

**Answer: C**



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**355.** Reduction in vascular tissue mechanical tissue and cuticle is characteristic of

- A. Hydrophytes

B. Xerophytes

C. Mesophytes

D. Epiphytes

**Answer: A**



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**356.** Which of the following is a complex tissue

A. Parenchyma

B. Collenchyma

C. Xylem



D. Sclerenchyma

**Answer: C**



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**357.** in monocots

- A. Leaves have reticulate venation
- B. Stems annual rings
- C. Seeds have two stronge organs
- D. Stems have scattered conducting strands

**Answer: D**



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**358.** vascular bundle of monocot is

- A. Scattered
- B. Closed
- C. Endarch
- D. All the above

**Answer: D**



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## Assertion Reasoning Questions

1. Assertion: In maize stem, endodermis is present between general cortex and pericycle.

Reason: Eustele is present in maize Stem.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of

the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



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2. Assertion: In Cucurbita stem, vascular bundles are conjoint, bicollateral, and their open or close.

Reason: The outer and inner cambium are present and only inner cambium is functional in Cucurbita stem.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



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3. Assertion: Fusiform cells are elongated and tapering cells.

Reason: These cells form axial system consisting of vascular rays.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: C**



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4. Assertion: Septa less tracheids are absent in Trochodendron.

Reason: Heteroxylous wood is present in Trochodendron.

A. If both Assertion and Reason are true and the Reason is the correct explanatin of the

Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: C**



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5. Assertion: According to Hanstein, there are three histogens in a monocot root.

Reason: In monocot roots, the outermost groups of initials form both root cap and dermatogen.

A. If both Assertion and Reason are true and the

Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but

the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



**Watch Video Solution**

6. Assertion: The apical meristem is always protected.

Reason: A root cap is present above the meristem in roots.

A. If both Assertion and Reason are true and the

Reason is the correct explanation of the

Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: B**



**View Text Solution**

7. Assertion: The stem in herbaceous plants do not develop cracks during severe wind and use to bond under these conditions.

Reason: Sclerenchyma is peripheral in position and provides flexibility to herbaceous stem.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: C**



**Watch Video Solution**

**8. Assertion:** The death of a companion cell leads to the death of sieve cell also.

**Reason:** Both companion and sieve cells are phloem cells.

- A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.
- B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.
- C. If Assertion is true, Reason is false.
- D. If both Assertion and Reason are true.

**Answer: B**



**Watch Video Solution**

**9. Assertion:** Dicot roots are mostly tetrach.

**Reason:** There occur four phloem bundles forming rays.

A. If both Assertion and Reason are true and the

Reason is the correct explanation of the

Assertion.

B. If both Assertion and Reason are true, but

the Reason is not the correct explanation of

the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



**Watch Video Solution**

**10.** Assertion: Heart wood is not involved in conduction function.

Reason: Tyloses and depositions of tannins, resins, and gums is common in duramen cells.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.



B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: A**



**Watch Video Solution**

**11. Assertion:** Vascular cambium appears wavy in dicot roots.

Reason: Vascular cambium is formed by conjunctive tissue in dicot roots which is found located inside xylem and outside phloem strands.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: C**



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**12.** Assertion: Velamen is hygroscopic in nature and absorbs environmental moisture.

Reason: Velamen is common in orchids which are epiphytes.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: B**



**Watch Video Solution**

**13.** Assertion : Sclerenchyma cells do not have plasmodesmata.

Reason : The cell walls of some permanent tissues are heavily lignified.

A. If both Assertion and Reason are true and the

Reason is the correct explanation of the

Assertion.

B. If both Assertion and Reason are true, but

the Reason is not the correct explanation of

the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



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**14.** assertion (A). All the endodermal cells of the root do not contain casparian thickenings on their radial walls and transverse walls.

Reason <sup>®</sup>. passage cells are found in endodermis.

A. If both Assertion and Reason are true and the

Reason is the correct explanation of the

Assertion.

B. If both Assertion and Reason are true, but

the Reason is not the correct explanation of

the Assertion.

