BIOLOGY

BOOKS - TRUEMAN'S BIOLOGY (ENGLISH)

ANATOMY OF FLOWERING PLANTS

Multiple Choice Questions

1. The cells of meristems have

A. young immature dividing cells with large conspicuous nuclei and no intercellular spaces

B. large vacuoles

C. abundant cell inclusions

D. all of the above

Answer: A

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2. Leaves of Monocot or grass leaves and stem of bamboo, and mint grow in size to activity of

A. apical meristem

B. intercalary meristem

C. lateral meristem

D. dermatogen

Answer: B

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3. Histogen is

A. secondary meristem forming a specific tissue

B. intercalary meristem forming a specific

C. promeristem forming a specific tissue

D. none of the above.

Answer: C

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4. Root apex is subterminal because of the presence of

A. root h aris

B. root cap

C. quiescent centre

D. all of these

Answer: B

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5. Root cap in monocots is derived from a histogen present at tip called

A. dermatogen

B. protoderm

C. calyptrogen

D. periblem

Answer: C

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6. Concept envisaging three zones of cells in root and stem tips is

A. Histogen theory

B. tunica corpus theory

C. Meristen theory

D. Munch hypothesis

Answer: A

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7. Mechanical properties of sclerenchyma is due to

A. cellulose

B. lignin

C. pectin

D. cutin

Answer: B

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8. A permanent tissue that can develop power of division is

A. parenchyma

B. collenchyma

C. fibres

D. sieve tube

Answer: A

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9. The living mechanical tissue providing tensile strength is

A. sclerenchyma

B. parenchyma

C. collenchyma

D. sclereid

Answer: C

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10. What is true for collenchyma?

A. It has well developed power to dediferentiate

B. It is absent in aerial parts

C. Uneven pecto-cellulose thickening at corner

D. All of the above

Answer: C

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11. P- protein is found in

A. sieve tubes

B. tracheids

C. vessels

D. collenchyma

Answer: A

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12. Eustele condition is found in the stem of

A. dicots

B. monocots

C. ferns

D. pteridophytes

Answer: A

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13. Atactostele condition is found in the stem of

A. dicots

B. monocots

C. ferns

D. pteridophytes

Answer: B

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14. Epidermal outgrowths are known as

A. stem

B. stomata

C. buds

D. trichomes

Answer: D

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15. The pericycle of roots is never sclerenchymatous because it

A. it does not act as mechanical tissue in roots

B. it gives to root hairs

C. it is place of origin of lateral roots

D. it gives rise both to root hairs and root branches

Answer: C

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16. Concentric vascular bundles are

A. open

B. closed

C. may be open or closed

D. endarch

Answer: B

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17. Monocot leaves show

A. both spongy and palisade mesophyll

B. only palisade mesophyll

C. only spongy mesophyll

D. none of the above.

Answer: C

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18. The water cavity present in the xylem of maize stem vascular bundles is

A. schizogenous

B. hydrolytic

C. lysigenous

D. schizo-lysigenous

Answer: D

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19. Phloem of monocots generally lacks

A. sieve tubes

B. phleoem fibres

C. phloem parenchyma

D. companion cells

Answer: C

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20. Phloem in dorsiventral leaves is directed towards

A. lower epidermis

B. centre

C. upper epidermis

D. absence in leaves

Answer: A

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21. Vacular bundles are surrounded on all sides by a sclerenchymatous sheath in

A. dicot stem

B. dicto root

C. monocot stem

D. monocot root

Answer: C

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22. Torus is concerned with

A. boardered pits

B. thalamus

C. both (1) and (2)

D. vessels

Answer: C

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23. radial vascular bundles are those in which

A. xylem and phloem lie on different radii

B. xylem surrounds phloem

C. phloem surrounds xylem

D. xylem and phloem lie on same radii

Answer: A

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24. casparian strip is fomred by depposition of

A. mainly pectin

B. cellulose

C. suberin & lignin

D. lignin

Answer: C

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25. Pericycle of dicot root does not take part in the formation of

A. cambium

B. lateral roots

C. root hairs

D. cork cambium

Answer: C

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26. Mesophyll is differentiated into palisade and spongy parenchyma in adaptation to

A. light intensity

B. reduced transpiration

C. low water availability

D. atmospheric humidity

Answer: A

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27. hypodermis in monocotyledonous stem is

A. parenchyma

B. chlorenchyma

C. sclerenchyma

D. collenchyma

Answer: C

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28. Bulliform cells are formed in the epidermis of ..... leaf.

A. monocotyledonous/grass leaf

B. dicotyledonous leaf

C. both of these

D. none of these

Answer: A

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29. In monocot plants, the guard cells are

A. kidney shaped

B. dumbel shaped

C. columnar

D. rectangular

Answer: B

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30. Flesh of guava, apple pear and spota fruits is gritty and full of

A. sclerenchyma fibres

B. sclerenchyma sclereids

C. collenchyma and lignin

D. (1) and (2) both

Answer: B

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31. In dorsiventral leaf, xylem is on

A. adaxial side

B. abaxial side

C. laterla side

D. mesarch

Answer: A

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32. Vascular bundles in a dicot leaf are

A. conjoint, collateral and open

B. conjoint, collateral and closed

C. collateral and open

D. collateral and closed

Answer: B

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33. Collenchyma occurs in the stem and petioles of

A. xerophytes

B. hydrophytes

C. herbaceous climbers

D. woody climbers

Answer: C

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34. Near the upper epdermis of leaf are found

A. spongy parecnhyma

B. palisade parecnhyma

C. fibres

D. sclereids

Answer: B

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35. In bicollateral vascular bundle

A. xylem is sandwiched by phloem

B. phloem is snadwiched by xylem

C. splitting of one bundle into two equal bundles is fond

D. fusition of two lateral bundles is found

Answer: A

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36. Meaningful girdling experiments can't be performed with sugarcane plant because

A. its stem is thin

B. its vascular bundles are scattered and not arranged in a sequential order

C. its stem surface is coated with wax

D. phloem is interior to xylem

Answer: B

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37. Sunn hemp fibre (Crotalaria juncea) is obtained from

A. secondary xylem

B. secondary phloem

C. leaf

D. testa of seed

Answer: B

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38. Two to six exarch radial vascular bundles and little pith are found in

A. dicot stem

B. monocots root

C. dicot root

D. dicot leaf

Answer: C

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39. Collenchyma differs from sclerenchyma in

A. retaining protoplasm at maturity

B. lacking thic cell wall

C. having narrow lumen

D. being meristematic

Answer: A

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40. Vascular tissue of monocot root is

A. collateral, open diarch and endarch

B. radial, open tetrach an exarch

C. radial, open and endarch

D. radial, closed and exarch

Answer: D

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41. Iso bilateral leves have

A. multiple epidermis

B. undifferentiated mesophyll

C. both (1) and (2)

D. palisade on both sides

Answer: B

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42. Vascular bundles are scattered and closed in

A. monocot root

B. dicot root

C. dicot stem

D. monocot stem

Answer: D

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43. vascular cambium of stem is

A. partly primary and secondary meristem

B. primary meristem

C. secondary meristem

D. intercalary meristem

Answer: A

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44. Ringing/girdling experiment was first performed by

A. Hartig

B. Strassburger

C. Godlewski

D. Bose

Answer: B

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45. cork/bottle cork is formed from

A. plerome

B. phellogen

C. phelloderm

D. periderm

Answer: B

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46. Yound region of secondary pholem is found

A. just inside cambium

B. just inside primary phloem

C. just outside cambium

D. just outside primary xylem

Answer: C

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47. In dicot root, cambium develops from secondary meristem. First to happen during secondary growth is

A. cambium becomes active below phloem

B. conjunctive tisse inner to pheloem gets active

C. cambium develops from pericycle opposite to protoxylem

D. a wavy ring of cambium develops.

Answer: B

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48. If today a signboard is nailed to the side of a tree 5 feet above the groud, how high would the sign be after 6 years if tree grows 4 inches taller per year ?

A. Move up by 24 inches

B. Move down by 24 inches

C. Remain where it was

D. Move up by 16 inches

Answer: C

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49. Non-porous and soft wood is found in

A. gymnosperms

B. dicots

C. monocots

D. ferns

Answer: A

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50. Porous and hard wood plants belong to

A. gymonosperms

B. moncots

C. dicots

D. trachephytes

Answer: C

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51. A complete ring a vascular cambium in dicot stem is formed by the combination of

A. interfascicula cambicum and cork camlum

B. intefascicular and intrascicular cambium

C. interfascicular cambium and procabium

D. fascicular combium and cork cabium

Answer: B

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52. Gymnospermic wood is soft wood because

A. it is very soft like a sponge

B. it is without fibers and vessels

C. it is nonporus and parenchymatous

D. all the above

Answer: B

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53. Grafting is not possible in monocots because they

A. they lack cambium

B. they are herbs

C. they have few vascular bundles

D. none of the above

Answer: A

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54. The annual rings are distinct in conifers and plants growing in

A. tropical region

B. temperate region

C. equatorial region

D. arctic region

Answer: B

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55. In olds trees, part of secondary xylem that conduct H_2O and minerals is called

A. heart wood

B. sap wood

C. late wood

D. early wood

Answer: B

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56. Xylotomy is study of wood. Dendrochronology is the study of

A. diameter of tree

B. secondary growth of a tree

C. age of tee by counting annual rings in main truck

D. counting of the number of branches

Answer: C

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57. Periderm consists of three layers namely

A. outer phellem, middle phellogen and inner phelloderm

B. outer phelloderm, middle phellem and inner phelloderm

C. outer secondary cortex, middle cork and inner cork cambium

D. outer phellogen, middle cork and inner phelloderm

Answer: B

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58. Termites usually does not attack/most durable part of woods is

A. alburnum

B. duramen

C. periderm

D. bark

Answer: B

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59. Vascular combium is a lateral meristem and gives rise to