C. If Assertion is true, Reason is false.

D. If both Assertion and Reason are true.

**Answer: D**



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**Archives**

1. passage cells are thin-walled cells found in

- A. Central region of style through which the pollen tube grows towards the ovary.
- B. Endodermis of roots facilitating rapid transport of water from cortex to pericycle
- C. Phloem elements that serve as entry points for substances for transport to other plant parts
- D. Tasta of seeds to enable emergence of growing embryonic axis during seed germination.



**Answer: B**



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2. For a critical study of secondary growth in plants, which one of the following pairs is suitable

A. Wheat and maiden hair fern

B. Sugarcane and sunflower

C. Teak and pine

D. Deodar and fern

**Answer: C**



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3. Which one of the following is resistant action

A. Pollen exine

B. Leaf cuticle

C. Cork

D. Wood fiber

**Answer: A**



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4. The length of different internodes in a culm of sugarcane is variable because

A. size of leaf lamina at the node below each internode

B. intercalary meristem

C. shoot apical meristem

D. position of axillary buds

**Answer: B**



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5. Vascular tissues in flowering plants develop from

A. Periblem

B. Dermatogens

C. Phellogen

D. Plerome

**Answer: D**



**Watch Video Solution**

6. Which one is encleacted ?

A. Companion cell

B. Sieve cell

C. Tracheid

D. Vessel

**Answer: B**



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7. In barley stem vascular bundles are

A. Closed and radial

B. Open and scattered

C. Closed and scattered

D. Open and in a ring

**Answer: C**



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**8. Palisade parenchyma is absent in leaves of**

A. Gram

B. Sorghum

C. Mustard

D. Soybean

**Answer: B**



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9. The annular and spirally thickened conducting elements generally develop in the protoxylem when the root or stem is

A. Differentiating

B. Maturing

C. Elongating

D. Widening

**Answer: B**



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**10.** Anatomically fairly old dicotyledonous root is distinguished from the dicotyledonous stem by

- A. Position of protoxylem
- B. Absence of secondary xylem
- C. Absence of secondary phloem
- D. Presence of cortex

**Answer: A**





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11. heart wood differs from sapwood in

- A. Presence of rays and fibers
- B. Absence of vessels and parenchyma
- C. having dead and non-conducting elements
- D. Being susceptible to pests and pathogens

**Answer: C**



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12. Which one of the following is not a lateral meristem

A. Intrafascicular cambium

B. Interfascicular cambium

C. Phellogen

D. Intercalary meristem

**Answer: D**



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**13.** The chief water conducting elements of xylem in gymnosperms are

A. Vessels

B. Fibers

C. Transfusion tissue

D. Tracheids

**Answer: D**



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**14.** Ground tissue includes

A. All tissue external to endodermis

B. All tissues except epidermis and vascular bundles

C. Epidermis and cortex

D. All tissues internal to endodermis

**Answer: B**



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**15.** The cork cambium, cork and secondary cortex are collectively called

A. Phelloderm

B. Phellogen

C. Periderm

D. Phellem

**Answer: C**



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16. Which of the following is wrongly matched ?

A. Cassia-Imbricate aestivation

B. Root pressure-Guttation

C. Puccinia-Smut

D. Root-Exarch protoxylem

**Answer: C**



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17. In land plants the guard cells differ from other epidermal cells in having

- A. Chloroplasts
- B. Cytoskeleton
- C. Mitochondria
- D. Endoplasmic reticulum

**Answer: A**



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18. The cambium which produces cork is known as

Or

The common bottle cork is a product of

Or

The meristem that is parallel to the longitudinal axis of the plant is

- A. Phellogen
- B. Xylem
- C. Vascular cambium
- D. Detmatogen

**Answer: A**





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**19.** Closed vascular bundles lack

A. Conjunctive tissue

B. Cambium

C. Pith

D. Ground tissue

**Answer: B**



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20. Water containing cavities in vascular bundles are found in

A. Maize

B. Cycas

C. Pinus

D. Sunflower

**Answer: A**



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21. Companion cells are closely associated with