A. primary xylem and primary phleom

B. more of secondary xylem on inner side and less of secondary phleom on outer side

C. less of secondary phleom on inner side and more secondary xylem on outer side

D. secondary phloem only

Answer: B

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60. A narrow layer of thin-walled cells found between phloem/bark and wood of a dicot is

A. endodermis

B. vascular cambium

C. pericycle

D. cork cambium

Answer: B

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61. Which will decay faster if exposed freely

A. Heartwood

B. Sap wood

C. Wood rich in fibres

D. Soft wood

Answer: B

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62. Abnormal secondary growth is observed in

A. Dracaena

B. Cordyline

C. Aloe

D. All of these

Answer: D

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63. Match the following :

1.	Soft wood	(a) Vessels present
2.	Hard wood	(b) Non-functional
3.	Sap wood	(c)Vessels absent
4.	Heart wood	(d)Functional

A. 1(a), 2(c), 3(d), 4(b)

B. 1(c), 2(b), 3(a), 4(b)

C. 1(c), 2(a), 3(b), 4(d)

D. 1(c), 2(a), 3(d), 4(b)

Answer: D

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64. Cork cambium in dicot stem origintes from

A. epidermis

B. endodermis

C. outer layer of pericycle

D. outer cortex cells

Answer: D

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65. Periderm is produced by

A. phellogen

B. vascular cambium

C. fascicular cambium

D. cork cells

Answer: A

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66. Quinine (antimalarial drug) is obtained from

A. Bark of Cinchona

B. Cork or Cinhona

C. Bark of Cinnamon

D. Cork of Cinnamon

Answer: A

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67. Heart wood helps in

A. mechanical support

B. circulation

C. ascent of sap

D. translocation of food

Answer: A

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68. Cells of vascular cambium divide

A. transversely only

B. periclinally both on outer and inner side

C. perclinally on outer side only

D. anticlinally only

Answer: B

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69. A 50 years old tree with distinct annual rings in its trunk will show.

A. 50 annual rings from base of trunk to apex

B. 50 rings at base of trunk and about 20 rings at apex.

C. 50 rings at its base of trunk and uniformly decreasing towards apex

D. 50 rings at base of trunk and more or irregular number of rings at apex.

Answer: C

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70. Secondary growth is absent in

A. roots

B. stem

C. leaves

D. gymnosperms

Answer: C

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71. Skin of potato is a familiar example of

A. phellogen

B. phellem

C. phelloderm

D. duramen

Answer: B

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72. Phelloderm consists of

A. living parenchymatous cells

B. dead sclerenchymatous cells

C. both (1) and (2)

D. collenchyma cells

Answer: A

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73. A type of dividing tissue found between mature stem region in grasses is

A. intercalary meristem

B. lateral meristem

C. apical meristem

D. all of the above

Answer: A

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74. Hemp fibre is obtained from secondary pholem of stem of

A. Linum

B. Boehmeria

C. Corchorus

D. Cannabis

Answer: D

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75. Coir is obtained from

A. stem

B. fruit

C. leaf

D. seed

Answer: B

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76. Cotton fibre is

A. sclerenchyma cell

B. collenchyma cell

C. sclereid

D. epidermal outgrowth

Answer: D

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77. Cortex/ ground tissue of leaf is called

A. meshophyll

B. ground tissue

C. upper epidermis

D. lower epiderms

Answer: A

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78. In a dorsiventral leaf, location of palisade tissue and phloem is respectively on the _____surfaces.

A. adaxial and abaxial

B. adaxial and adaxial

C. abaxial and adaxial

D. abaxial and abaxial

Answer: A

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79. vascular cambium of stem is

A. partly primary and secondary meristem

B. primary meristem

C. secondary meristem

D. intercalary meristem

Answer: A

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80. A secondary meristematic tissue can develop due to the resumption of power of division in

A. parenchyma and sclerenchyma

B. parenchyma and collenchyma

C. Collenchyma and sclerenchyma

D. Collenchyma and tracheids.

Answer: B

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81. A permanent secondary tissue is produced by the activity of

A. marginal meristem

B. intercalary meristem

C. apical meristem

D. lateral meristem

Answer: D

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82. The wall-thickening material in tracheids and vessels are

A. cuting and suberin

B. cellulose and cutin

C. suberin and cellulose

D. lignin and cellulose

Answer: D

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83. The ladder like thickenings in tracheids and vessels are called

A. annular

B. spiral

C. scalariform

D. reticulate

Answer: C

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84. A distinguishing feature of comanion cells is that they arise from the same initial from which arises

A. phloem parenchyma

B. best fibre

C. sieve tube

D. cambium

Answer: C

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85. Statement : While observing transverse sections of two stems, the anatomical characters were recorded as given below.Now tell which one is related to dicot stem

A. Vascular bundles conjoint with fibrous bundle sheath.

B. Vascular bundles are not conjoint and without fibrous bundle sheath.

C. Vascular bundles collateral and closed.

D. Vascular bundles collateral and open.

Answer: C

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86. The distinguishing anatomical features of stem are that they have

A. multicellular haris, exarch xylem and exogenous lateral branched

B. multicellular haris, endarch xylem and exogenous lateral branched

C. unicellular hairs, xylem and exogenous lateral branches

D. multicellular hairs, endarch xylem and endogenous lateral branches

Answer: B

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87. In the endodermis of root he passage cells have

A. thick walls with casparian strips

B. thick walls without casparian strips

C. thin walls with casparian strips

D. thin walls without casparian strips

Answer: C

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88. After the commencement of secondary growth in dicot stem, the primary xylem would be obseved to occupy a position on the

A. inner side of secondary xylem

B. inner side of secondary phloem

C. outer side of secondary xylem

D. outer side of secondary phloem

Answer: A

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89. A characteristic feature of a transverse section of an old dicot root is that it show secondary xylem

A. interrupted by primary rays and exarch primary xylem.

B. interrupted by primary medullary rays and exarch primary xylem.

C. uninterrupted by primary medullary rays and exarch primary xylem.

D. uninterrupted by primary medullary rays and endarch primary xylem.

Answer: A

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90. Healing of wound in plants takes place by the activity of

A. intercalary meristem

B. secondary meristem

C. mass meristem

D. apical meristem

Answer: B

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91. Conjunctive tissue found in stelar region of roots is

A. parencnhyma

B. collenchyma

C. scierenchyma

D. aerenchyma

Answer: A

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92. Hard woods have

A. more of parenchyma

B. vessels in abundance

C. tracheids mainly

D. non-porous nature

Answer: B

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93. Youngest heart wood is present

A. in the centre

B. just outside sapwood

C. just inner sapwood

D. just outside primary xylem

Answer: C

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94. Oldest phloem occurs on the outerside of phloem/inner to pericycle. It is actually

A. primary phloem

B. secondary phloem

C. included phloem

D. crushed secondary phloem

Answer: A

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95. Oldest xylem is that primary xylem found

A. in the centre

B. on the outside of phloem

C. in the sap wood

D. on the outside of xylem

Answer: A

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96. In monocot root, we observe

A. polyarch, open, collateral vascular bundles

B. suberized exodermis, casparian strip, passage cell and cambium

C. suberized exodermis, polyarch and exarch xylem, large pith

D. exodermis, endarch, tetrach, closed vascular bundles

Answer: C

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97. What happens to primary xylem and primary phloem during secondary growth?

A. They got separated far apart

B. They get lost

C. they develop pits

D. They developed thickenings

Answer: A

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98. Duramen is used as timber because

A. it has large amount of vascular tissue

B. it has nutritive substances

C. it has secondary thickening

D. chemicals in tyloses provided durability.

Answer: D

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99. Medullary rays are mainly

A. composed of sclerenchyma cells

B. involved in storage of food

C. involved in radial transport of food and water

D. involved in vertical transport of food and water

Answer: C

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100. Companion cells are

A. small, thin walled living, enucleated

B. living, narrow, elongated, thin walled, nucleated

C. small, thick walled, living, nucleated

D. large, thick walled nucleated

Answer: B

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101. Primary tissue of a plant

A. add to the length of plant parts

B. add to the diameter of plant parts

C. are present in embryo only

D. are found in seeding stage only

Answer: A

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102. If the dicot stem is stained for starch, the most intense colouration would develop in

A. epiblema

B. phloem is sandwiched by xylem

C. endodermis

D. pith

Answer: C

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103. The mismatched pair among the followings is

A. pericycle-lateral roots

B. endodermis-casparian bands

C. autumn wood- vessels with larger diamete

D. conjunctive parenchyma- cambium for secondary growth

Answer: C

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104. The bark of which plant is used as spices?

A. Quercus

B. Cinchona

C. Cinnamon

D. Betula

Answer: C

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105. When secondary growth in girth is initiated in dicot root, which one of the following happens first?

A. Primary medullary ray cells become meristematic

B. The outer parenchymatous pericycle layer divides

C. Parenchymatous cells below phloem and between xylem and phloem become meristematic

D. Vascular cambium divides

Answer: C

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106. Suberin is a fatty acid alkaloid. It makes cork

A. impermeable to water

B. permeable to gases

C. fiexible

D. stretchable

Answer: A

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107. Axillary bud and terminal bud are derived from the activity of

A. lateral meristem

B. apical meristem

C. intercalary meristem

D. parenchyma

Answer: B

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108. Which one is true ?

A. vessels are multicellular with dide lumen

B. Vessels are unicelluar with narrow lumen.

C. Tracheids are mutlicullar with narrow lumen.

D. Tracheids are unicellular with wide lumen.

Answer: A

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109. Differentiation is a phenomenon of tissue in which

A. some permanent cells get back the meristematic nature

B. cells loose the power of division

C. state of maturity is attained

D. all of the above.

Answer: A

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110. Main site of photosynthesis / starch synthesis is

A. palisade parenchyma

B. spongy parenchyma

C. Guard cells

D. bundle sheath cells

Answer: A

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111. Fusiform initials form

A. vascular rays

B. pith

C. cork

D. tracheary elements

Answer: D

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112. In the following how the sap wood is converted into heart wood