Or

Transport of food material in higher plants takes place through

A. Vessel elements

B. Trichomes

C. Guard cells

D. Sieve elements

**Answer: D**



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22. Gymnosperms are also called soft wood spermatophytes because they lack

A. Thick-walled tracheids

B. Xylem fiber

C. Cambium

D. Phloem fiber

**Answer: B**



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23. as compared to a dicot root, a monocot root has

- A. More abundant secondary xylem
- B. Many xylem bundles
- C. Inconspicuous annual rings
- D. Relatively thicker periderm

**Answer: B**



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**24.** Interfascicular cambium develops from the cells of

- A. Medullary rays
- B. Xylem parenchyma
- C. Endodermis
- D. pericycle

**Answer: A**



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25. Lenticels are involved in

- A. Transpiration
- B. Gaseous exchange
- C. Food transport
- D. Photosynthesis

**Answer: B**



**Watch Video Solution**

26. Age of tree can be estimated by

- A. Its height and girth
- B. Biomass
- C. Number of annual rings
- D. Diameter of its heartwood

**Answer: C**



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**27.** Tracheids differ from other tracheary elements  
in

- A. Having casparian strips



B. Being imperforate

C. Lacking nucleus

D. Being lignified

**Answer: B**



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**28.** you are given a fairly old piece of dicot stem and a dicot root. Which of the following anatomical structures will you use to distinguish between the two.

- A. Secondary xylem
- B. Secondary phloem
- C. Protoxylem
- D. Cortical cells

**Answer: A**



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**29.** Vascular bundles in monocotyledons are considered closed because :

- A. Xylem is surrounded all around by phloem

B. A bundle sheath surrounds each bundle

C. Cambium is absent

D. There are no vessels with perforations

**Answer: C**



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**30.** In a ring girdled plant :

A. Neither root nor shoot will die

B. The shoot dies first

C. The root dies first

D. The shoot and root die together

**Answer: B**



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**31.** A major characteristic of the monocot root is the presence of

- A. Cambium sandwiched between phloem and xylem along the radius
- B. Open vascular bundles
- C. Scattered vascular bundles

D. Vasculature without cambium

**Answer: D**



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**32.** Transmission tissue is characteristic feature of

A. Wet stigma

B. Hollow style

C. Solid style

D. Dry stigma

**Answer: C**



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**33.** Read the different components from (A) to (D) in the list given below and tell the correct order of the components with reference to their arrangement from outer side to inner side in a woody dicot stem

(A) Secondary cortex , (B) Wood

(C) Secondary phloem , (D) Pith

A. d, c, a, b

B. c, d, b, a

C. a, b, d, c

D. d, a, c, b

**Answer: D**



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**34.** A column of water within xylem vessels of tall trees does not break under its weight because of

A. Positive root pressure

B. Dissolved sugar in water

C. Tensile strength of water

D. Lignification of xylem vessels s

**Answer: C**



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**35.** Which of the following is not required for any of the techniques of DNA fingerprinting available at present

A. Polymerase chain reaction

B. Zinc finger analysis



C. Restriction enzymes

D. DNA-DNA hybridization

**Answer: B**



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**36.** Cortex is the region found between

A. Endodermis and pith

B. Endodermis and vascular bundle

C. Epidermis and stele\*

D. Pericycle and endodermis

**Answer: C**



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**37.** the balloon- shaped structures called tyloses

- A. Are extension of xylem parenchyma cells into vessels
- B. Are linked to the ascent of sap through xylem vessels
- C. Originate in the lumen of vassels
- D. Characterze the sapwood

**Answer: A**



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**38.** Which one of the following statements is not correct

A. In potato, banana and ginger, the plantlets arise from the internodes present in the modified stem,

B. Water hyacinth, growing in the standing water, drains oxygen from water that leads

to the death of fishesh.

C. Offspring produced by the asexual reproduction are called clone

D. Microscopic, motile asexual reproductive structures are called zoospores.

**Answer: A**



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