A. By tylosis formation

B. By deposition of extractives

C. By degeneration of protoplast of living cells

D. All of the above

Answer: D

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113. The apical meristem of shoot apex is

A. intercalary meristem

B. primary meristem

C. secondary meristem

D. laterl meristem

Answer: B

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114. Bulliform cells from other cells in being

A. large, vasculoated thin walled

B. large, thick , green

C. samlle, thick green

D. thin walled withdeposits of calcium oxalate

Answer: A

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115. Sclernchymatous patches as bundle sheath extensions are found in leaves of

A. dicots

B. monocots

C. both of these

D. none of these

Answer: B

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116. In grasses, the plant parts removed by the grazing herbivores regenerated with the help of

A. intercalary meristem

B. leaf primordium

C. apical meristem

D. radial meristem

Answer: A

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117. In a woody dicotyledonous tree, which of the following parts of wall mainly consist of primary tissues

A. all parts

B. stem and root

C. fruits, flowers and leaves

D. shoot tip and root tip

Answer: D

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

A. having P protein

B. thick walls

C. pores on lateral wall

D. enucleate condition

Answer: D

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119. Lenticels differ from stomata in being

A. ligving & green

B. living, & capable of changing its shape

C. dead, incapable of changing its shape and size

D. dead, capable of changing its shape and size

Answer: C

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120. Cork cambium is commonly called as phelogen. It is

A. Primary meristem

B. secondary meristem

C. apical meristem

D. intercalary meristem

Answer: B

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121. Meristematic tissue in vascular bundle is

A. phellem

B. procambium

C. interfascicular cambium

D. intrafasicular cambium

Answer: D

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

A. Deodar and ferm

B. Wheat and maiden hair fern

C. sugarcane and sunflower

D. teak and pine

Answer: D

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123. Passage cells are walled cells found in

A. testa of seeds to enable emergence of growing embryonic axis during seed germination

B. central region of style through which the pollen tube grows towards the ovary

C. endodermis of roots facilitating repaid transport of water from cortex to pericycle

D. phloem elements that serve as entry points for substances for transport to other plant parts

Answer: C

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124. Procambium forms

A. Vascular cambium

B. Cork cambium

C. Primary vascular bundle

D. Both (1) and (3)

Answer: D

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125. Go through the following statements

(i) Phloem parenchya is absent in most of the monocot

(ii) Phloem fibres store food material and other substance like resins, latex and mucilage

(iii) Phloem fibre are generally absent in the primary phloem but are found in the secndary phloem

(iv) Gymnosperms lack sieve tubes and albuminous cells.

Which of these are correct ?

A. (i), (ii) and (iii)

B. (ii), (iii) and (iv)

C. (i) and (iii)

D. (i), (iii) and (iv)

Answer: C

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126. Vacular bundles are surrounded on all sides by a sclerenchymatous sheath in

A. dicot stem

B. dicot root

C. monocot stem

D. monocot root

Answer: C

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127. Which of the following is a false statement ?

A. Pericycle is parenchymatous in dicot root.

B. Pericycle gives rise to lateral branches in dicot stem

C. Pericycle forms a part of cork cambium in dicot root.

D. All of the above

Answer: B

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128. All of the following are true about phloem except

A. A nucleus is absent in the young sieve tube members

B. The central part of sieve tube member is occupied by a network of canals containing fibrils of p-protein.

C. Sieve tubers are absent in gymnospems

D. Phloem is also called bast.

Answer: A

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129. An injured meristem root will be replaced by

A. dermatogen

B. Calyptrogen

C. quiescent centre

D. Promeristem

Answer: C

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130. All of the following are secondary meristems except

A. Intercalary meristems

B. Lateral meristems

C. Inter Fascicular cambium

D. Cork cambium

Answer: A

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131. Petiole of leaf " cellculose deposits , No intercellular space : theses three releate together to

A. parencnhyma

B. Collenchyma

C. fibres

D. Sclereids

Answer: B

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132. Consider the following statements

(i) Epidermis and cortex of monocot root are similar to those of dicot root.

(ii) Hypodermis of dicot stem consists of sclerenchymatous cells.

(iii) The cells of bunle sheathe in maize leaf serve as temporary storge cells,

(4) The dicot leaf is hypostomatic.

which of theses statement are correct ?

A. 1 and 2

B. 2,3 and 4

C. 1,3 and 4

D. 1,2,3 and 4

Answer: C

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133. Consider the following statements Lateral roots originate

1. Endogenously

2. From pericycle cells

3. Exogencously

4. From endodermal cells

which of these statement are correct ?

A. 1 and 2

B. 3 and 4

C. 1 and 4

D. 2 and 3

Answer: A

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134. Tree rings are formed when ..... alternates with .....

A. Alburnum, duramen

B. Protoxylem, metaxylem

C. Early wood, late wood

D. Heartwood, sapwood

Answer: C

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135. Which one of the following have amphivasal vascular bundles?

A. Cycas and Dryopteris

B. Dracaena and Yucca

C. Helianthus and Cucurbita

D. Maize and Wheat

Answer: B

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136. Removal of cork from the trees is to be done with care. Otherwise the tree can die. This is because

A. The xylem layer transporting water and minerals can be damaged

B. The primary rays giving strength can be damage

C. The inner pith with storage cells can damaged

D. The phloem used in transporting the sugars can be damaged

Answer: D

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137. Age determination based on growth rings is not possible for trees growing in this type of forest

A. Temperate deciduous

B. Tropical evergreen

C. Tropical deciduos

D. Temperate evergreen

Answer: B

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138. The best differentiation of mesophyll tissue into adaxial palisade tissue and abaxial spongy tissue is seen in plants with leaves that are

A. Under water

B. Held vertical

C. Held horizontal

D. Succulent

Answer: C

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139. Which of the following statements are the functions of a medullary ray in plants ?

(i) Absorption

(ii) Secondary growth

(iii) Transmission of water and food

(iv) Seat of origin or inter-fascicular cambium

A. (i), (ii) and (iii)

B. (i), (ii) and (iv)

C. (ii), (iii) and (iv)

D. Only (i) and (iii)

Answer: C

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140. Read the following statements

(i) Collenchyma contains lignin in its wall thickenings.

(ii) Collenchyma occurs in only aerial primary parts and is absent from the roots.

(iii) Trichomes are multicellular epidermal outgrowths, which also contain some inner tissues.

(iv) Xylem fibres often occur in metaxylem while they are absent or rare in protoxylem.

which of these are correct?

A. (i), (ii) and (iii)

B. (i), (ii) and (iv)

C. (i) and (iii)

D. (ii) and (iv)

Answer: D

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141. Go through the following matches

(i) Monocot stem $-$Sclerenchymatous hypodermis

(ii) Primary dicot root $-$Parenchymatous medullary rays

(iii) Primary dicot root $-$Parenchymatous conjunctive tissue

(iv) Monocot root $-$Parenchymatous pericycle

Which of the following are correct

A. (i), (ii) and (iii)

B. (i), (iii) and (iv)

C. (ii),(iii) and (iv)

D. All are correct

Answer: B

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142. Go through the following matches

(i) Primary dicot stem $-$Sclerenchymatous and parenchymatous peric

(ii) Monocot root $-$Transfusion cells

(ii) Monocot stem $-$Conjoint, collateral, closed bundles

(iv) Primary dicot root $-$Exarch Xylem

Which or the following

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143. Go through the following matches

(i)	Primary diocot stem	$-$Sclerenchymatous hypodermis
(ii)	Monocot stem	$-$Parenchymatous pit
(iii)	Dicot leaf	$-$Praenchymatous pith
(iv)	Monocot leaf	$-$Bulliform cells

Which or the following

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144. Go through the following statements

(i) The cambium is generally more acitve on the inner side than on the outer.

(ii) The autunn wood is darker and has a higher density than spring wood.

(iii) In stem, the secondary xylem shows distinction into protoxylem and metaxylem and occurs in the form of patches.

(iv) The tracheids and vessels of the sapwood get plugged by the

ingrowth of the adjacent parenchyma cells into thier cavities called tyloses.

Which of theses are correct ?

A. (i), (ii) & (iii)

B. (i), (ii) & (iv)

C. (i) and (ii)

D. (i), (iii) & (iv)

Answer: C

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145. Radial conduction of water and food material in the woody stems is the function of

A. Endodermis

B. xylem fibres

C. Vessels

D. Vascular rays

Answer: D

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146. Intercalary meristem is derived from

A. lateral meristem

B. apical meristem

C. interfascicular cambium

D. protoderm

Answer: B

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

A. Prsence of cortx

B. Position of protoxylem

C. Absence of secondary xylem

D. Absence of secondary phloem

Answer: B

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

A. Widening

B. Differentiating

C. Maturing

D. Elongating

Answer: B

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149. In barely vascular bundles are

A. open and in a ring

B. closed and radial

C. open and scattered

D. closed and scattered

Answer: D

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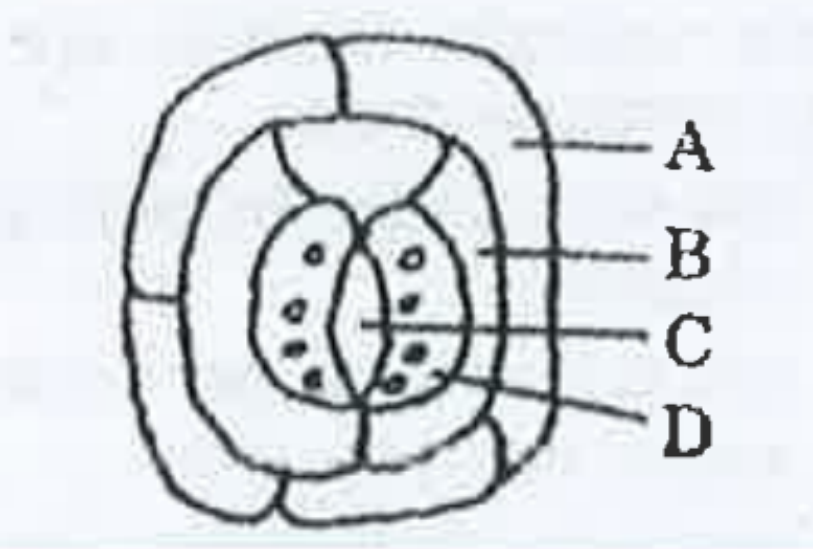
150. Given below is the diagram of a stomatal apparatus. In which of the following all the four parts labelled as A, B, C, and D are correctly identified ?



A.

A	B	C	D
Subsidiary cell	Epidermal cell	Guard cell	Stomatal apertue

B.

A	B	C	D
Guard cell	Stomatal aperture	Subsidiary cell	Epidermal cell

C.

A	B	C	D
Epidermal cell	Gurad cell	Stomatal aperture	Subsidiary cell

D.

A	B	C	D
Epidermal cell	Subsidiary cell	Stomatal aperture	Guard cell

Answer: D

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

A. Intercalary meristem

B. Intrascicular cambium

C. Interfascicular cambium

D. Phellogen

Answer: A

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152. heart wood differs from sapwood in

A. being susceptible ot pests and pathogens

B. presence of rays and fibres

C. absence vesselsand prenchyma

D. having dead and non-conducting elements

Answer: D

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153. An example of monocots showing secondary growth in stem is

A. sugarcane

B. Wheat

C. Maize

D. Yucca

Answer: D

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154. Bulliform or motor cells take part in

A. providing strenght to leaves

B. curling of leaves

C. drooping of leaves

D. protection of leaves

Answer: B

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155. Heart wood is the

A. outer part of secondary xylem

B. inner part of secondary xyloem

C. outer part of secondary phloem

D. inner part of secondary phloem

Answer: B

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156. Some vascular bundles are described as open because these

A. are srrounded by pericylce but not endodermis

B. are capable of producing secondary xylem and phloem

C. posses conjunctive tissue between xylem and phloem

D. are not surrounded by pericycle

Answer: B

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157. In kranz anatomy, the bundle sheath cells have

A. thin walls many intercellular spaces and no chloroplasts

B. thick walls, no intercellular spaces and large number of chloroplasts

C. thin walls, no intecellular spaces and several chloroplasts

D. thick walls many intercellular spaces and few chloroplasts

Answer: B

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158. Ground tissue includes

A. All tisses exernal to endodermis

B. All tissues except epidermis an vascular bundles

C. Epidemris and cortex

D. All tissues internal to endodermis

Answer: B

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159. In land plants guard cells differ from other epidermal cells in the possession of .....

A. cytoskeleton

B. mitochondria

C. endoplasmic reticulum

D. chloroplasts

Answer: D

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160. The collective term used for phelloderm (secondary cortex), cork cambium (phellogen) and cork (phellem) is

A. phelloderm

B. phellogen

C. periderm

D. phellem

Answer: C

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161. Which of the following meristem classification is based on position in the plant body ?

A. Primary meristem

B. intercalary meristem

C. secondary meristem

D. Procambial meristem

Answer: B

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162. Which is not true for anatomy of the Dicot stem ?

A. Hypodermis is collenchymatous

B. Vascular bundles are arranged in a ring

C. Vascular bundles are conjoint and closed

D. phloem parenchyma is present

Answer: C

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

A. inconsipicuous annual rings

B. relatively thicker peridem

C. more aboundent secondary xylem

D. many xylem bundles

Answer: D

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164. The common bottle cork is a product of

A. phellogen

B. Xylem

C. Vascular Cambium

D. dermatogen

Answer: A

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165. Water containing cavities in vascular bundles are found in

A. Maize

B. Cycas

C. Pinus

D. Sunflower

Answer: A

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166. Companion cells are closely accociated 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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167. The elements of xylem tissue that store tannins are

A. trachedis

B. vessels in abundance

C. xylem fibres

D. xylem parenchyma

Answer: D

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168. The commercial jute fibres are obtained from

A. sieve fibres

B. xylem fibres

C. phloem fibres

D. fibres of mesocarp of coconut

Answer: C

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169. A common character of monocot and dicot roots is

A. exarch protoxylem

B. number of xylem strands

C. endarchprotexylem

D. occurrence of secondary growth

Answer: A

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170. A cut trunk shows 26 concentric rings of spring wood and autum wood in alternate rows. The age of trunk would be

A. 13 years

B. 26 years

C. 52 years

D. 104 years

Answer: A

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171. Casparian strips are present in the _____ of the root

A. epiblema

B. cortex

C. pericycle

D. endodermis

Answer: D

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172. Vascular bundle having phloem at the centre encircled by xylem is know as

A. bicollateral

B. conjoint collateral

C. amphivasal

D. amphicribral

Answer: C

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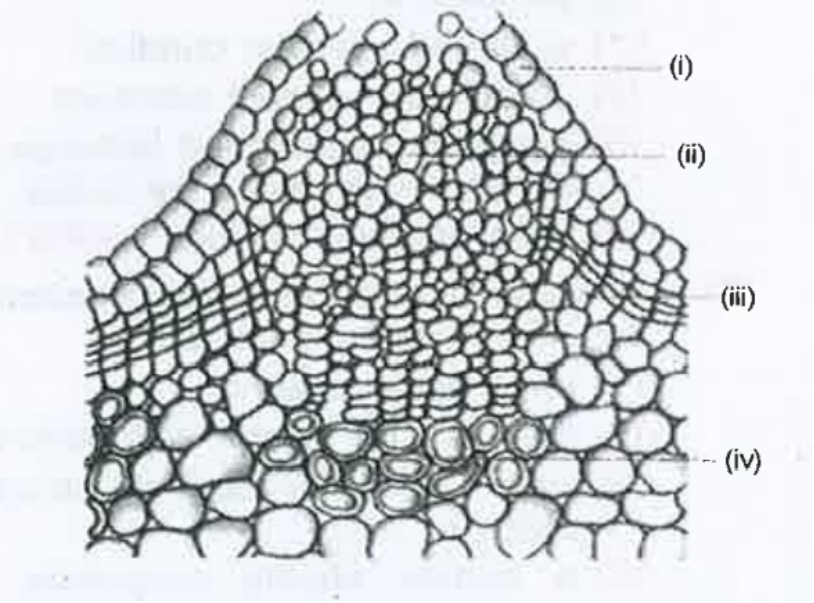
173. Go through the following diagram carefully which of the following represents the correct labelling ?



A.

(i)	(ii)	(iii)	(iv)
Cuticle	Complimentary cells	Cork cambium	Pericylce

B.

(i)	(ii)	(iii)	(iv)
Epidermis	Complimentary cells	Cork cambium	secondar cortex

C.

(i)	(ii)	(iii)	(iv)
Epidermis	Cork cambium	Complimentary cells	secondary corte

D.

(i)	(ii)	(iii)	(iv)
Epidermis	Complimentary cell	secondary cortex	Cork cambium

Answer: B

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174. Lenticles are involved in

A. Food transport

B. Photosynthesis

C. Transpiration

D. Gaseous exchange

Answer: D

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175. Interfascicular cambium develops from the cells of

A. endodermis

B. Pericycle

C. Medullary rays

D. xylem parenchyma

Answer: C

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176. Age of tree can be estimated by

A. number of annual rings

B. diameter of its heartwood

C. its height and girth

D. biomass

Answer: A

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177. Tracheids differ from other tracheary elements in

A. being lignified

B. having casparian strips

C. being imperforate

D. lacking nucleus

Answer: C

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178. 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. Contical cells

B. Secondary xylem

C. Secondary pyloem

D. Protoxylem

Answer: D

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179. A major characteristic of the monocot root is the presence of :

A. scattered vascular bundles

B. vasculature without cambium

C. cambium sandwiched between phloem and xylem along the radius

D. open vascular bundles

Answer: B

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180. Vascular bundles in monocotyledons are considered closed because :

A. cambium is absent

B. there is surronded all perforations

C. xylem is surrounded all around by phelom

D. a bundle sheath surround each nudle

Answer: A

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181. 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) Phellem

A. (iii), (iv), (ii), (i)

B. (i), (ii), (iv), (iii)

C. (iv), (i), (iii), (ii)

D. (iv), (iii), (i), (ii)

Answer: C

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182. Specialised epidermal cells surrounding the guards cells are called

A. Subsidiary cells

B. Bulliform cells

C. Lenticeles

D. Complementary cells

Answer: A

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183. Cortex is the region found between

A. epidermis and stele

B. pericycle and endodermis

C. endodermis and pith

D. endodermis and vascular bundle

Answer: A

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184. the baloon- shaped structuces called tyloses

A. originate in the lumen of vessles

B. characterize the spawood

C. are extensions of xylem parenchyma cells into vessels

D. are linked to the ascnet of sap through xylem vessels

Answer: C

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185. Indentify the wrong statement in context of heartwood

A. Organic compounds are deposited in it

B. It is highly durable

C. It conducts water & minerals efficiently

D. It comparises dead elemens with highly lignified walls

Answer: C

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186. Root hairs develop from

A. maturation

B. elongation

C. root cap

D. mesistematic activity

Answer: A

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187. Which of the following is made up of dead cells

A. Xylem parenchyma

B. Collenchyma

C. Phellem

D. Phloem

Answer: C

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188. The vascular cambium normally gives rise to

A. (a) phelloderm

B. (b) primary phloem

C. (c) secondary xylem

D. (d) periderm

Answer: C

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189. Secondary xylem and phloem in dicot stem are produced by

A. Axilary meristems

B. Phellogen

C. Vascular Cambium

D. apical meristem

Answer: C

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190. Casparian strips are present in the _____ of the root

A. Endodermis

B. Cortex

C. Pericycle

D. Epidermis

Answer: A

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191. Plants having little or no secondary growth are

A. Cycads

B. Conifers

C. Deciduous angiosperms

D. Grasses

Answer: D

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192. Stomata in grass leaf are

A. Barrle shaped

B. rectangular

C. Kidney shaped

D. Dumb-bell shapaed

Answer: D

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